KENYA'S

Surveillance And Pandemic Preparedness Financing

February 2025

AFIDEP
African Institute fo Development Polic

GLOBESOLUTE

Acronyms and Abbreviations

AU	African Union
CDC	Centers for Disease Control and Prevention
CHE	Current Health Expenditure
COVID-19	Coronavirus Disease 2019
DMMU	Disaster Management and Mitigation Unit
EAC	East African Community
EU	European Union
FAO	Food and Agriculture Organization
GHED	Global Health Expenditure Database
GHSA	Global Health Security Agenda
H1N1	Influenza A Virus Subtype H1N1
IDSR	Integrated Disease Surveillance and Response
IGAD	Intergovernmental Authority on Development
IMF	International Monetary Fund
KHSSP	Kenya Health Sector Strategic and Investment Plan
KEMRI	Kenya Medical Research Institute
KENPHI	Kenya National Public Health Institute
KNBS	Kenya National Bureau of Statistics
LICs	Low-Income Countries
LMICs	Lower-Middle-Income Countries
MSF	Médecins Sans Frontières

MOH	Ministry of Health
NAPHS	National Action Plans for Health Security
NHA	National Health Accounts
PHEOC	Public Health Emergency Operations Centre
PHC	Primary Health Care
PPR	Surveillance and Pandemic Preparedness and Response
SDGs	Sustainable Development Goals
SSA	Sub-Saharan Africa
THS	Transforming Health Systems
UHC	Universal Health Coverage
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

List of figures

List of tables

Table of Contents

1.0 Executive Summary

The S-PPR Financing: Scoping and Gap Analysis report examines key gaps in pandemic preparedness and response (PPR) financing in sub-Saharan Africa, with a focus on Kenya. Despite commitments under global frameworks such as the Abuja Declaration and the Sustainable Development Goals (SDGs), health financing remains insufficient, limiting Kenya's capacity to effectively respond to health emergencies. The report highlights challenges related to coordination, domestic investment, infrastructure, workforce capacity, and resource allocation within Kenya's PPR systems.

Summary of key findings

1. Progress in Pandemic Preparedness and Response (PPR) Integration: Kenya has incorporated PPR into key health strategies, including the Ministry of Health Strategic Plan (2023–2027) and the National Public Health Institute Strategic Plan (2022–2026). These frameworks emphasize surveillance, workforce development, and cross-sector collaboration. However, gaps remain in resource allocation, infrastructure, and emergency response coordination.

2. Insufficient and Donor-Dependent Financing: Kenya's health budget allocation stands at 9.7% (FY2023/24), well below the 15% Abuja Declaration target. In 2020, only KES 2.7 billion of the KES 95.3 billion health budget was allocated to disease surveillance and response. Over 90% of surveillance funding comes from external sources, creating sustainability risks. The country faces an initial funding shortfall of $40–50 million and annual gaps of $20–30 million, limiting investment in surveillance, workforce capacity, and emergency stockpiles.

3. Declining Budget Allocations for Preventive and Promotive Health: The budget for preventive and promotive health services has declined from 11.6% in 2021/22 to 6% in 2024/25. Similarly, funding for disease surveillance has dropped from 22% to less than 1% of the health budget, signaling inconsistent prioritization of S-PPR.

4. Overreliance on External Funding and Limited Domestic Resource Mobilization: Key institutions like KEMRI and the Kenya National Public Health Institute depend heavily on external donors such as the CDC and WHO, with KEMRI receiving 90% of its budget from international sources. While local initiatives like the Kenya Red Cross Society's ambulance services attempt to diversify funding, they remain insufficient.

5. Kenya's S-PPR system is characterized by fragmented coordination among stakeholders including government agencies, international organizations, non-state actors, and the private sector. While each stakeholder plays a critical role, challenges such as misaligned priorities, inconsistent resource allocation, donor dependency, and policy implementation gaps create inefficiencies. The system operates under a mix of centralized leadership and devolved governance, leading to accountability challenges, while reliance on external funding often results in short-term, project-based interventions rather than sustainable, long-term solutions.

6. Impact of U.S. Policy Changes – The withdrawal of U.S. funding from WHO and reductions in USAID assistance have significantly impacted Kenya's ability to sustain disease surveillance, HIV/AIDS programs, malaria control, and vaccine distribution. U.S. health assistance to Kenya declined from $986 million (2018) to $825 million (2023), resulting in funding shortfalls for pandemic preparedness, laboratory infrastructure, and diagnostic supplies.

Recommendations

1. Parliament and the Ministry of Health must enact a Pandemic Preparedness and Response Act and designate the KNPHI as the central coordinating authority to strengthen Kenya's ability to prevent, detect, and respond to health crises. This legislation will streamline coordination among key agencies, ensuring a more effective and unified national and county-level response.

2. Through the National Treasury and the Ministry of Health, the government of Kenya should establish a National Pandemic Preparedness Fund to provide reliable, long-term financing for health security. By pooling resources from domestic revenues, donor contributions, and levies, this fund will guarantee sustained investment in critical areas such as disease surveillance, emergency stockpiles, and rapid response mechanisms, reducing reliance on unpredictable donor funding.

3. The Government of Kenya must prioritize increased domestic investment in health security by allocating at least 1-2% of the national health budget to pandemic preparedness. Strengthening financial commitment will reduce dependence on external donors and enhance the country's ability to manage health emergencies independently.

4. The Ministry of Health and county governments need to invest in S-PPR infrastructure and workforce capacity by expanding the electronic Integrated Disease Surveillance and Response (e-IDSR) system to all counties and increasing the recruitment and training of epidemiologists. Additionally, formally integrating Community Health Promoters into surveillance efforts will bolster grassroots disease detection and response, ensuring no community is left behind.

5. The Ministry of Health and the National Treasury should centralize resource pooling for S-PPR under KNPHI to streamline funding, eliminate inefficiencies, and ensure fair distribution of resources across all counties. A well-coordinated approach will align investments with national priorities and strengthen pandemic resilience, particularly in underserved regions.

6. The National Treasury, Ministry of Health, and Auditor General should implement a National S-PPR Resource Efficiency Framework to maximize transparency, accountability, and impact. This framework should include a real-time financial tracking system, a dedicated audit unit, and performance-based funding disbursements, ensuring every shilling is effectively utilized to protect public health.

7. To mitigate the impact of declining U.S. health assistance, Kenya should establish a National Health Security Financing Mechanism (NHSFM) under the National Treasury and the Ministry of Health to ensure sustainable domestic funding for disease surveillance, HIV/AIDS programs, malaria control, and vaccine distribution. This should be done through enhancing Public-Private Partnerships (PPPs) in pharmaceutical production, vaccine manufacturing, and diagnostic kit supply chains to reduce import dependency and strengthen local health system resilience.

8. The National Treasury and the Ministry of Health should establish a Health Emergency Contingency Fund, a ring-fenced budget dedicated exclusively to public health emergencies. This fund will enable a swift and well-coordinated response by ensuring immediate access to critical resources, including diagnostic supplies, laboratory infrastructure, and emergency stockpiles, without delays or financial uncertainty. By securing predictable domestic financing, Kenya can build a resilient health system capable of managing future pandemics independently

2.0 Background

Health financing is the backbone of resilient health systems, yet it remains critically insufficient across sub-Saharan Africa (SSA). Despite global and regional commitments—such as the Abuja Declaration (2001), which urged African governments to allocate at least 15% of their budgets to health—progress has been sluggish. As of 2022, SSA countries dedicated an average of just 6.5% of their budgets to health, far below this target (World Health Organization, 2022). Chronic underfunding persists, even with frameworks like the SDGs, which emphasize health system strengthening, and the Addis Ababa Agenda (2015), which calls for increased health investments for sustainable development. The 2019 African Leadership Meeting further stressed the need for enhanced financing to achieve universal health coverage (UHC) and build resilient health systems (African Union, 2019).

The COVID-19 pandemic underscored the need for robust surveillance and sustainable financing for pandemic preparedness and response (World Health Organization, 2023). These health crises revealed critical gaps in many countries' ability to prevent and respond to infectious disease outbreaks (Global Preparedness Monitoring Board, 2023). Global health and socioeconomic interconnections highlight the urgency of addressing these gaps (Lazarus et al., 2024). The pandemic exposed severe deficiencies in Africa's health systems, leading to preventable deaths, economic hardship, and delayed recovery (Human Rights Watch, 2021). The region's dependence on donor aid during the pandemic also revealed vulnerabilities to external shocks, resulting in short-term funding decisions that overlooked long-term investments in health system strengthening (Khan et al., 2022). These reactive choices bypassed financial management protocols, contributing to scandals and undermining public trust in health systems (Think Global Health, 2024).

Global health emergencies disrupt economies, strain health systems, and exacerbate inequalities. The lessons learned from recent pandemics emphasize the importance of preparedness, yet significant challenges persist at the global, regional, and national levels. As of August 2023, COVID-19 has infected over 770 million people and caused more than 6.9 million reported deaths worldwide. However, the WHO estimates that the true death toll is significantly higher due to underreporting. Despite global efforts to address the pandemic, the Global Preparedness Monitoring Board (GPMB) reported in October 2023 that preparedness for future pandemics remains inadequate, emphasizing the need for increased political commitment and financial resources (Think Global Health, 2024).

Countries have attempted to mobilize additional resources through measures like the One Health framework, which emphasizes cross-sectoral collaboration in addressing zoonotic diseases and emerging health threats (Africa CDC, 2024). However, many of these initiatives have been reactive and temporary, leaving the region vulnerable to future public health emergencies. The recurring outbreaks of infectious diseases, including Ebola, H1N1, cholera, and Mpox, underscore the urgent need for sustainable domestic financing to strengthen surveillance and pandemic preparedness and response (PPR) capacities (Lazarus et al., 2024). Addressing these vulnerabilities requires robust policy reforms and sustained investments to institutionalize effective interventions, ensuring they become permanent components of health systems. The economic impact of pandemics is equally alarming. The World Bank estimated that the global economy contracted by 3.4% in 2020 due to COVID-19, leading to significant losses in income and employment. These statistics underscore the urgent need for coordinated efforts to strengthen surveillance systems and pandemic response capacities globally.

Africa has faced considerable challenges during the COVID-19 pandemic. According to the WHO, low- and middle-income countries (LMICs) accounted for over 58% of COVID-19 deaths globally as of July 2023 (Khan et al., 2022). This disparity highlights the continent's vulnerabilities, including weak health systems and insufficient resources for pandemic preparedness. Health financing in Africa remains heavily dependent on external funding, with donors contributing over 50% of health sector budgets in many countries (WHO Africa, 2023). While these funds have been critical, they often lack sustainability and fail to address long-term needs

The EAC region faces unique challenges related to infectious diseases. The region is disproportionately affected by outbreaks of diseases such as Rift Valley fever, Marburg fever, dengue fever, Crimean-Congo haemorrhagic fever, and yellow fever, which are endemic and pose recurring threats to public health (GIZ, 2023). Efforts by the EAC to enhance regional pandemic preparedness include capacity building and collaborative frameworks. However, domestic health financing in the region falls short, covering less than 40% of the total requirements for disease surveillance (EAC Secretariat, 2023). This financial gap hinders the region's ability to establish effective surveillance systems and respond promptly to health emergencies.

Kenya exemplifies the challenges and opportunities in pandemic preparedness within the EAC. The country's health expenditure accounted for approximately 9.7% of GDP (FY2023/24), well below the Abuja Declaration target of 15% (World Health Organization, 2023a). In 2023, only 2.1% of the national health budget was allocated to surveillance activities (Budget Policy Statement, 2023). This underfunding limit the country's ability to maintain robust health systems and respond effectively to disease outbreaks. Despite these challenges, Kenya has made progress with support from the EAC and international partners.

For instance, the EAC has provided technical assistance to strengthen Kenya's capacity for disease prevention, detection, and response (EAC, 2022). However, a funding gap of $300 million for S-PPR remains, emphasizing the need for comprehensive analyses to guide policy and resource allocation (Kenya Ministry of Health, 2023a). Additionally, the decision by the President Trump administration to withdraw the United States from the World Health Organization (WHO) and suspend foreign aid is anticipated to have a profound effect on Kenya's ability to conduct disease surveillance and respond to public health emergencies. As one of Kenya's largest health sector donors, the U.S. has historically funded key programs, including disease monitoring, vaccination campaigns, HIV/AIDS treatment, and maternal and child health services . The reduction in financial assistance is likely to weaken Kenya's capacity to effectively manage and mitigate public health threats.

This report seeks to bridge that gap by exploring the programmatic and financial landscape for S-PPR in Africa. This study aims to analyze these challenges, with a focus on health financing for surveillance and pandemic preparedness in Kenya within the broader context of the EAC, with a focus on providing actionable recommendations to guide sustainable investments and improve governance. While existing literature highlights the significance of health financing for pandemic preparedness and response (PPR), there is a notable gap in the analysis of how funds are allocated, tracked, and sustained within national health budgets, particularly in Kenya and the broader EAC region. By focusing on long-term resilience and informed decision-making, this report aims to support the development of health systems capable of mitigating future pandemics and safeguarding public health across Africa.

2.0. Objectives

The primary objective of this scoping report is to evaluate the state of domestic health financing across the East African Community (EAC), with a particular emphasis on Kenya.

Specifically, the report sought to:

I. **Examine health financing for S-PPR** in Kenya at national and programmatic levels, within the context of EAC regional financing mechanisms.
II. **Analyze trends in domestic financing for S-PPR** at country and regional levels, including investments in institutional strengthening and emergency funds.
III. **Assess how S-PPR** are accounted for in national budgets and integrated into key health sector strategies or plans.
IV. **Identify and evaluate efforts** undertaken by Kenya to estimate the financial requirements for implementing PPR programs.
V. **Investigate challenges in implementing S-PPR** programs and reasons for unimplement ed interventions despite available financing.
VI. **Examine the sources of inefficiency** in the allocation and utilization of resources for S-PPR

https://docs.aiddata.org/reports/investing-in-kenyas-people/chapter-02-01.html

https://www.reuters.com/world/us/trumps-aid-freeze-keeps-life-saving-programs-shut-sparks-mayhem-2025-02-08/

VII. **To identify key stakeholders** in surveillance and pandemic preparedness and response (PPR) in Kenya, document their roles and contributions, and assess the legal, policy, and institutional frameworks governing PPR.

2.1 Expected outcomes

This scoping report aims to uncover programmatic and financing gaps in S-PPR within the EAC, with a focus on Kenya. The expected outcomes are:

I. **Identification of Opportunities:** The report will uncover opportunities to enhance financing and programming for S-PPR in Kenya, providing actionable insights and extending relevance to the broader EAC region.
II. **Informed Decision-Making:** Findings will provide a foundation for engaging Kenya in evidence-based dialogue, supporting their decision-making and actions on financing S-PPR initiatives.
III. **Lessons for Regional Sharing:** The report will identify key lessons and best practices from Kenya that can be shared across the EAC region to inspire improvements in other member states.

IV. **Increased Commitment to Health Financing:** By fostering dialogue and collaboration, the report aims to stimulate interest and action among other member states, promoting greater commitment to sustainable health financing.

V. **Catalyzing Domestic Funding:** Ultimately, the findings and engagements are expected to contribute to increased domestic funding for S-PPR across Africa, strengthening the continent's health systems and pandemic preparedness.

These outcomes will help build momentum for a coordinated regional approach to addressing S-PPR financing challenges and ensuring sustainable investments in health security.

3.0. Methodology

3.1 Review Design

This scoping review employed a desk review approach to analyze health financing for PPR in Kenya, within the broader context of the EAC region. The methodology focused on synthesizing existing data from secondary sources to provide insights into financing gaps, resource allocation, and policy frameworks relevant to S-PPR. Publicly available national budgets, financial records, institutional policies, and regional strategies formed the primary data sources, offering a comprehensive understanding of the current landscape. To enrich the analysis and validate findings, insights were sought through consultations with key organizations and stakeholders in the health financing and S-PPR space. This iterative approach facilitated the identification of challenges and opportunities in health financing for S-PPR.

3.2 Data Collection Methods

The data collection process was designed to align with a desk review approach, utilizing systematic document analysis and targeted stakeholder consultations to gather comprehensive insights on health financing for surveillance and pandemic preparedness and response (PPR). This approach ensured a robust foundation for the analysis and triangulation of findings

3.2.1 Document analysis

A systematic review of secondary data formed the backbone of the analysis, focusing on relevant, credible, and up-to-date documents. The document review aimed to understand national priorities, resource flows, and implementation challenges in S-PPR. Key categories of documents included:

- National Health Sector Policies and Plans: These included strategic plans such as Kenya's Health Sector Strategic Plan 2018–2023, aligned with the Kenya Health Policy 2014–2030. These documents outline medium- to long-term health priorities, including PPR objectives.

- National Budget Documents: Annual budget statements, finance acts, and medium-term expenditure frameworks (MTEF) from Kenya were analyzed to understand the allocation of resources to health sectors and, specifically, to S-PPR.
- Expenditure Reports: End-of-year financial reports from the Ministries of Health and Ministries of Finance were reviewed to assess actual expenditures against budget allocations for PPR.
- National PPR Frameworks and Emergency Response Strategies: These documents provided an understanding of each country's approach to managing pandemics and health emergencies, including plans for COVID-19, Ebola, and other emerging infectious diseases.
- Audits and Evaluation Reports: Reports from national audit offices and international agencies, such as the World Bank, WHO, and African Union, were reviewed to evaluate the efficiency and effectiveness of financial management in health and PPR sectors.
- Reports from Development Partners: Documents from stakeholders such as the Africa CDC, ECSA Health Community, and other international organizations were analyzed to understand external contributions to PPR

Additional insights were drawn from the **National Health Accounts (NHA)** data available in the WHO Global Health Expenditure Database (GHED). This data provided a detailed breakdown of spending patterns, including contributions from government and non-government sources, expenditures on primary health care (PHC), and allocations to disease-specific programs.

3.2.1 Document analysis

In addition to document analysis, targeted stakeholder consultations were conducted to provide contextual and practical insights into the challenges and gaps in PPR financing and implementation. These consultations involved visits to key organizations, including

- Kenya Red Cross Society
- Kenya Medical Research Institute (KEMRI)
- Kenya Public Health Institute (KNPHI)
- World Health Organization (WHO) Kenya

The discussions were structured to gather qualitative data on resource mobilization, implementation barriers, and opportunities for improvement. Insights from these engagements were systematically incorporated into the report thematically, with feedback loops ensuring clarity and the refinement of data accuracy.

3.2.3 Triangulation and Validation

To ensure reliability, a triangulation process cross-validated findings from the document review and stakeholder inputs. This approach ensured consistency, minimized bias, and delivered evidence-based conclusions for the report.

3.3 Data Analysis Techniques

3.3.1 Content review

Each document was subjected to a review to extract relevant information on S-PPR financing and programming. The extracted data were classified into relevant themes to facilitate analysis. First, (i) health financing levels were assessed to capture the overall level of health sector financing and the proportion specifically allocated to S-PPR. Second, (ii) budget allocations and programmatic priorities were analyzed to identify national budgetary commitments to S-PPR and examine how funds are distributed across specific priorities such as surveillance, healthcare infrastructure, and laboratory systems, ensuring alignment with strategic goals. Third, (iii) expenditure trends were tracked to compare actual expenditures against budget allocations, highlighting spending patterns and any significant discrepancies. Additionally, (iv) costs associated with pandemic responses were assessed to evaluate the financial burden of responding to pandemics, including direct and indirect costs incurred during outbreaks. Finally, (v) the review identified sources of inefficiency in resource utilization for S-PPR financing and implementation.

3.4 Report setting

This report focuses on Kenya, a country with a population of approximately 55 million as of 2023, with over 75% of its population under the age of 35, reflecting a predominantly young demographic structure (Kenya National Bureau of Statistics [KNBS], 2023). Kenya operates a devolved health system, where county governments are responsible for service delivery, while the national government oversees policy, financing, and emergency preparedness (Ministry of Health Kenya, 2023). The country faces a dual disease burden, with infectious diseases such as malaria, tuberculosis, and HIV/AIDS accounting for a significant portion of the disease burden, while non-communicable diseases (NCDs)—such as diabetes, hypertension, and cancer—are on the rise due to changing lifestyles and urbanization (World Health Organization [WHO], 2022). These demographic and health challenges underscore the urgent need for sustainable health financing and robust S-PPR strategies. While Kenya is the primary focus, insights from the East African Community (EAC) region and global contexts are incorporated to enhance cross-country learning and inform more effective health security interventions (EAC

3.5 Ethical Considerations

This scoping review synthesized secondary data, reports, and other publicly available resources on surveillance systems, S-PPR programs, and their financing. It did not involve the collection of primary data from human participants or sensitive personal information. In instances where potentially sensitive information related to national and international financing strategies was accessed, all such data was handled with strict confidentiality, ensuring that no proprietary or confidential information from governments, organizations, or institutions was disclosed or misused.

3.6 Limitations of the report

This scoping report is subject to limitations including the following:

- Reliance on Secondary Data Sources: The report relies on publicly available reports and budget documents, which may contain outdated figures or institutional biases. To mitigate this, multiple data sources, including government financial records, WHO, and World Bank reports, were cross verified to ensure consistency.
- Limited Stakeholder Engagement: While stakeholder consultations were conducted with key institutions such as government agencies and development partners, the study did not engage frontline healthcare workers or community-based organizations. This may limit insights into implementation challenges at the community level, particularly in rural and underserved areas.
- Gaps in Real-Time Data on S-PPR Expenditures: Kenya lacks a real-time tracking system for PPR funding, making it difficult to assess fund allocation and utilization accurately. To address this, multi-year financial data was analyzed to identify spending trends, and regional comparisons were included for broader context.
- Limited Disaggregated County-Level Data: The study faced challenges in obtaining granular financial data for county-level PPR spending, which affects the precision of localized budget analyses. To compensate, national expenditure trends and broader policy evaluations were used to estimate subnational spending patterns.

4.0. Findings

4.1 Inclusion of S-PPR in Health Sector Plans

Kenya has made measurable progress in integrating S-PPR into its national health sector strategies, as evidenced by the development of comprehensive policy frameworks and targeted initiatives. The MoH's Strategic Plan for 2023–2027 underscores the importance of robust surveillance systems and pandemic response mechanisms, advocating for an integrated approach that incorporates effective primary healthcare (PHC) systems and community-based health initiatives. This plan reflects Kenya's dedication to enhancing health security by fostering cross-sector collaboration and addressing the root causes of preventable diseases ((Kenya Ministry of Health, 2024). Similarly, the National Public Health Institute's (NPHI) Strategic Plan for 2022–2026 outlines objectives to improve disease detection, reporting, and response through Integrated Disease Surveillance, which is critical for the timely identification and containment of public health threats (National Public Health Institute, 2022).

In practical terms, Kenya has leveraged Event-Based Surveillance (EBS) systems, which proved instrumental during the COVID-19 pandemic. These adaptable systems enabled the rapid detection and monitoring of cases, showcasing their role in early warning and pandemic preparedness. Notably, EBS facilitates seamless data flow and coordination between national and county structures, ensuring timely decision-making and response (Ng'etich et al., 2021). However, fragmented coordination mechanisms between national and county governments remain a significant challenge, highlighting the need for a more unified framework (World Health Organization, 2023d). Furthermore, while community health promoters play a crucial role in health service delivery, their potential remains underutilized in surveillance and response efforts, requiring better integration and support to enhance their impact (UNICEF, 2023).

Kenya has also taken strides in centralized stockpiling and public health communication during crises. The establishment of centralized stockpiles for essential medical supplies has strengthened the country's ability to respond swiftly to health emergencies, while targeted public health campaigns have improved community awareness and compliance with preventive measures (CDC, 2023). The National Action Plan for Health Security (NAPHS) has been instrumental in fostering cross-sector collaboration, aligning efforts across different sectors to address health threats comprehensively (Kenya Ministry of Health, 2023b).

Despite progress in strengthening Kenya's health system, challenges remain in fully integrating surveillance and pandemic preparedness into health sector plans. A qualitative study conducted during the COVID-19 pandemic revealed critical weaknesses in health system readiness, particularly in resource allocation, infrastructure, and coordination of response efforts

These gaps highlight the need for a more structured approach to embedding surveillance and preparedness measures into national health strategies to ensure a timely and effective response to future health threats(Ng'etich et al., 2021). However, while the pandemic exposed these vulnerabilities, existing health sector plans had already shown limitations in prioritizing pandemic preparedness, pointing to deeper systemic gaps that require urgent attention.

The Kenya Health Sector Strategic Plan (KHSSP) 2018–2023, which focuses on achieving universal health coverage and strengthening the health system, acknowledges the importance of disease surveillance. However, pandemic preparedness and response mechanisms have not been adequately prioritized within the plan. Weak coordination, limited funding, and gaps in implementation frameworks have hindered the seamless integration of surveillance efforts into routine health sector planning, making it difficult to anticipate and effectively manage emerging health crises (Ministry of Health, 2018). These structural deficiencies are further compounded by resource constraints, which affect the ability of the health system to establish a robust and responsive surveillance network

Infrastructure and resource constraints further limit the effectiveness of Kenya's surveillance and preparedness strategies. The mid-term review of the KHSSP 2018–2023 identified deficiencies in laboratory capacity, inadequate training of health personnel, and insufficient investment in digital surveillance systems as major bottlenecks in strengthening disease monitoring and response efforts. These challenges are particularly pronounced in underserved regions, where inadequate health infrastructure exacerbates the country's vulnerability to emerging and re-emerging infectious diseases (Countdown 2030, 2021). The inability to systematically integrate pandemic preparedness into health sector plans, combined with weak infrastructure, has left Kenya's health system reactive rather than proactive in handling disease outbreaks.

Additionally, Kenya faces key challenges in disease surveillance and outbreak preparedness, including weak coordination between national and county governments, limited multisectoral collaboration, and a lack of structured support supervision. These gaps reduce efficiency in detecting and responding to public health threats, delaying timely and coordinated action.

A major concern is the exclusion of private health facilities from national surveillance efforts, weakening disease detection and response. Strengthening health security requires a more integrated approach, ensuring active engagement of both public and private health facilities in surveillance and data-sharing. Additionally, there is a need for dedicated resources to improve surveillance infrastructure, workforce capacity, and laboratory systems, embedding pandemic preparedness into health sector planning.

In the EAC region, several countries have demonstrated significant progress in integrating S-PPR into their national health strategies, with various successes providing valuable lessons for Kenya and the broader region. Countries like Uganda, Tanzania, and Rwanda have made strides in strengthening their health systems through strategic plans and effective coordination of surveillance systems, particularly in addressing infectious disease threats.

Uganda, for instance, has been praised for its quick response to the Ebola outbreaks, employing effective surveillance systems and community engagement to contain the spread of the disease (Zalwango et al., 2024). The country's use of integrated surveillance and real-time data collection systems has allowed for early detection and timely interventions (World Health Organization, 2023c). Despite Uganda's successful use of surveillance systems and community engagement during the Ebola outbreak, challenges like limited resources and varying levels of political commitment among neighboring countries may impact the sustainability and expansion of such initiatives (Uganda Ministry of Health, 2022; World Health Organization, 2023d).

Tanzania's initial response to the COVID-19 pandemic was marked by skepticism, with the government downplaying the severity of the virus and suspending official case reporting. However, under new leadership in 2021, the country re-engaged with international health partners, including the WHO, and took steps to strengthen disease surveillance and pandemic preparedness (World Health Organization, 2022b). Investments in health infrastructure and workforce capacity have since contributed to improving response systems, though funding gaps and coordination challenges among regional actors continue to pose obstacles (World Health Organization, 2022b).

Rwanda stands out for its robust health information systems and use of mobile technology to improve data collection and surveillance. During the Ebola outbreak in the Democratic Republic of Congo (DRC), Rwanda's proactive border surveillance measures, combined with rapid response teams, helped minimize the spread of the virus across borders (Rwanda Ministry of Health, 2023). Rwanda's health sector is also highly integrated, with a focus on community health workers who are key players in both disease surveillance and health education at the grassroots level (Rwanda Ministry of Health, 2022). Rwanda's proactive border surveillance during the Ebola outbreak in the Democratic Republic of Congo (DRC) was successful, but similar efforts are often hindered by financial constraints and political dynamics at the regional level (Rwanda Ministry of Health, 2023).

These successes in the EAC region highlight the importance of early detection, strong surveillance systems, and collaboration with international partners. The region has also benefited from the collective efforts of the East African Health Research Commission (EAHRC), which facilitates joint health initiatives and promotes cross-border cooperation in health security (EAC, 2022).

While challenges such as resource constraints and infrastructure gaps remain, these countries' achievements emphasize the importance of a coordinated, integrated approach to pandemic preparedness and surveillance.

4.2 Integration of S-PPR financing into national budgets

Kenya has made notable strides in incorporating financing for S-PPR within its health sector plans. The Ministry of Health's Sector Working Group Report (2022) highlights the need for substantial investments in strengthening health systems, particularly in surveillance infrastructure, laboratory capacity, and response mechanisms to mitigate public health emergencies. International partnerships have been instrumental in supporting these efforts, with the Global Fund contributing US$407 million to combat major diseases and reinforce the country's health systems. Such collaborations enhance Kenya's financial capacity to address both routine healthcare needs and unforeseen crises.

However, persistent financial and logistical challenges continue to impact the effectiveness of surveillance and response systems. Chronic underfunding of surveillance activities, coupled with the absence of dedicated financial resources for outbreak preparedness and response, has led to heavy reliance on external partners, raising concerns about long-term sustainability. Inconsistent funding has also hampered critical functions such as supervision, data quality audits, and coordination between national and county governments, further weakening the country's ability to respond swiftly to public health threats

The COVID-19 pandemic further exposed vulnerabilities in Kenya's health financing structure. A 2021 study found that the diversion of domestic and donor funds towards emergency response efforts led to delays and disruptions in essential health programs, such as family planning services and Universal Health Coverage (UHC) initiatives (Darrudi et al., 2022). These challenges are further reflected in findings that only 17% of sub-counties have a dedicated budget for epidemic preparedness and response, with even fewer maintaining strategic stockpiles of essential emergency commodities. This lack of financial and material resources significantly weakens the country's ability to respond effectively to public health emergencies.

Despite Kenya's progress in securing funding for S-PPR, challenges persist in ensuring that financial resources can be efficiently adjusted to meet emerging health threats. The rigid structure of current funding mechanisms often results in delays in outbreak response and interruptions in essential health services. Financial constraints at the sub-national level, coupled with the absence of dedicated emergency funds and limited reserves of critical supplies, have weakened Kenya's ability to respond swiftly to public health emergencies. Rigid financial structures make it difficult to adapt to shifting health priorities, creating gaps in surveillance, laboratory capacity, and emergency preparedness.

Additionally, weak coordination between national and county governments complicates financial planning and resource allocation during crises. Heavy reliance on external funding further undermines long-term sustainability, as unpredictable donor contributions impact both pandemic preparedness and the continuity of routine healthcare services. (CDC, 2023; Darrudi et al., 2022; Global Fund, 2024; National Treasury, 2024).

Furthermore, the lack of a distinct budget line for S-PPR complicates the monitoring and evaluation of expenditure on preparedness and response activities. Without a clear allocation for S-PPR, oversight bodies, such as the national parliament and civil society organizations, struggle to track how much of the health budget is being used for preparedness activities. This lack of transparency reduces accountability and limits the effectiveness of external scrutiny, which is essential for ensuring that resources are used appropriately and efficiently (Kairu et al., 2023). Without proper monitoring systems in place, it becomes difficult to assess the true effectiveness of Kenya's PPR financing efforts, leaving the country vulnerable to inefficiencies and poor resource management.

The reliance on external donors for pandemic preparedness further highlights the gap in Kenya's self-reliance for financing emergency health preparedness. As seen during past health crises like the Ebola outbreak, international partners often provide critical support, but this assistance tends to be reactive and tied to specific projects or conditions, rather than fostering a long-term, sustainable approach to preparedness (World Health Organization, 2020d). This reliance on donor funding also creates challenges in building local capacity for pandemic preparedness, as external support may not always align with the country's national priorities or long-term health security goals.

The EAC has recognized S-PPR as a regional priority and has taken steps to enhance coordination among member states. One key initiative is the EAC Regional Health Sector Strategic Plan, which focuses on strengthening surveillance systems, emergency response mechanisms, and cross-border collaboration (East African Community, 2023). Additionally, the EAC Pandemic Preparedness and Response Plan has been developed to guide member states in improving health security through capacity building, joint training, and information sharing (EAC, 2023). To support these efforts, the EAC has mobilized funding through partnerships with international organizations such as the Africa CDC, WHO, and the World Bank (World Health Organization, 2023). The establishment of the EAC Regional Public Health Emergency Operations Center (PHEOC) has further enabled real-time data sharing and coordinated response efforts among member states (Africa CDC, 2023). However, despite these efforts, integrating S-PPR financing into national budgets remains a significant challenge, as most countries still rely on external funding rather than allocating dedicated domestic resources for preparedness and emergency response (East African Community, 2023).

Across the EAC, the lack of a dedicated budget line for pandemic preparedness and response is a major issue that limits the capacity of member states to plan and execute effective S-PPR strategies. In Uganda, for instance, the financing for pandemic preparedness often comes from supplementary budgets or donor support, which are not always timely or sufficient during outbreaks (Uganda Ministry of Health, 2020). Similarly, Tanzania faces challenges in mobilizing adequate resources for S-PPR, with funding for emergency response typically coming from the general health sector allocation, which is often underfunded (World Health Organization, 2022b). This trend is also observed in Burundi, where financial support for health emergencies is limited and frequently dependent on external donors rather than national resources.

Another challenge faced by EAC countries is weak coordination between sectors, particularly the key sectors such as public health and disease control, agriculture and livestock, environmental protection, food safety and regulation, water and sanitation, defense and national security, research and education, and international trade and policy, which are critical for implementing a One Health approach. In Rwanda, for example, while the government has made progress in coordinating health and agriculture efforts, financial resources for cross-sectoral coordination are often limited, making it difficult to implement comprehensive emergency response plans (Rwanda Ministry of Health, 2023). The lack of a coordinated financial mechanism across ministries and sectors further complicates the allocation and tracking of S-PPR funds in most EAC countries.

Despite the challenges, Kenya can draw lessons from on the importance of dedicating specific budget lines for S-PPR activities. In Rwanda, the government has made efforts to allocate specific funds for emergency health preparedness, and these funds are included in the national budget as part of the country's broader health financing strategy (Rwanda Ministry of Health, 2023). This enables better tracking of expenditure and helps prioritize S-PPR activities, ensuring that resources are available when needed.

Moreover, cross-sectoral integration of S-PPR financing offers another lesson for Kenya. In Uganda, there has been an increasing effort to integrate pandemic preparedness into the broader development agenda by involving multiple sectors, including agriculture and environment, in budget planning for health emergencies (Uganda Ministry of Health, 2020). This approach ensures that all relevant stakeholders contribute to the financial resources needed for a coordinated emergency response. Kenya could strengthen its One Health approach by ensuring that all sectors, including public health and disease control, agriculture and livestock, environmental protection, food safety and regulation, water and sanitation, defense and national security, research and education, and international trade and policy, have dedicated resources for pandemic preparedness. Rwanda's experience shows that strengthening multi-sectoral collaboration can improve the overall resilience of the country's health system during emergencies (Rwanda Ministry of Health, 2023).

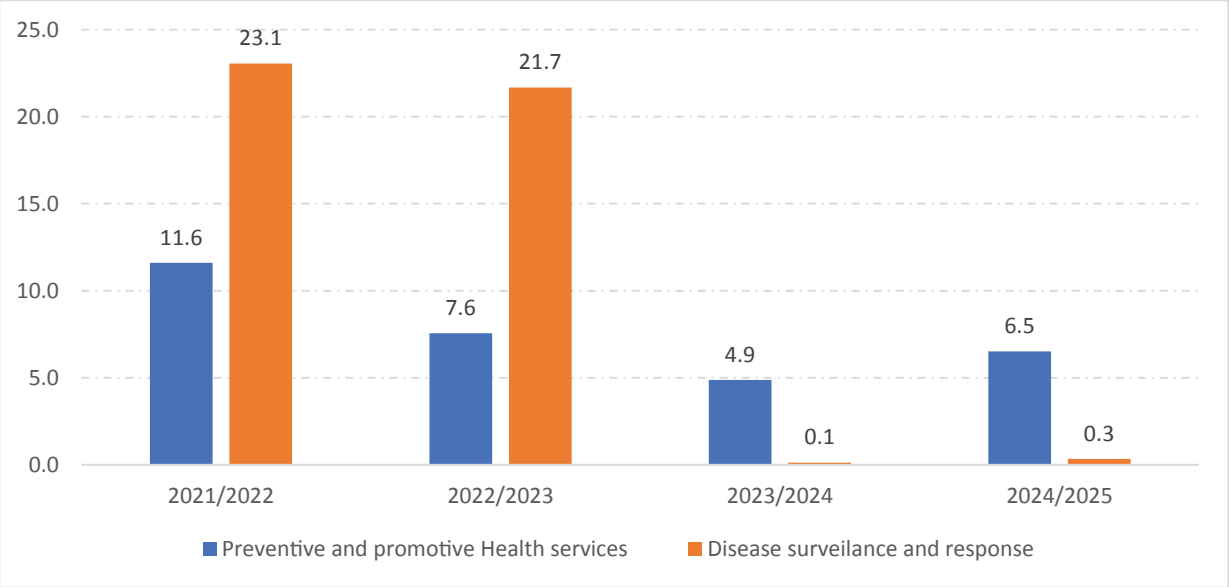
Kenya's approach to health emergency financing can be examined in comparison to Tanzania's response during the 2018–2020 Ebola outbreak. Tanzania effectively mobilized resources through flexible reallocation mechanisms, allowing for a swift response to surveillance and containment efforts (World Health Organization, 2020b). However, the absence of dedicated S-PPR budget lines posed challenges in maintaining long-term sustainability and financial accountability. This highlights a key tension in emergency financing: while flexibility enables rapid action, a lack of pre-allocated funds can undermine continuity and structured planning. Kenya's current budgeting framework presents an opportunity to evaluate the balance between adaptability and dedicated funding to ensure financial preparedness for future health crises

4.3 National Budgetary allocations to S-PPR

Kenya's annual budgetary allocations for health reveal a mixed picture, with progress in broader healthcare financing, but persistent limitations in funding for S-PPR. While the health sector has seen increased investment in initiatives such as the Kenya UHC Program, allocations specifically targeting S-PPR remain constrained. For example, in the fiscal year 2024/25, Ksh 4.6 billion (approximately US$ 31.5 million) was allocated to vaccination programs, complemented by Ksh 28.7 billion (approximately US$ 196.7 million) from the Global Fund for combating HIV, malaria, and tuberculosis. However, this funding focuses on specific disease programs rather than a comprehensive investment in health surveillance infrastructure and pandemic preparedness, leaving critical gaps in Kenya's health security framework.

Budgetary allocations to preventive and promotive health services, a key component of S-PPR, have declined significantly in recent years. From a peak of 11.6% of the total health budget in 2021/22, this allocation dropped to about 6% in 2024/25. Figure 1 illustrates that during the 2021/22 and 2022/23 financial years, allocations to disease surveillance and response averaged 22% of the total health budget, reflecting a period of heightened focus due to the COVID-19 pandemic. However, this commitment waned sharply in subsequent years, with allocations plummeting to less than 1%. This decline signals a lack of sustained investment in critical health infrastructure and highlights the need for consistent funding to build long-term resilience against emerging health threats

Figure 1: Allocations to Preventive and Promotive Health Services, and Disease Surveillance and Response as a % of the Total Health Budget in Kenya



Source: Constructed from the Budget reports

The trends in Kenya's budgetary allocations to disease surveillance and response over time reveal notable patterns. Initially, there was a relatively high allocation, averaging around 22% during the 2021/22 and 2022/23 financial years. This increase reflects a period of heightened government commitment to addressing emerging health threats, particularly in response to the COVID-19 pandemic. However, these allocations experienced a sharp decline in subsequent years, plummeting to below 1%. This drastic reduction highlights a shift away from prioritizing S-PPR, suggesting inconsistent funding levels and a lack of sustained commitment to building long-term resilience in the health sector. Kenya's budgetary allocations for disease S-PPR have fluctuated over time, reflecting a reactive rather than proactive approach to health security.

Kenya's budgetary allocations for S-PPR continue to exhibit critical gaps, mirroring the overall trend observed in broader health sector financing. The 2024/25 fiscal year allocations primarily emphasize vaccination programs and disease-specific interventions, with limited direct investment in comprehensive surveillance infrastructure. This aligns with findings from the IDSR evaluation report, which highlights that only 17% of sub-counties reported having a dedicated budget for epidemic preparedness and response (EPR). Moreover, despite the presence of Rapid Response Teams (RRTs) in 91% of sub-counties, only 18% had conducted an after-action review for their most recent outbreak, suggesting inconsistencies in sustained funding and implementation. At the county level, the evaluation report indicates that while half of the counties have allocated some budgetary provisions for outbreak preparedness, significant gaps persist in planning and execution.

Less than 50% of counties had essential PPEs, and only 37% had case management protocols for priority diseases. This underfunding at subnational levels highlights the disparity between national commitments and actual resource disbursement, further exacerbating Kenya's reactive rather than proactive approach to pandemic preparedness.

The findings further underscore the chronic underfunding of surveillance systems and outbreak response mechanisms. A significant concern raised is the lack of stable financing for IDSR, with many counties relying on donor support and external partnerships to sustain operations. The Ministry of Health has estimated that approximately USD 76.6 million (KES 10.73 billion) is required over five years (2022-2026) to effectively operate Kenya's surveillance system, including epidemic preparedness and response functions. However, the current budgetary allocations fall significantly short of this requirement, making it difficult to sustain critical surveillance functions, such as data quality audits, surveillance meetings, and routine supervision.

Further analysis of Kenya's national budgetary allocations to S-PPR reveals a consistent trend of underutilization of allocated funds. Over the past four years, actual spending has fallen short of planned budgets, with an average utilization rate of 88.5%. The most significant shortfall occurred in the financial year 2022/23, where only 85.2% of the budget was spent. This was primarily due to delays in infrastructure development, procurement bottlenecks, and challenges in coordinating stakeholders for effective fund disbursement.

Table 1: National Budgetary Allocations to S-PPR: Actual Expenditure vs. Planned Budget (2021–2025)

Year	Planned Budget (USD)	Actual Expenditure (USD)	Variance (USD)	% Utilized	Source
2021/22	12.76 million	11.85 million	-0.91 million	92.9%	Kenya Public Health Emergency Operations Centre National Strategic Plan 2021–2026
2022/23	7.57 million	6.45 million	-1.12 million	85.2%	County Governments Budget Implementation Review Reports
2023/24	6.33 million	5.78 million	-0.55 million	91.3%	County Governments Budget Implementation Review Reports
2024/25	5.89 million	5.12 million	-0.77 million	87.0%	Ministry of Health Expenditure Reports 2025

To better understand how these trends impact specific health initiatives, an examination of budget absorption rates across key areas such as disease surveillance and emergency preparedness, the table below presented a detailed look at the allocated budgets and absorption rates for various health initiatives in 2021 and 2023. It highlights the effectiveness of resource utilization across different categories, including disease surveillance, emergency preparedness, advocacy, community health, and infrastructure development. While some areas demonstrate strong budget absorption and efficient resource use, others reveal significant gaps in fully utilizing allocated funds, particularly in health facilities infrastructure and donor contributions. These findings complement the earlier analysis by shedding light on the practical challenges and successes in implementing Kenya's health programs.

Table 2: Analysis of Allocated Budgets and Absorption Rates in Kenya

Category	Allocated Budget (USD)[3]	Absorption Rate (%)	Observations
Disease Surveillance & Emergency Preparedness (2021)	22,727 USD (2,500,000 KES / 110)	100%	Full utilization, reflecting prioritization of surveillance activities.
Disease Surveillance & Emergency Preparedness (2023)	58,333 USD (8,500,000 KES / 130)	83.50%	High efficiency, though some funds remain unspent.
Advocacy & Community Health Strategy (2023)	104,348 USD (12,000,000 KES / 115)	86.25%	Strong focus on community health and surveillance, demonstrating effective resource use.
Emergency Response Preparedness (2023)	109,537 USD (14,180,000 KES / 130)	96.22%	Almost complete utilization, indicating high prioritization for emergency readiness.

The conversion rates used above are approximations for each respective year

Health Facilities Infrastructure Development (2023)	66,667 USD (10,000,000 KES / 150)	42.15%	Lower absorption rates suggest challenges in infrastructure project execution.
Donor Contributions (e.g., DANIDA, THS)	Varies	Varies (e.g., some <50%)	Highlight gaps in fully utilizing external funding, pointing to possible delays or administrative bottlenecks.

Source: County Governments Budget Implementation Review Reports

The Disease Surveillance & Emergency Preparedness category in 2021 had a 100% absorption rate, indicating the full utilization of allocated resources, reflecting the government's prioritization of surveillance activities. Similarly, the Emergency Response Preparedness category in 2023 had a high 96.22% absorption rate, demonstrating effective use of funds for emergency readiness. Other categories, such as Advocacy & Community Health Strategy in 2023, also show high absorption, with 86.25% utilization, suggesting effective resource allocation towards community health initiatives. However, the Disease Surveillance & Emergency Preparedness category shows a slightly lower 83.5% absorption rate, meaning that some funds remained unspent, pointing to possible inefficiencies or unanticipated challenges in implementation.

An analysis of resource absorption rates reveals several factors contributing to the gaps in funding utilization across different categories. While the Disease Surveillance & Emergency Preparedness category in 2021 demonstrated a 100% absorption rate, indicating full resource utilization, gaps emerged in 2023 with an absorption rate of 83.5%. These gaps are due to a combination of logistical challenges, such as delays in data collection or coordination difficulties between key stakeholders, which can impede the timely execution of planned activities ((World Health Organization, 2021) Additionally, the shifting nature of public health priorities—such as the emergence of new diseases or urgent response needs—can lead to funds being reallocated, leaving some categories underfunded or underutilized (Clark et al., 2024). Furthermore, the capacity limitations of implementing agencies, alongside a lack of efficient monitoring and evaluation mechanisms, may contribute to the inability to fully absorb allocated resources (Walters et al., 2022). These factors underline the importance of adaptive planning and flexible funding mechanisms, which are essential for ensuring that resources are directed to the most pressing needs in a dynamic health landscape.

In 2023, the Health Facilities Infrastructure Development program struggled with project implementation, as evidenced by a low fund absorption rate of 42.15%. Stakeholder consultations identified key contributing factors, including procurement delays, logistical challenges, and inefficiencies in project management. Additionally, donor contributions were not fully utilized, with some funds having an absorption rate below 50%, pointing to administrative barriers or delays in disbursing external funding.

Further challenges were identified across various stakeholders in S-PPR in Kenya. A key issue is the heavy reliance on donor funding across essential institutions. For example, the Kenya Medical Research Institute (KEMRI) receives only 10% of its funding from the government, with the remainder coming from international donors like the U.S. Centers for Disease Control and Prevention (CDC).

EAC member states have allocated varying levels of resources to bolster their preparedness. Uganda has prioritized strengthening response mechanisms (Uganda Ministry of Health, 2023), while Rwanda has invested in upgrading infrastructure and reinforcing emergency response systems (Rwanda Ministry of Health, 2023). These efforts reflect a growing recognition of the need for proactive measures to mitigate public health risks. However, further investment is essential in key areas such as skilled personnel, digital surveillance tools, and cross-border collaboration. Strengthening regional coordination and data-sharing mechanisms will enhance surveillance effectiveness and build a more resilient public health framework across the EAC.

The EAC has fostered collaborative efforts through initiatives such as the East African Public Health Laboratory Networking Project and the East African Centre for Disease Control and Prevention (EACDC), which have facilitated the pooling of resources and expertise for regional health surveillance and pandemic response (EAC Secretariat, 2023) Donor funding has played a critical role in supporting these efforts, supplementing national budgets and providing financial resources for procurement, laboratory infrastructure, and health workforce training. Donors like the World Bank, the Global Fund, and the U.S. Centers for Disease Control and Prevention (CDC) have made significant contributions to strengthening health systems in the region, helping countries meet their surveillance and pandemic preparedness goals.

Despite progress, several challenges undermine the effectiveness of national budgetary allocations in the EAC. One major issue is the inconsistent distribution of funds across member states. While Kenya and Rwanda have invested significantly in surveillance and pandemic preparedness, countries like South Sudan and Burundi face financial constraints due to political instability, conflict, and economic hardship. Rwanda's 2023/24 national budget prioritizes economic recovery from COVID-19, with a focus on strengthening the health system and enhancing disaster preparedness (Government of Rwanda, 2023). Similarly, Kenya's budget allocations have emphasized improving health resilience and service delivery (Overseas Development Institute [ODI], 2023). However, despite these investments, the region continues to struggle with inadequate infrastructure, weak data-sharing mechanisms, and a shortage of public health laboratories—factors that greatly affect the quality and speed of responses to health emergencies

4.4 Level and sources of Health Expenditure on S-PPR

The analysis of health expenditure on S-PPR highlights an overwhelming reliance on external funding at both regional and country levels, exposing significant vulnerabilities in the sustainability of health systems. Domestic resources contribute only modestly to overall health financing, creating challenges for countries seeking to ensure resilience against fluctuating international support.

At the country level, Table 3 provides an overview of Kenya's spending on epidemiological surveillance, risk and disease control programs, which are core components of S-PPR, from 2016 to 2019. It outlines the contributions of domestic public expenditure, external expenditure, and domestic private expenditure, as well as their respective percentages of the total health expenditure (CHE) for each year.

Table 3: Kenya's spending on epidemiological surveillance and risk and disease control programmes (in million USD), 2016-2019

	2016	% of CHE	2017	% of CHE	2018	% of CHE	2019	**% of CHE**
Domestic public expenditure	532	22.5	500	20.2	1,803	32.4	135	0.8
External expenditure	1,288	54.4	1,569	63.4	3,265	58.7	14,953	90.2
Domestic private expenditure	546	23.1	406	16.4	498	8.9	1,489	9.0
Total expenditure	2,366	100.0	2,475	100.0	5,566	100.0	16,577	100.0

Source: compiled from WHO global health expenditure database

The data of Kenya's health expenditure from 2016 to 2019 reveals a significant shift in funding sources, with external funding for disease control rising sharply from 54.4% of total health expenditure (CHE) in 2016 to 90.2% in 2019. In contrast, domestic public expenditure drastically dropped from 32.4% of CHE in 2018 to just 0.8% in 2019 (Table 4). This suggests that, while overall health spending increased, the government's contribution diminished, likely due to budget constraints, shifting priorities, or a strategic reliance on external donors for targeted disease control programs. The surge in external funding likely covered critical health needs, particularly in areas like HIV/AIDS and malaria, leading to a reduced role for domestic financing. This trend highlights Kenya's increasing dependence on external aid to manage disease control efforts, despite the overall increase in health expenditure. Similar patterns of external aid dominance in health financing have been observed in other countries relying on international organizations to fill gaps in national health budgets (Ifeagwu et al., 2021).

In contrast, domestic public expenditure fluctuated, with a notable increase in 2018 (32.4% of CHE), but then sharply dropped to just 0.8% of CHE in 2019, reflecting a decline in government funding for disease surveillance and risk control. The decrease in domestic public funding, from $532 million (KSh 69.2 billion) in 2016 to $135 million (KSh 17.5 billion) in 2019, raises concerns about the sustainability of these programs without continued external support. Domestic private expenditure, although relatively stable over the years, contributed only about 9% of total health expenditure throughout the period.

The total expenditure on disease control programs grew exponentially, from 2.37 billion USD in 2016 to 16.58 billion USD in 2019, driven largely by external funders. While this surge in funding could reflect an increased focus on health priorities, the heavy reliance on external sources for this growth is unsustainable.

Kenya's expenditure on S- PPR faces significant financial constraints, limiting the country's ability to effectively detect, report, and respond to public health threats. The Ministry of Health (MOH) estimates that approximately $76.63 million (KES 10.73 billion) is required over five years (2022–2026) to sustain six key thematic areas: Integrated Disease Surveillance (IDS), Vaccine-Preventable Diseases (VPDs), Epidemic Preparedness and Response (EPR), Influenza-Like Illnesses (ILI), Severe Acute Respiratory Illnesses (SARI), data management, and coordination (IDSR Report, 2024).

The decline in domestic public expenditure and the increasing reliance on external funding in Kenya's health sector can be attributed to several interrelated factors. One key driver is the fiscal constraints faced by the Kenyan government. Limited financial resources, coupled with competing national priorities such as infrastructure development and debt servicing, have led to a reduction in domestic health investments. This trend is evident in the sharp decrease in government health funding from 532 million USD in 2016 to 135 million USD in 2019 (World Health Organization, 2023c). Such economic pressures make it challenging for the government to maintain adequate levels of funding for critical health programs.

Shifts in national policy focus also play a role. As Kenya aligns its health agenda with broader development objectives, there has been a redirection of funds from targeted disease control programs to initiatives like UHC Program and health system strengthening (Kenya Ministry of Health, 2019). While these shifts are essential for long-term health outcomes, they may result in reduced financial support for specific disease surveillance and control efforts. This reallocation of resources highlights the trade-offs inherent in pursuing multiple health and development goals simultaneously.

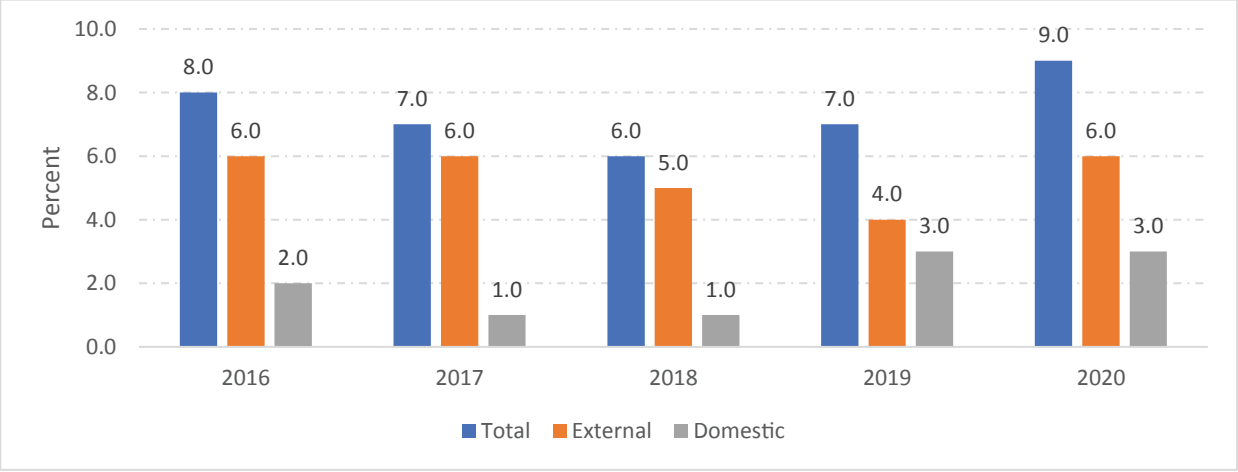
The increasing reliance on external donors further compounds this issue. External funding for disease control rose dramatically, accounting for 90.2% of health expenditure in 2019, up from 54.4% in 2016. This reliance reflects a growing dependency on donor-driven initiatives to address Kenya's health priorities (Ifeagwu et al., 2021) . Donors often earmark funds for specific programs such as HIV/AIDS and malaria, which, while addressing critical health challenges, can create an imbalance in resource allocation. This donor-driven focus may inadvertently reduce the government's motivation to allocate domestic funds to these areas, assuming that external sources will continue to fill the gap.

Additionally, the conditions attached to external funding often exacerbate this reliance. Donors frequently provide funds earmarked for specific diseases or programs, limiting their flexibility to address broader health system needs (National Treasury, 2024). This focus on targeted programs leaves gaps in other areas of healthcare that may not attract similar levels of donor interest. Consequently, domestic resources are diverted to fill these gaps, further straining public expenditure.

Global health dynamics also play a role in shaping these trends. International donors have increasingly prioritized specific health challenges, such as infectious diseases and pandemics, which have led to significant financial support for countries with high disease burdens. While this external funding has improved short-term health outcomes, it has also contributed to a dependency culture that undermines long-term sustainability in health financing (World Health Organization, 2023c).

For the EAC region as shown in figure 2, external funding remained the dominant source of CHE allocated to epidemiological surveillance and risk and disease control programs. Between 2016 and 2020, external funding fluctuated, decreasing from 6% of CHE in 2016 to 4% in 2019 before rising again to 6% in 2020. This resurgence aligns with the global response to the COVID-19 pandemic, which heightened international financial support for surveillance and risk control initiatives during the crisis.

Figure 2: Expenditure on Epidemiological surveillance and risk and disease control programmes % Current health expenditure (CHE) in EAC region



Source: compiled from WHO global health expenditure database

Despite these advances EAC regions continue to rely heavily on external donors, creating significant gaps in the resilience and sustainability of health systems. The inherent variability of external funding, influenced by geopolitical factors, makes it challenging for countries to plan and invest in long-term health infrastructure and preparedness programs.

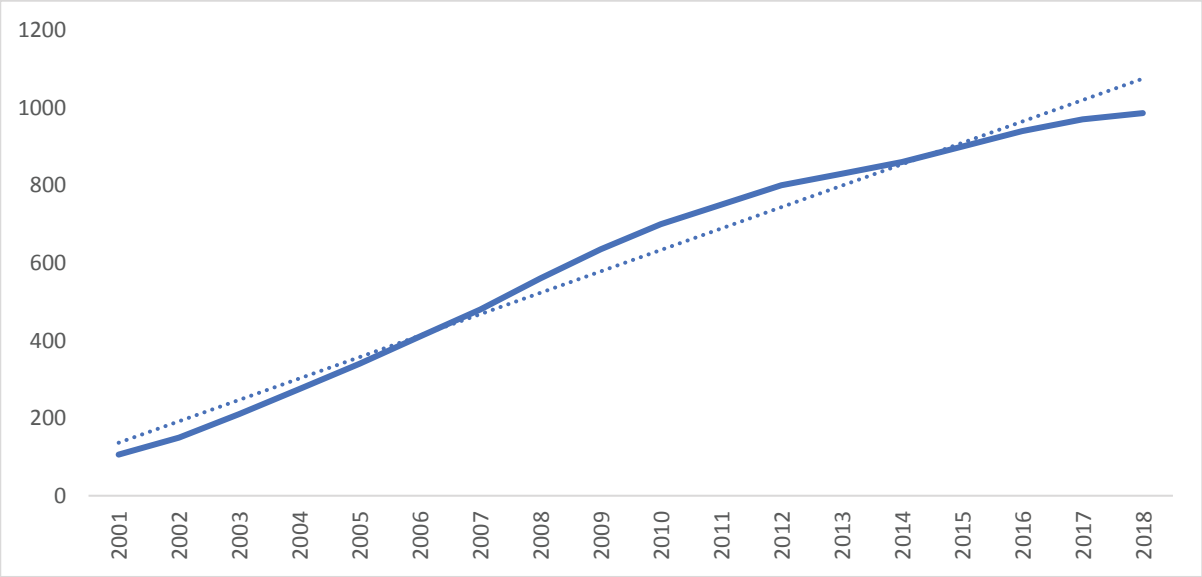
Kenya, like its EAC peers, faces challenges related to reliance on external funding for health expenditures, particularly for epidemiological surveillance and disease control programs. However, Kenya's spending patterns show a more significant fluctuation compared to some other countries in the region, with external funding varying greatly over recent years. In comparison, countries such as Uganda and Tanzania have managed to secure more consistent funding from domestic sources, which has helped reduce their reliance on external donors. Kenya's spending on health tends to align with global trends, particularly with the rise in external funding during the COVID-19 pandemic, but its long-term health spending sustainability remains vulnerable due to this dependency.

Kenya can draw valuable lessons from its EAC neighbors in diversifying funding sources and strengthening domestic health financing. For instance, Tanzania's gradual increase in domestic health expenditure and Rwanda's focus on building robust national health financing systems provide effective models for Kenya to consider. By building stronger financial resilience and reducing dependence on volatile external funding, Kenya can better ensure the sustainability of its health systems and improve long-term preparedness for health crises. Additionally, Kenya can benefit from exploring innovative financing mechanisms, such as health insurance schemes and public-private partnerships, which have proven successful in other parts of the region.

4.4.1External funding uncertainties impact Kenya's S-PPR system

Over the past two decades, U.S. funding to Kenya's health sector has followed an increasing trend, particularly in response to emerging global health threats. Between 2001 and 2018, bilateral assistance from the U.S. government to Kenya's health sector grew tenfold, from approximately $106 million to nearly $986 million (USAID, 2019). This increase was primarily driven by major health initiatives such as PEPFAR, the Global Fund, and WHO programs.

Figure 3: U.S. Health Assistance to Kenya (Million USD)



Source: USAID- Health, Population and Nutrition, Kenya fact sheet

Since 2020, U.S. financial assistance to Kenya's health sector has steadily declined due to shifting foreign policy priorities and budget reallocations (Gichuki, 2025). In 2021, U.S. aid to Kenya was reduced by approximately 15%, creating funding shortfalls that impacted key healthcare programs, including disease surveillance and vaccine distribution (Pamuk & Psaledakis,2025). The situation is anticipated to worsen in 2025 following the U.S. withdrawal from the WHO and the suspension of foreign aid, further straining Kenya's ability to sustain public health initiatives and respond effectively to emerging health threats.

The United States has historically been a critical financial partner in Kenya's healthcare system. The U.S. contributed approximately $1 billion annually in foreign aid to Kenya, with a significant portion allocated to health programs. Specifically, the U.S. government funded over 84% of Kenya's HIV/AIDS programs through the President's Emergency Plan for AIDS Relief (PEPFAR), amounting to nearly $500 million annually . Additionally, the U.S. has been a key player in malaria control, contributing over $100 million annually to Kenya's anti-malaria programs (WHO, 2017).

One of the most affected areas is Kenya's disease surveillance system. The WHO has been instrumental in supporting the country's ability to detect and manage emerging health threats. The U.S. contributed nearly 18% of the WHO's global budget, and its withdrawal could significantly reduce funding for Kenya's surveillance programs, potentially leading to delays in outbreak detection and response(Prakash et al, 2020).

Kenya stands to lose approximately $200 million in funding specifically allocated for pandemic preparedness, laboratory infrastructure, and real-time disease monitoring. These funds were critical in equipping public health institutions with resources such as diagnostic kits, laboratory reagents, and personal protective equipment (PPE). The anticipated decrease in financial support could lead to severe shortages of these essential supplies, increasing Kenya's vulnerability to future health crises. The broader impact extends beyond surveillance to Kenya's HIV/AIDS, malaria, and immunization programs. The U.S. has historically funded over 84% of Kenya's HIV/AIDS programs through PEPFAR, contributing nearly $500 million annually. The suspension of U.S. foreign aid could disrupt the supply of life-saving antiretroviral drugs (ARVs) for over 1.2 million people living with HIV, potentially leading to increased mortality rates and new infections. Similarly, malaria control programs, which receive over $100 million annually from the U.S., have already begun experiencing supply shortages, affecting the distribution of treated mosquito nets and anti-malarial drugs

Vaccination efforts are also at risk, as the U.S. has been a major contributor to childhood immunization programs through WHO, UNICEF, and GAVI. The suspension of aid could result in lower immunization coverage for preventable diseases such as measles, polio, and diphtheria, increasing the likelihood of outbreaks .The anticipated loss of $43 million in annual funding from multilateral programs such as the Global Fund and GAVI may further undermine Kenya's immunization efforts.

The overall implications of these funding cuts are severe. Kenya's healthcare system, already under strain from existing public health challenges, faces reduced workforce productivity, increased morbidity and mortality rates, and a heightened risk of disease resurgence. Without alternative funding sources, Kenya may struggle to fill the gaps left by U.S. aid, potentially overburdening the national budget. To mitigate these challenges, Kenya must explore alternative funding strategies, including increased domestic investment in healthcare and strengthened international partnerships to ensure sustainability in pandemic preparedness and disease surveillance

https://docs.aiddata.org/ad4/pdfs/Investing_in_Kenyas_People.pdf

4.5 Financing Gaps and needs for implementation

The COVID-19 pandemic revealed critical weaknesses in the health infrastructures of many African countries, including insufficient funding and poorly aligned aid allocations. These deficiencies hindered effective responses to the pandemic and underscored the urgent need for sustained investment in surveillance and pandemic preparedness and response (PPR) programs. Despite increased global recognition of these issues, significant financing gaps persist, limiting the effective implementation of critical initiatives.

Table 4 highlights the per capita financing needs for S-PPR, as determined by the World Bank and WHO. These estimates, based on country-level S-PPR assessments such as Joint External Evaluations (JEEs) and costed National Action Plans for Health Security (NAPHS), reveal the scale of investment required to achieve core S-PPR capacities.

For instance, Kenya requires $4.35 per capita annually to sustain core capacities—significantly higher than Nigeria ($2.95) and Cameroon ($3.01)—indicating greater gaps in Kenya's health system capacity. In terms of capital investments, Cameroon has the highest requirement at $0.19 per capita, compared to $0.02 in Kenya and $0.07 in Nigeria. These figures illustrate not only the significant variation in financial needs among countries but also the systemic challenges they face in achieving essential S-PPR benchmarks.

Table 4: Estimates of PPR financing needs based on NAPHS in selected countries

	Cost of achieving core PPR capacities, including expanded workforce	
Country	Capital (US$ pc)	Annual Recurrent (US$ pc/year)
Kenya	0.02	4.35
Nigeria	0.07	2.95
Cameroon	0.19	3.01

Source: Compiled by the World Bank based on publicly available data from National Action Plans for Health Security framework of WHO.

Table 5 outlines the total annual financing requirements for PPR across low-, lower-middle- and upper-middle-income countries, estimated at $26.4 billion. Surveillance, collaborative intelligence, and early warning systems constitute the largest component, requiring $12.2 billion annually—nearly half of the total estimated needs.

Public health and social measures to engage and build resilient communities account for $4.8 billion, while lifesaving interventions and scalable health systems require $5.4 billion annually. These figures demonstrate the critical importance of robust surveillance and early warning systems, alongside community engagement, to mitigate public health threats effectively.

Table 5: National level financing requirements of the PPR by income group (in US$ billion)

PPR framework subsystems	**Estimated national-level priority needs (US$ billion)**			
	LIC	**LMIC**	**UMIC**	**Total**
Surveillance, collaborative intelligence and early warning	1.3	6.2	4.7	12.2
Prioritized research and equitable access to medical countermeasures and essential supplies	0.2	1.0	0.8	2.0
Public health and social measures and engaged, resilient communities	0.5	2.5	1.8	4.8
Lifesaving, safe and scalable health interventions and resilient health systems	0.5	2.8	2.1	5.4
PPR strategy, coordination and emergency operations	0.2	1.0	0.8	2.0
Total	**2.7**	**13.5**	**10.2**	**26.4**

Source: Compiled by the World Bank (2022) based on publicly available data from National Action Plans for Health Security framework of WHO.

Despite the outlined requirements, domestic financing for PPR remains inadequate. Table 6 illustrates significant disparities in S-PPR spending per capita across income groups. In low-income countries (LICs), domestic health spending averages $10.2 per capita annually, with S-PPR allocations representing only $0.1–$0.3 per capita. Even in lower-middle-income countries (LMICs), S-PPR allocations remain modest at $0.4–$1.1 per capita. This chronic underinvestment reflects systemic challenges such as limited fiscal space and competing health priorities. The lack of adequate funding poses severe risks, as insufficient investment in S-PPR leaves

Table 6: National health and PPR spending estimates

Income group	Dom. govt. exp. on health (US$ per capita)	Domestic PPR spending per capita in US$	
		1% of dom. health exp.	3% of dom. health exp.
Low income	10.2	0.1	0.3
Lower middle income	35.4	0.4	1.1
Upper middle income	296.8	3.0	8.9
High income	3486.4	34.9	104.6

Source: Source: Compiled by the World Bank based on publicly available data from National Action Plans for Health Security framework of WHO

Table 7 shows the minimum and maximum shortfalls in PPR funding, which range from $9.3 billion (minimum) to $7.0 billion (maximum). Surveillance, collaborative intelligence, and early warning systems account for the largest share of the shortfall ($4.3 billion at 1% allocation), underscoring critical underfunding in essential public health functions.

Table 7: International financing gap for national needs

PPR framework subsystems	Estimated national level priority needs (US$ billion)	Minimum priority gaps assuming 1% spend on PPR (US$ billion)	Minimum priority gaps assuming 3% spend on PPR (US$ billion)
Surveillance, collaborative intelligence and early warning	12.2	4.3	3.2
Prioritized research and equitable access to medical countermeasures and essential supplies	2.0	0.7	0.5
Public health and social measures and engaged, resilient communities	4.8	1.7	1.2
Lifesaving, safe and scalable health interventions and resilient health systems	5.4	1.9	1.4
PPR strategy, coordination and emergency operations	2.0	0.7	0.5
Total	**26.4**	**9.3**	**7.0**

Source: Estimates by the World Bank (2022)

The World Bank highlights the need to increase both domestic and international funding for core Pandemic Preparedness and Response (PPR) functions in order to address the identified gaps (World Bank, 2022). It also emphasizes the importance of leveraging resources designated for strengthening health systems and disease control programs to bolster PPR efforts. For instance, the Global Fund has made significant investments in surveillance and laboratory capacity by supporting malaria, HIV, and tuberculosis programs, which contribute to PPR.

In Kenyan institutions/ stakeholders in S-PPR space, a key concern has been the lack of dedicated funding lines, which disrupt the continuity of programs. For example, the Kenya Medical Research Institute (KEMRI) proposed a budget of Ksh 200 million for MPOX preparedness, but funding reallocations delayed the implementation of this crucial initiative, highlighting the negative impact of unpredictable funding on preparedness. Additionally, operational needs are severely underfunded, which weakens Kenya's PPR framework. Critical priorities such as training and retaining skilled personnel, improving data management systems, and supporting community health promoters (CHPs) were identified as areas needing urgent attention. These gaps hinder the country's ability to deliver timely and effective responses to emerging health threats.

To address these challenges, stakeholders proposed several solutions. They consistently emphasized the need for policy reforms to institutionalize dedicated S-PPR financing within national and county budgets. Furthermore, stakeholders called for investment in integrated health platforms that would optimize resource use and improve coordination across governance levels. Capacity-building initiatives, particularly those focused on strengthening human resources for health and enhancing technical expertise, were also seen as vital for addressing financing gaps.

4.5.1 Country specific funding requirements and gaps

Kenya faces significant challenges in financing its health system, particularly in pandemic preparedness and response (PPR). Despite the Abuja Declaration's recommendation that 15% of the national budget be allocated to health, Kenya's investment remains well below this target, averaging only 9.7% for the FY 2023/24. This persistent underfunding has created critical gaps in essential health system capacities, especially in surveillance, emergency preparedness, and workforce development.

The country's health sector relies heavily on both domestic resources and international donor contributions, but donor funding is often earmarked for disease-specific programs, such as emergency COVID-19 response, rather than comprehensive PPR systems. For example, while Kenya received $224 million during the COVID-19 pandemic, only $50–75 million annually was allocated to broader PPR efforts. This imbalance has left key areas chronically underfunded, increasing systemic vulnerabilities.

Kenya faces critical funding gaps in disease surveillance infrastructure, workforce capacity, emergency preparedness, public health communication, and governance, all of which weaken the country's ability to detect and respond to health threats effectively.

A major challenge lies in disease surveillance infrastructure, where only 60% of counties have reliable diagnostic capacity, making early detection of emerging health threats difficult. Strengthening laboratory networks and integrating a nationwide surveillance system require an initial $25–40 million investment, with a funding shortfall of $20–30 million. Additionally, nearly 40% of health facilities are excluded from national surveillance reporting, reducing the accuracy and representativeness of the system. Many facilities also lack basic specimen collection and transport materials, leading to delays in disease confirmation and response.

Workforce shortages and training deficits further weaken Kenya's preparedness capacity. The country faces a $5–10 million funding gap for recruiting and training essential personnel. Only 11% of healthcare workers (HCWs) have received IDSR training, and many were trained over five years ago. High staff turnover, particularly in private facilities, combined with low motivation and heavy workloads, undermines effective surveillance and outbreak response. Without sustained investment in human resources, Kenya's ability to prevent and control disease outbreaks remains compromised.

Emergency preparedness efforts are also significantly underfunded. The country lacks sufficient stockpiles of critical medical supplies, with an annual funding gap of $7–10 million. Only 17% of health facilities have preparedness plans, and fewer than 50% of counties allocate budgets for epidemic preparedness and response. While 91% of sub-counties report having Rapid Response Teams (RRTs), only 18% have conducted after-action reviews, pointing to weaknesses in response monitoring and continuous learning from previous outbreaks.

Public health communication and research face persistent financial limitations, hindering Kenya's ability to develop proactive responses to health crises. The country experiences annual funding shortfalls of $2–3 million for public health campaigns and $5–8 million for operational research and innovation. Additionally, only 20% of health facilities use electronic medical records (EMRs), with many still relying on informal reporting methods such as WhatsApp or paper-based systems, compromising data accuracy and timeliness.

Weak governance structures and poor coordination between national and county governments further complicate Kenya's ability to respond effectively to outbreaks. An additional $1–2 million annually is needed to improve governance structures and inter-agency collaboration. The lack of clear funding responsibilities and outbreak declaration roles has led to response delays. Moreover, financial constraints have prevented regular stakeholder meetings and structured support supervision for over five years, weakening oversight and accountability. Strengthening coordination and governance is crucial to ensuring a more effective and sustainable public health response system.

Overall, Kenya faces an initial funding shortfall of $40–50 million to establish a robust PPR system, alongside recurrent annual gaps of $20–30 million. The lack of dedicated funding for surveillance and outbreak response, as highlighted in the IDSR Evaluation Report, exacerbates Kenya's vulnerability to future health emergencies. Addressing these gaps through increased domestic investment, sustainable financing models, and better integration of donor support is critical to ensuring a more resilient health system.

Table 8: Health Funding and Preparedness Gaps in Kenya

Category	Kenya
Health Budget Allocation	5–7% of national budget (below 15% target) Government of Kenya (2023)
Annual S-PPR Funding	$50–75 million (Africa CDC, 2021)
Donor Funding Focus	Disease-specific initiatives (e.g., COVID-19 response) (World Bank Group, 2021)
Surveillance Systems	60% of counties with reliable diagnostic capacity (Global Health Security Agenda, 2022)
Surveillance Infrastructure Gap	$20–30 million for setup costs (Africa CDC, 2021)
Workforce Development Gap	$5–10 million for recruitment and training (World Bank, 2022)
Emergency Preparedness Gap	$7–10 million for stockpiling essential supplies (Gavi, 2023)
Public Health Communication Gap	$2–3 million for campaigns (CEPI, 2022)
R&D Gap	$5–8 million for operational research and innovation (Piot et al. ,2019)
Coordination and Governance Gap	$1–2 million for strengthening governance (World Bank, 2022)
Total Initial Funding Gap	$40–50 million (World Health Organization, 2021)
Total Annual Funding Gap	$20–30 million (World Bank Group, 2021)

4.6 Resource pooling and financing mechanisms for S-PPR

Resource pooling is a cornerstone for building resilient and efficient health systems, particularly in low- and middle-income countries like Kenya. By consolidating resources from diverse stakeholders, government bodies, international organizations, and private sector entities—health systems can improve funding allocation, enhance service delivery, and streamline responses to public health emergencies. However, Kenya faces significant challenges in this regard due to the highly fragmented nature of its health financing systems.

Particularly, a unified health financing framework for surveillance and pandemic preparedness is needed. Currently, resources for these areas are fragmented across different government agencies, international partners, and private sector contributors, which leads to inefficiencies and gaps in response capacity. A consolidated financing mechanism, similar to those implemented in countries like Rwanda, could streamline funding for surveillance systems and pandemic preparedness initiatives, ensuring that resources are allocated more effectively and rapidly during public health emergencies (World Bank Group, 2019a). Additionally, public-private partnerships (PPPs) play a critical role in strengthening pandemic preparedness but require enhanced legislative frameworks to fully harness their potential. While there have been efforts to engage the private sector in areas like health infrastructure and technology for pandemic response, a more robust legal and regulatory framework is needed to foster long-term cooperation. This could involve creating incentives for private companies to contribute to surveillance infrastructure and stockpiling essential medical supplies, as demonstrated by successful partnerships in countries like India (Liu et al., 2008). Such partnerships would be particularly beneficial during emergencies, where rapid mobilization of resources is crucial.

Health services in Kenya are funded through a complex web of mechanisms, reflecting the involvement of multiple stakeholders with varying priorities. This fragmentation often leads to inefficiencies, as funds are collected, managed, and allocated independently, resulting in duplication of efforts and gaps in essential delivery service. While diverse health financing sources are not inherently problematic, the lack of coordination and coherence in resource management significantly hampers the effective purchase and delivery of health services, as highlighted by (Kutzin, 2001).

In response to these challenges, Kenya has made significant strides in resource pooling and financing mechanisms to enhance S-PPR. International financial institutions like the World Bank and the International Monetary Fund (IMF) have played a key role in supporting these efforts. In May 2020, the World Bank approved a $1 billion budget support operation for Kenya, addressing fiscal gaps and supporting reforms aimed at inclusive growth.

This funding complemented the Kenya COVID-19 Emergency Response Project, which focused on preventing, detecting, and responding to the COVID-19 outbreak, as well as strengthening national systems for public health emergency preparedness (World Bank, 2020).

The World Bank also provided $50 million in immediate funding in April 2020 to support Kenya's COVID-19 response, with a focus on medical diagnostic services, surveillance and response, capacity building, quarantine and treatment centers, medical waste disposal, risk communications, and community engagement(World Bank Group, 2020b). In June 2021, an additional $750 million was approved to reinforce Kenya's resilient and inclusive economic recovery, further supporting policy reforms to improve transparency and accountability in public procurement and investment spending(World Bank Group, 2019b).

The IMF also extended crucial support to Kenya, approving a $739 million disbursement under the Rapid Credit Facility in May 2020 to help address urgent balance of payments needs and maintain international reserves during the pandemic(International Monetary Fund, 2020). Kenya's government utilized existing public financial management flexibilities, such as establishing a COVID-19 emergency fund, mobilizing resources from the private sector, and reallocating national and county budgets within shorter timelines. These measures enabled timely execution of response activities and demonstrated Kenya's adaptability in leveraging available resources (Kairu et al., 2023b).

Despite these efforts, inefficiencies in coordination and resource allocation remain a significant concern. The absence of a centralized mechanism for pooling funds has exacerbated the fragmentation of health financing, making it difficult to optimize the use of available resources. Notably, while innovative models like public-private partnerships (PPPs) have emerged—such as those led by the Kenya Red Cross Society (KRCS)—their scale is currently insufficient to meet the country's extensive S-PPR needs. These partnerships illustrate the potential of leveraging private sector resources to complement public and donor funding, but there is a clear need to scale up these efforts to enhance their impact.

The operational framework of the international funding mechanisms, such as those provided by the World Bank and IMF, involves a structured approach to fund management, pooling, and distribution to ensure efficiency and effectiveness. The funds are typically channeled through government ministries or specific projects designed to address health emergencies, with strict oversight to ensure that resources are used for their intended purposes (World Bank, 2020). These funds are often managed in coordination with other stakeholders, including public-private partnerships (PPPs), which help bridge gaps between government resources and private sector expertise, ensuring a more comprehensive and integrated response (World Bank Group, 2020b).

The effectiveness of these mechanisms depends on the transparency of their management, the accountability of fund distribution, and the timely mobilization of resources, but challenges such as bureaucratic delays, misallocation, and inadequate monitoring systems can undermine their impact (World Bank Group, 2019b).

To address these challenges, it is crucial to streamline financing mechanisms to reduce inefficiencies in resource allocation. The establishment of centralized funding platforms and technical working groups would improve coordination, transparency, and accountability. Such institutionalized mechanisms would enable a more proactive and sustained approach to S-PPR financing, ensuring that preparedness efforts are not only maintained during crises but also built upon for long-term health system resilience. In summary, while Kenya has made significant progress in mobilizing financial resources and leveraging international support, gaps in coordination and resource management persist.

4.7 Constraints in implementing S-PPR Programs

Kenya faces systemic challenges that hinder effective management of public health crises, particularly in S-PPR. These constraints, rooted in structural, operational, and governance gaps, undermine the country's ability to detect, monitor, and respond to health threats

a) Logistical Barriers

Poor infrastructure, especially in rural areas, delays the delivery of health resources and deployment of rapid response teams. Inadequate road networks hindered prompt access during the 2020 locust invasion, slowing containment efforts and exacerbating food security and health risks (Williams et al., 2021)). Such delays also disrupt disease surveillance, as timely access to affected areas is critical for effective monitoring.

b) Inadequate Data Systems

Kenya's health information systems suffer from fragmented data collection and a lack of real-time reporting. Underdeveloped infrastructure leads to inconsistent data accuracy, hampering decision-making during emergencies (Fao et al., 2020). For instance, gaps in COVID-19 case reporting delayed targeted interventions, highlighting systemic weaknesses in tracking emerging threats (World Health Organization, 2017).

c) Capacity Constraints

Local health agencies face severe shortages of trained personnel and essential equipment. The WHO (2017) noted that workforce gaps and resource deficits weaken Kenya's ability to manage crises. During COVID-19, understaffed clinics struggled to test and isolate cases, prolonging transmission (World Bank Group, 2020a).

d) Fragmented Coordination

Poor collaboration between agencies like the Ministry of Health (MOH) and National Drought Management Authority (NDMA) results in disjointed responses. During the 2020 locust invasion, misaligned roles delayed resource mobilization, worsening health and agricultural impacts (National Drought Management Authority, 2022). Duplicated efforts and competing mandates further strain limited resources.

e) Limited Political Commitment

Inconsistent government support disrupts long-term investments in health security. Shifting political priorities and instability have diverted funding from surveillance programs, under mining preparedness (Kenya National Bureau of Statistics, 2021). For example, stalled investments in laboratory infrastructure during non-crisis periods left Kenya reliant on external support during COVID-19 (World Health Organization, 2017).

f) Operational Barriers

High attrition rates and insufficient support for Community Health Promoters (CHP) weaken grassroots surveillance. CHPs, critical for early disease detection in remote areas, lack formal training, incentives, and integration into national systems (Williams et al., 2021). This gap, coupled with underfunded community-level initiatives, erodes Kenya's ability to respond to evolving threats.

Table 9: Constraints in Implementing S-PPR Programs in Kenya

Constraint	Details	Examples
Logistical Challenges	Poor infrastructure and supply chain systems delay the delivery of health resources.	In rural Kenya, poor roads delayed the deployment of S-PPR teams(Williams et al., 2021) .
Inadequate Data Systems	Surveillance systems suffer from poor data accuracy and lack real-time reporting.	Kenya experiences inconsistent data reporting and underdeveloped health information systems, hindering disease monitoring and decision-making (Fao et al., 2020.; World Health Organization, 2017)
Capacity Constraints	Insufficiently trained personnel and equipment undermine S-PPR efforts.	In Kenya, local health agencies lack trained staff and equipment to manage health crises (World Health Organization, 2017)
Fragmented Coordination	Weak collaboration among health agencies causes disjointed responses to health emergencies.	In Kenya, misalignment between the Ministry of Health (MOH) and NDMA led to delays during the locust invasion (National Drought Management Authority, 2022)
Limited Political Commitment	Lack of sustained government support undermines the prioritization of health initiatives.	In Kenya shifting priorities disrupt funding and continuity of surveillance programs (Kenya National Bureau of Statistics, 2021; World Health Organization, 2017)

4.8 Sources of inefficiency in the use of S-PPR resources

Kenya's health surveillance and pandemic preparedness and response (PPR) systems are plagued by systemic inefficiencies that undermine their effectiveness. These challenges, rooted in bureaucratic, operational, and structural weaknesses, are illustrated below through critical examples and evidence.

a) Delayed Fund Disbursement and Underspending

Administrative delays often hinder the timely release of allocated funds, weakening Kenya's ability to respond effectively to health emergencies. In the 2022/2023 fiscal year, only 84% of the national health budget was spent, leaving crucial surveillance and preparedness efforts underfunded (Government of Kenya, 2023). Similarly, in 2021/2022, 71% of the KSh 10.7 billion (approximately $79.5 million USD) earmarked for public health emergency preparedness remained unutilized, depriving local health units of essential infrastructure improvements and training (Government of Kenya, 2023).

This recurring underspending reflects systemic inefficiencies in resource mobilization—not just in securing financial commitments but in ensuring efficient allocation, disbursement, and utilization of funds. Bureaucratic bottlenecks delay fund release, creating critical gaps in preparedness and response. Without addressing these inefficiencies, Kenya will continue to struggle with timely interventions, leaving communities vulnerable to preventable outbreaks and emergencies.

b) Mismanagement and Corruption

The Kenya Medical Supplies Authority (KEMSA), tasked with procuring medical resources, has been marred by scandals involving inflated pricing and substandard supplies, as flagged by the Auditor-General in 2019 (Kenya Auditor-General, 2019). During the COVID-19 pandemic, KEMSA's procurement inefficiencies—including delayed tendering processes—left frontline workers without adequate PPE, exemplifying how corruption exacerbates resource wastage and erodes public trust.

c) Fragmented Coordination

Poor collaboration between agencies like the Ministry of Health (MOH), Ministry of Interior, and National Disaster Management Authority (NDMA) has repeatedly delayed crisis responses. For instance, disjointed roles during the 2020 locust invasion slowed risk assess ments and resource deployment, prolonging health and food security impacts (National Drought Management Authority, 2022). Similarly, during COVID-19, overlapping man dates between national and county governments led to duplicated efforts and confused accountability.

d) Local Capacity Constraints

Local health units, critical for grassroots surveillance, lack personnel, equipment, and expertise. The World Health Organization (WHO) documented rural clinics overwhelmed during COVID-19 due to staffing shortages and inadequate diagnostic tools (World Health Organization, 2020a). This deficit is exacerbated by the underutilization of Community

e) Donor Dependency and Misaligned Priorities

While donor funding from entities like the World Bank and CDC supplements Kenya's health budget, it often prioritizes externally defined agendas over local needs. For example, investments in high-profile lab infrastructure overshadow endemic challenges like malaria surveillance, perpetuating a fragmented approach to health system strengthening (World Bank Group, 2023). This misalignment stifles sustainable, community-driven solutions.

Table 10: Inefficiencies in Resource Allocation and Use for Health Surveillance and Pandemic Preparedness in Kenya

Category	Kenya
Delayed Fund Disbursement	Slow funds release due to bureaucratic bottlenecks, e.g., only 84% of allocated health funds spent in 2022/2023 (Government of Kenya, 2023) .
Mismanagement of Resources	Examples include procurement of substandard supplies by KEMSA and overpayment for items (Kenya Auditor-General, 2019) .
Underspending	Only 71% of allocated KSh 10.7 billion spent on public health emergency preparedness in 2021/2022 (Government of Kenya, 2023).
Coordination Challenges	Poor collaboration between MOH, Ministry of Interior, and NDMA, e.g., slow response to 2020 locust invasion(National Drought Management Authority, 2022.)
Procurement Inefficiencies	Slow tendering processes and corruption, e.g., KEMSA scandal during the pandemic (Kenya Auditor-General, 2019) .
Local Capacity Constraints	Local health units lack expertise, equipment, and personnel, limiting effective management of resources (World Health Organization, 2020a)

Kenya's inefficiencies mirror systemic challenges across the EAC, where delayed fund disbursement, underspending, and fragmented coordination undermine collective health security. In Uganda, poor coordination between the Ministry of Health and Uganda Red Cross delayed containment during the 2018 Ebola outbreak, prolonging transmission (Uganda Ministry of Health, 2023). Tanzania faces similar underspending, with bureaucratic hurdles stalling the rollout of surveillance infrastructure (Ministry of Health Tanzania, 2024). Local health units across the region—understaffed and underequipped—struggle to manage crises, as seen in Uganda's overwhelmed clinics during Ebola surges and Kenya's rural facilities during COVID-19 (Uganda Ministry of Health, 2023; WHO, 2020a). Donor dependency further skews priorities regionally, with externally funded projects often sidelining endemic diseases like malaria in favor of globally prioritized pathogens.

Kenya's inefficiencies mirror systemic challenges across the EAC, where delayed fund disbursement, underspending, and fragmented coordination undermine collective health security. In Uganda, poor coordination between the Ministry of Health and Uganda Red Cross delayed containment during the 2018 Ebola outbreak, prolonging transmission (Uganda Ministry of Health, 2023). Tanzania faces similar underspending, with bureaucratic hurdles stalling the rollout of surveillance infrastructure (Ministry of Health Tanzania, 2024). Local health units across the region—understaffed and underequipped—struggle to manage crises, as seen in Uganda's overwhelmed clinics during Ebola surges and Kenya's rural facilities during COVID-19 (Uganda Ministry of Health, 2023; WHO, 2020a). Donor dependency further skews priorities regionally, with externally funded projects often sidelining endemic diseases like malaria in favor of globally prioritized pathogens.

4.9 Stakeholders in S-PPR

Kenya's S-PPR landscape is shaped by a complex web of government agencies, international organizations, non-state actors, and private sector entities. While this multi-stakeholder model enhances Kenya's ability to respond to health crises, fragmented coordination, competing priorities, and structural inefficiencies weaken its overall effectiveness.

1. Government Agencies: Centralized Leadership vs. Devolved Realities

The Ministry of Health (MoH) leads policy formulation and crisis management, positioning itself as the primary enforcer of International Health Regulations (IHR) compliance. However, its centralized authority often clashes with devolved governance, creating ambiguities in accountability during cross-county health emergencies. The Kenya National Public Health Institute (KNPHI), tasked with disease surveillance and outbreak response, faces challenges related to inconsistent data integration across counties, undermining its mandate for real-time decision-making.

At the county level, County Health Departments leverage devolution to tailor interventions to local contexts. However, uneven resource allocation and technical capacity gaps hinder their ability to respond effectively, perpetuating disparities in outbreak preparedness. The National Disaster Management Authority (NDMA), though responsible for disaster risk reduction, remains reactive rather than proactive, reflecting systemic underinvestment in long-term resilience planning.

2. International Organizations: Enablers or Drivers of Dependency?

International partners play a dual role as both enablers and influencers. WHO and CDC provide technical expertise and laboratory capacity, but their agendas often prioritize globally significant pathogens over localized endemic diseases, misaligning national priorities. The World Bank funds large-scale health infrastructure projects, yet its focus on macroeconomic resilience often overlooks grassroots-level health system strengthening, leaving gaps in community preparedness.

These international collaborations inject critical funding and expertise, but they also reinforce Kenya's dependence on external support, limiting local ownership of health security agendas. The heavy reliance on donors means that funding cycles often dictate priorities, resulting in fragmented, project-based interventions rather than sustainable, long-term solutions. For instance, the Trump administration's decision to withdraw the U.S. from the World Health Organization (WHO) and suspend USAID funding in 2020 had significant implications for Kenya's pandemic preparedness and response (PPR). As one of Kenya's largest health sector donors, the U.S. has historically funded key programs, including disease surveillance, HIV/AIDS treatment, malaria control, and immunization efforts (USAID, 2023). The withdrawal, driven by concerns over WHO's handling of the COVID-19 pandemic and broader "America First" policies, resulted in a steady decline in U.S. health assistance to Kenya, dropping from $986 million in 2018 to $825 million in 2023—a 16% decrease (World Bank, 2023). This reduction has weakened Kenya's ability to sustain disease surveillance systems, laboratory infrastructure, and emergency stockpiles. The U.S. previously contributed over 84% of Kenya's HIV/AIDS funding through PEPFAR, nearly $100 million annually for malaria control, and substantial resources for pandemic preparedness (PEPFAR, 2022; WHO, 2023). The funding cuts have led to shortages in diagnostic kits, PPE, and laboratory reagents, increasing the country's vulnerability to future outbreaks (Kenya Ministry of Health, 2024). The anticipated loss of $200 million in pandemic preparedness funding and an additional $43 million from Global Fund and GAVI programs could further disrupt Kenya's ability to detect and respond to health threats (Global Fund, 2023). Additionally, reductions in WHO contributions may slow down vaccine distribution, childhood immunization programs, and outbreak detection efforts (WHO, 2023). Given Kenya's heavy reliance on external financing, these shifts in U.S. foreign policy highlight the risks of donor dependency and expose critical funding gaps that threaten the country's long-term health security (Kenya Ministry of Health, 2024).

3. Non-State Actors: Filling Gaps, but with Limitations

Non-governmental organizations (NGOs) and community-based organizations (CBOs) play a crucial role in bridging gaps in health equity, particularly in underserved regions. Organizations such as AMREF and Kenya Red Cross focus on community-driven initiatives, but their effectiveness is often constrained by donor dependency and project-based timelines, making their interventions unsustainable in the long run.

The private sector, led by entities like Kenya Medical Supplies Authority (KEMSA), ensures medical supply chain stability. However, its profit-driven approach often limits equitable access, particularly in rural areas where market-driven model's falter. This tension between efficiency and equity highlights the lack of a coordinated strategy to integrate private sector capabilities into public health preparedness and response.

4. Policy and Structural Contradictions: A System at Odds with Itself

Kenya's S-PPR system is underpinned by a mix of national and international frameworks, including the International Health Regulations (IHR), the Public Health Act (2012), the Kenya Health Policy (2014–2030), and the National Disaster Risk Management Policy (2015). While these frameworks aim to enhance surveillance, coordination, and response, their implementation reveals deep structural flaws.

The IHR framework, while strengthening Kenya's ability to respond to global threats like Ebola, neglects endemic diseases such as malaria, leading to a misalignment between global health mandates and local realities. Similarly, the Public Health Act grants KNPHI a central role in surveillance, but county-level compliance remains inconsistent, undermining national coordination efforts. Meanwhile, NDMA's disaster preparedness policies are underfunded, leaving them aspirational rather than actionable.

The Kenya Health Policy advocates for multi-sectoral collaboration, yet in practice, stakeholders operate in silos, with limited mechanisms for horizontal integration. For instance, WHO-led IHR initiatives may strengthen Kenya's global standing but fail to address county-level disparities that weaken the overall surveillance system. This disconnects between policy intent and ground-level execution perpetuates inefficiencies in Kenya's S-PPR framework.

Table 11: Stakeholders and Their Roles

Stakeholder Category	Key Entities	Primary Role
Government Agencies	Ministry of Health (MoH)	Leads national policy, crisis management, and enforces IHR compliance.
	Kenya National Public Health Institute (KNPHI)	Coordinates disease surveillance, outbreak response, and real-time decision-making.
	County Health Departments	Implement localized health interventions under devolved governance but face resource disparities.
	National Disaster Management Authority (NDMA)	Manages disaster risk reduction but operates reactively due to underinvestment in preparedness.
	Public Health Emergency Operations Centre (PHEOC)	Coordinates national-level emergency response.
	National Public Health Laboratory (NPHL)	Provides laboratory support for surveillance and outbreak detection.

	Division of Community Health Services	Oversees community-based surveillance through Community Health Promoters (CHPs).
	Ministry of Agriculture and Livestock Development	Monitors zoonotic diseases through the Zoonotic Diseases Unit (ZDU).
	Ministry of Environment, Climate Change, and Forestry	Addresses environmental factors impacting disease surveillance and response.
International Partners	World Health Organization (WHO)	Provides technical guidance and ensures IHR compliance but focuses on global priorities.
	Centers for Disease Control (CDC)	Strengthens laboratory capacity and workforce training.
	Africa Centers for Disease Control (Africa CDC)	Supports disease surveillance and regional health security efforts.
	United States Agency for International Development (USAID)	Funds public health programs and response efforts.
	World Bank	Funds large-scale health infrastructure but focuses more on macroeconomic resilience than grassroots health systems.
	The Global Fund to Fight HIV/AIDS, TB, and Malaria	Provides funding for disease-specific programs but operates in vertical silos.
Non-State Actors	NGOs/CBOs (e.g., AMREF, Kenya Red Cross, PATH, MSF, ICAP, FHI360, Palladium, Washington State University)	Fill healthcare gaps for marginalized populations but rely on donor funding, leading to fragmented interventions.
	Research Institutions (e.g., Kenya Medical Research Institute - KEMRI)	Conduct epidemiological research and provide laboratory diagnostics for emerging diseases.
	Taskforce for Global Health (SONAR Project)	Provides technical and financial assistance for disease surveillance.
	Private Sector (e.g., Kenya Medical Supplies Authority - KEMSA)	Ensures medical supply chains but prioritizes profitability, limiting equitable access in rural areas.
Challenges & Gaps	Cross-cutting Issues	Lack of inter-agency coordination, donor dependency, funding gaps, and misalignment between global frameworks and local needs.

5.0. Summary of findings and recommendations

5.1 Summary of findings

• **Inclusion of S-PPR in Health Sector Plans:** Kenya has made notable progress in embedding surveillance and pandemic preparedness into its health strategies. The Ministry of Health Strategic Plan (2023–2027) and the National Public Health Institute Strategic Plan (2022–2026) emphasize robust surveillance systems, workforce development, and cross-sector collaboration. Event-Based Surveillance (EBS) systems played a crucial role during the COVID-19 pandemic, enabling rapid detection and response. However, gaps persist in resource allocation, infrastructure, and response coordination, particularly during emergencies. Despite having strategic frameworks in place, these weaknesses highlight the need for consistent implementation and refinement.

• **Integration of Financing:** Kenya's budgetary allocations to health remain at 9.7% of the total national budget, far below the 15% target set by the Abuja Declaration. In 2020, the government allocated KES 95.3 billion to health, but only KES 2.7 billion went to disease surveillance and response. Furthermore, pandemic preparedness financing relies heavily on external donors, such as the Global Fund, which has committed $407 million for 2024–2026. However, this funding often prioritizes disease-specific initiatives like HIV and malaria, leaving broader S-PPR systems underfunded. This heavy dependence on external contributions highlights the need for sustainable domestic investment.

• **Health Expenditure and Sources:** Kenya's health expenditure patterns reveal an overwhelming reliance on external funding. Between 2016 and 2019, external contributions to surveillance programs surged from 54.4% to 90.2% of total health expenditure. Meanwhile, domestic public expenditure on disease surveillance dropped from 32.4% in 2018 to a meager 0.8% in 2019. While external aid supports critical programs, this dependency undermines sustainability and limits the country's ability to develop long-term, self-sufficient health infrastructure.

• **Financing Gaps:** Kenya faces significant funding gaps in its pandemic preparedness systems. The country requires $4.35 per capita annually to sustain core S-PPR capacities but falls short in meeting this need. Notable shortfalls include $20–30 million for upgrading surveillance systems, $5–10 million for workforce development, and $7–10 million for stockpiling emergency supplies. Overall, Kenya has an initial funding shortfall of $40–50 million and annual gaps of $20–30 million. These deficiencies hinder the country's ability to maintain robust surveillance systems, recruit and train personnel, and invest in infrastructure for pandemic response.

6.0. References

Africa CDC. (2021). *Annual report on African disease surveillance and preparedness. Africa Centres for Disease Control and Prevention*. Retrieved from https://africacdc.org/?s=Annual+report+on+African+disease+surveillance+and+preparedness.+Africa+Centres+for+Disease+Control+and+Prevention

African Union. (2019). *Accelerating Sustainable Health Financing in Africa: The Africa Leaders Meeting (ALM) Declaration in Action – African Constituency Bureau*. Retrieved from https://www.africanconstituency.org/accelerating-sustainable-health-financing-in-africa-the-africa-leaders-meeting-alm-declaration-in-action/

CDC. (2023). *Centers for Disease Control and Prevention | HHS.gov*. Retrieved from https://www.hhs.gov/about/budget/fy-2023-cdc-contingency-staffing-plan/index.html

CEPI. (2022). *Public health communication and response during epidemics. Coalition for Epidemic Preparedness Innovations*. Retrieved from https://cepi.net/

Clark, E. C., Neumann, S., Hopkins, S., Kostopoulos, A., Hagerman, L., & Dobbins, M. (2024). Changes to Public Health Surveillance Methods Due to the COVID-19 Pandemic: Scoping Review. *JMIR Public Health Surveill 2024;10:E49185 Https://Publichealth.Jmir.Org/2024/1/E49185*, *10*(1), e49185. doi: 10.2196/49185

Darrudi, A., Khoonsari, M. H. K., & Tajvar, M. (2022). Challenges to Achieving Universal Health Coverage Throughout the World: A Systematic Review. *Journal of Preventive Medicine and Public Health*, *55*(2), 125. doi: 10.3961/JPMPH.21.542

EAC. (2022). *Disease Prevention*. Retrieved from https://www.eac.int/health/disease-prevention

EAC Secretariat. (2023). *East African Integrated Disease Surveillance Network*. Retrieved from https://www.eac.int/health/disease-prevention/east-african-integrated-disease-surveillance-network

Fao, ©, & Kariithi, K. (2022.). *Food and Agriculture Organization of the United Nations Nairobi*. 2022.

Gavi. (2023). *Stockpiling essential supplies for health emergencies: A global framework*. Gavi, the Vaccine Alliance. Retrieved from https://www.gavi.org/

Gichuki, L. (2025, January 30). *Kenya's 2024 humanitarian aid landscape: Impact of US 90-day aid suspension*. DevelopmentAid. https://www.developmentaid.org/news-stream/post/190784/impact-of-us-90-day-aid-suspension-on-kenya

GIZ. (2023). *Better preparedness in the East African Community region - giz.de*. Retrieved from https://www.giz.de/en/worldwide/69568.html

Global Fund. (2024). *Global Fund Approves US$9.2 Billion in New Grants to Accelerate Fight Against HIV, TB and Malaria in More than 70 Countries - News Releases - The Global Fund to Fight AIDS, Tuberculosis and Malaria*. Retrieved from https://www.theglobalfund.org/en/news/2024/2024-01-11-global-fund-approves-usd9-2-billion-new-grants-to-accelerate-fight-against-hiv-tb-and-malaria-more-70-countries/

Global Health Security Agenda. (2022). *Annual progress report on global health security initiatives.* Retrieved from https://ghsagenda.org/

Global Preparedness Monitoring Board. (2023). *A FRAGILE STATE OF PREPAREDNESS 2023 REPORT ON THE STATE OF THE WORLD'S PREPAREDNESS*. Retrieved from http://apps.who.int/bookorders.

Government of Kenya. (2023). *HEALTH SECTOR MEDIUM TERM EXPENDITURE FRAMEWORK REPORT (PERIOD 2025/26-2027/28) PRINCIPAL SECRETARY: STATE DEPARTMENT FOR MEDICAL SERVICES/SECTOR CHAIRPERSON OUTLINE*.

Human Rights Watch. (2021). *The Covid-19 Pandemic: Three Years In | Human Rights Watch*. Retrieved from https://www.hrw.org/feature/2023/03/21/the-covid-19-pandemic-three-years-in

Ifeagwu, S. C., Yang, J. C., Parkes-Ratanshi, R., & Brayne, C. (2021). Health financing for universal health coverage in Sub-Saharan Africa: a systematic review. *Global Health Research and Policy*, *6*(1), 1–9. doi: 10.1186/S41256-021-00190-7/FIGURES/4

International Monetary Fund. (2020). *IMF Executive Board Approves a US$739 Million Disbursement to Kenya to Address the Impact of the COVID-19 Pandemic*. Retrieved from https://www.imf.org/en/News/Articles/2020/05/06/pr20208-kenya-imf-executive-board-approves-us-million-disbursement-address-impact-covid-19-pandemic

International Monetary Fund. (2021). *Kenya: Requests for an Extended Arrangement Under the Extended Fund Facility and an Arrangement Under the Extended Credit Facility-Press Release; Staff Report; and Statement by the Executive Director for Kenya; IMF Country Report No. 21/72; March 19, 2021*. Retrieved from http://www.imf.org

Kairu, A., Orangi, S., Mbuthia, B., Arwah, B., Guleid, F., Keru, J., Vilcu, I., Musuva, A., Ravishankar, N., & Barasa, E. (2023a). The impact of COVID-19 on health financing in Kenya. *PLOS Global Public Health*, *3*(10), e0001852. doi: 10.1371/JOURNAL.PGPH.0001852

Kairu, A., Orangi, S., Mbuthia, B., Arwah, B., Guleid, F., Keru, J., Vilcu, I., Musuva, A., Ravishankar, N., & Barasa, E. (2023b). The impact of COVID-19 on health financing in Kenya. *PLOS Global Public Health*, *3*(10), e0001852. doi: 10.1371/JOURNAL.PGPH.0001852

Kenya Auditor-General. (2019). *Utilization of COVID-19 Funds by KEMSA 2020.* . Retrieved from https://www.oagkenya.go.ke/wp-content/uploads/2021/09/UTILIZATION-OF-COVID-19-FUNDS-BY-KEMSA-2020.pdf?utm_source=chatgpt.com

Kenya Ministry of Health. (2014). *Kenya Health Policy 2014–2030: Towards Attaining the Highest Standard of Health*. Retrieved from https://publications.universalhealth2030.org/uploads/kenya_health_policy_2014_to_2030.pdf?utm_source=chatgpt.com

Kenya Ministry of Health. (2019). *Kenya Government Affirms Commitment To Achieving Universal Health Coverage By 2030 | Ministry of Health*. Retrieved from https://www.health.go.ke/kenya-government-affirms-commitment-achieving-universal-health-coverage-2030

Kenya Ministry of Health. (2023a). *Cabinet Advances Healthcare Resilience: Approves Kenya Health Project and Pandemic Treaty Negotiations | Ministry of Health*. Retrieved from https://health.go.ke/cabinet-advances-healthcare-resilience-approves-kenya-health-project-and-pandemic-treaty

Kenya Ministry of Health. (2023b). *NAPHS | Strategic Partnership for Health Security and Emergency Preparedness (SPH) Portal*. Retrieved from https://extranet.who.int/sph/naphs

Kenya Ministry of Health. (2024). *State Department for Investment Promotion*.

Kenya National Bureau of Statistics. (2021). *2021 Economic Survey - Kenya National Bureau of Statistics*. Retrieved from https://www.knbs.or.ke/reports/2021-economic-survey/

Khan, A. M., Park, H., Roberts, M., & Sanjiwacika Wibisana, P. (2022). *When the Lights Go Out The Economic Impacts of Covid-19 on Cities Globally*. Retrieved from www.worldbank.org/prwp.

Kutzin, J. (2001). A descriptive framework for country-level analysis of health care financing arrangements. *Health Policy*, *56*(3), 171–204. doi: 10.1016/S0168-8510(00)00149-4

Lazarus, J. V., White, T. M., Wyka, K., Ratzan, S. C., Rabin, K., Larson, H. J., Martinon-Torres, F., Kuchar, E., Abdool Karim, S. S., Giles-Vernick, T., Müller, S., Batista, C., Myburgh, N., Kampmann, B., & El-Mohandes, A. (2024). Influence of COVID-19 on trust in routine immunization, health information sources and pandemic preparedness in 23 countries in 2023. *Nature Medicine 2024 30:6*, *30*(6), 1559–1563. doi: 10.1038/s41591-024-02939-2

Liu, X., Hotchkiss, D. R., & Bose, S. (2008). The effectiveness of contracting-out primary health care services in developing countries: a review of the evidence. *Health Policy and Planning*, *23*(1), 1–13. doi: 10.1093/HEAPOL/CZM042

Ministry of Health Tanzania. (2024). *Tanzania National Budget bulletin for 2022/2023*. Retrieved from https://www.clydeco.com/en/insights/2022/06/tanzania-national-budget-bulletin-for-2022-2023

National Disaster Management Unit. (2015). *Sendai Framework for Disaster Risk Reduction 2015-2030* . Retrieved from https://disastermanagement.go.ke/download/sendai-framework-for-disaster-risk-reduction-2015-2030-en/

National Drought Management Authority. (2020.). *Drought Early Warning Bulletin for September 2020*. 2020. Retrieved from https://ndma.go.ke/ndma-overview/

National Public Health Institute. (2022). *DIVISION OF DISEASE SURVEILLANCE & RESPONSE*.

National Treasury. (2024). *MINISTRY OF HEALTH Sector Working Group Report*.

Ng'etich, A. K. S., Voyi, K., & Mutero, C. M. (2021). Assessment of surveillance core and support functions regarding neglected tropical diseases in Kenya. *BMC Public Health*, *21*(1), 142. doi: 10.1186/S12889-021-10185-1

Pamuk, H., & Psaledakis, D. (2025, January 24). *US issues broad freeze on foreign aid after Trump orders review*. Reuters. https://www.reuters.com/world/us/trump-pause-applies-all-foreign-aid-israel-egypt-get-waiver-says-state-dept-memo-2025-01-24/

Prakash, M., Custer, S., Burgess, B., Mathew, D., Cheng, M., & Knight, R. (2020). *Investing in Kenya's people: Valuing the benefits of the U.S.-Kenya relationship*. AidData at William & Mary. https://docs.aiddata.org/ad4/pdfs/Investing_in_Kenyas_People.pdf

Republic of Kenya. (2012). *Public Health Act, Chapter 242*. Retrieved from https://www.kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/PublicHealthActCap242.pdf

Republic of Kenya. (2014). *Kenya Health Policy 2014–2030*. Retrieved from https://arua-ncd.org/wp-content/uploads/2022/10/kenya-health-policy.pdf

Rwanda Ministry of Health. (2023). *Strategic Priorities*.

Schneider, P., Yazbeck, A. S., & Lindelow, M. (2018). Introduction to Special Issue on Health Financing in East and Southern Africa. *Health Systems & Reform*, *4*(4), 267–271. doi: 10.1080/23288604.2018.1514481

Think Global Health. (2024). *2024 Global Health Care Sector Outlook*. Retrieved from https://www.deloitte.com/global/en/Industries/life-sciences-health-care/analysis/global-health-care-outlook.html

Uganda Ministry of Health. (2020). *National COVID-19 Preparedness and Response Plan*. Retrieved from https://www.health.go.ug/?s=covid+documents

Uganda Ministry of Health. (2022). *NATIONAL TECHNICAL GUIDELINES FOR INTEGRATED DISEASE SURVEILLANCE AND RESPONSE - Ministry of Health | Government of Uganda*. Retrieved from https://www.health.go.ug/cause/national-technical-guidelines-for-integrated-disease-surveillance-and-response/

Uganda Ministry of Health. (2023). *Annual Health Sector Performance Report 2023/24* . Retrieved from https://library.health.go.ug/monitoring-and-evaluation/annual-quarterly-performance-reports/annual-health-sector-performance-8?utm_source=chatgpt.com

UNICEF. (2023). *UNICEF Launches a Solidarity Campaign in Response to the COVID-19 Pandemic*. Retrieved from https://www.unicef.org/ukraine/en/press-releases/unicef-launches-solidarity-campaign-response-covid-19-pandemic

Walters, J. K., Sharma, A., Malica, E., & Harrison, R. (2022). Supporting efficiency improvement in public health systems: a rapid evidence synthesis. *BMC Health Services Research*, *22*(1), 1–11. doi: 10.1186/S12913-022-07694-Z/TABLES/1

Williams, F., Constantine, K. L., Ali, A. A., Karanja, T. W., Kibet, S., Lingeera, E. K., Muthike, G., Rwomushana, I., Godwin, J., & Day, R. (2021). An assessment of the capacity and responsiveness of a national system to address the threat of invasive species: a systems approach. *CABI Agriculture and Bioscience*, *2*(1), 1–17. doi: 10.1186/S43170-021-00062-7/TABLES/7

World Bank. (2020). *World Bank Approves $1 Billion Financing for Kenya, to Address COVID-19 Financing Gap and Support Kenya's Economy*. Retrieved from https://www.worldbank.org/en/news/press-release/2020/05/20/world-bank-approves-1-billion-financing-for-kenya-to-address-covid-19-financing-gap-and-support-kenyas-economy

World Bank. (2022). *Financing Modalities for Pandemic Prevention, Preparedness and Response (PPR)*. Retrieved from https://pandemic-financing.org/report/

World Bank Group. (2019a). *World Bank and Global Fund Deepen Partnership with Co-Financing Agreement*. Retrieved from https://www.worldbank.org/en/news/press-release/2019/10/22/world-bank-and-global-fund-deepen-partnership-with-co-financing-agreement

World Bank Group. (2019b). *World Bank approves $750 Million for Kenya in support of reforms in agriculture, housing, digital technology and fiscal management*. Retrieved from https://www.worldbank.org/en/news/press-release/2019/05/28/world-bank-approves-750-million-for-kenya-in-support-of-reforms-in-agriculture-housing-digital-technology-and-fiscal-management

World Bank Group. (2020a). *Development Projects : KENYA COVID-19 HEALTH EMERGENCY RESPONSE PROJECT - P173820*. Retrieved from https://projects.worldbank.org/en/projects-operations/project-detail/P173820

World Bank Group. (2020b). *Kenya Receives $50 Million World Bank Group Support to Address COVID-19 Pandemic*. Retrieved from https://www.worldbank.org/en/news/press-release/2020/04/02/kenya-receives-50-million-world-bank-group-support-to-address-covid-19-pandemic

World Bank Group. (2021). *Funding for public health preparedness: Challenges and opportunities.* Retrieved from https://www.worldbank.org/ext/en/home

World Bank Group. (2023). *Transforming health care in Kenya's communities for a more prosperous, resilient future*. Retrieved from https://www.worldbank.org/en/news/feature/2023/12/12/transforming-health-care-in-kenya-s-communities-for-a-more-prosperous-resilient-future

World Health Organization. (2005). *International Health Regulations (2005)*. Retrieved from https://www.who.int/publications/i/item/9789241580410

World Health Organization. (2017). *Joint external evaluation of IHR core capacities of the Republic of Kenya*. Retrieved from https://www.who.int/publications/i/item/WHO-WHE-CPI-REP-2017.44

World Health Organization. (2020a). *COVID-19 Situation update for the WHO African Region, External Situation Report 28 (09 September 2020)* . Retrieved from https://reliefweb.int/report/south-africa/covid-19-situation-update-who-african-region-external-situation-report-28-09

World Health Organization. (2020b). *Drawing on Ebola readiness to tackle COVID-19 in Tanzania*. Retrieved from https://www.who.int/news-room/feature-stories/detail/drawing-on-ebola-readiness-to-tackle-covid-19-in-tanzania

World Health Organization. (2020c). *Ebola virus disease – Democratic Republic of the Congo*. Retrieved from https://www.who.int/emergencies/disease-outbreak-news/item/2020-DON277

World Health Organization. (2020d). *Global Preparedness Monitoring Board Annual Report 2020: A World in Disorder*. Retrieved from https://www.gpmb.org/

World Health Organization. (2021). *Planning, allocation of resources, monitoring and reporting based on country priorities, carried out to achieve country impact, value-for-money and the strategic priorities of GPW 13*. Retrieved from https://www.who.int/about/accountability/results/who-results-report-2020-mtr/output/2020/4.2.4.-planning-allocation-of-resources-monitoring-and-reporting-based-on-country-priorities-carried-out-to-achieve-country-impact-value-for-money-and-the-strategic-priorities-of-gpw-13

World Health Organization. (2022a). *Monitoring health for the SDGs, Sustainable Development Goals*.

World Health Organization. (2022b). *Tanzania marks two years since first COVID-19 case | WHO | Regional Office for Africa*. Retrieved from https://www.afro.who.int/countries/united-republic-of-tanzania/news/tanzania-marks-two-years-first-covid-19-case

World Health Organization. (2023a). *Investing in Health for Africa The Case for Strengthening Systems for Better Health Outcomes*.

World Health Organization. (2023b). *Coronavirus disease (COVID-19)*. Retrieved from https://www.who.int/news-room/fact-sheets/detail/coronavirus-disease-(covid-19)

World Health Organization. (2023c). *Health Financing Progress Matrix assessment, Kenya 2023: summary of findings and recommendations*. Retrieved from https://www.who.int/publications/i/item/9789240094307?utm_source=chatgpt.com

World Health Organization. (2023d). *WHO Interventions to Support the Ebola Response in Uganda - September 2022 - 08 February 2023 | WHO | Regional Office for Africa*. Retrieved from https://www.afro.who.int/countries/uganda/publication/who-interventions-support-ebola-response-uganda-september-2022-08-february-2023

World Health Organization. (2023e). *World Health Assembly - 2023 | Strategic Partnership for Health Security and Emergency Preparedness (SPH) Portal*. Retrieved from https://extranet.who.int/sph/world-health-assembly-2023

Zalwango, J. F., Naiga, H. N., Nsubuga, E. J., Akunzirwe, R., Buhuguru, R., Zalwango, M. G., Simbwa, B. N., Kizito, S. N., Kawungezi, P. C., Agaba, B., Wanyana, M. W., Kabami, Z., Ninsiima, M., Zavuga, R., King, P., Kiggundu, T., Nansikombi, H. T., Gonahasa, D. N., Kyamwine, I. B., … Harris, J. R. (2024). Understanding the delay in identifying Sudan Virus Disease: gaps in integrated disease surveillance and response and community-based surveillance to detect viral hemorrhagic fever outbreaks in Uganda, September 2022. *BMC Infectious Diseases*, *24*(1).

• **Budget Allocations:** Kenya's budgetary allocations to preventive and promotive health services have declined in recent years, falling from 11.6% of the total health budget in 2021/22 to 6% in 2024/25. Allocations for disease surveillance and pandemic response also dropped significantly, from around 22% of the health budget in 2021/22 to less than 1% in subsequent years. This inconsistency reflects a lack of sustained prioritization of pandemic preparedness, leaving critical programs underfunded and undermining the resilience of Kenya's health systems.

• **Inefficiencies and resource use:** Kenya's S-PPR systems face inefficiencies stemming from bureaucratic, operational, and structural weaknesses. Delayed fund disbursement and underspending weaken emergency response by leaving critical preparedness efforts underfunded. Mismanagement and corruption, particularly within the Kenya Medical Supplies Authority (KEMSA), lead to resource wastage and procurement inefficiencies. Fragmented coordination among national and county governments, as well as key agencies, results in duplicated efforts, delayed responses, and accountability gaps. Additionally, local health facilities suffer from shortages of trained personnel, equipment, and diagnostic tools, while Community Health Promoters remain underutilized despite their potential for grassroots surveillance. Lastly, donor dependency often drives misaligned priorities, focusing on externally defined agendas rather than local health system needs. These inefficiencies significantly hinder Kenya's ability to effectively allocate and utilize S-PPR resources, leaving communities vulnerable to preventable health crises.

• **Constraints in Implementation:** Several systemic challenges hamper the effective implementation of S-PPR programs in Kenya. Poor infrastructure, particularly in rural areas, delays the deployment of health resources during emergencies. Inadequate data management systems and a lack of real-time reporting weaken disease surveillance efforts, while capacity shortages, including insufficient trained personnel and essential equipment, exacerbate these challenges. Additionally, delays in fund disbursement, especially at the county level, hinder timely responses and contribute to inefficiencies.

• **Stakeholder Roles:** Stakeholders in Kenya's S-PPR space, including institutions like the Kenya Medical Research Institute (KEMRI) and the Kenya National Public Health Institute, rely heavily on external donors such as the CDC and WHO. For instance, 90% of KEMRI's budget comes from international contributions. While innovative initiatives like ambulance services by the Kenya Red Cross Society aim to diversify funding, they remain insufficient to address the growing needs of S-PPR programs. Strengthening domestic resource mobilization is essential to reduce dependence on external aid and ensure sustainable investments in Kenya's health systems.

• **Impact of U.S. Policy Changes –** The withdrawal of U.S. funding from WHO and reductions in USAID assistance have significantly impacted Kenya's ability to sustain disease surveillance, HIV/AIDS programs, malaria control, and vaccine distribution. U.S. health assistance to Kenya declined from $986 million (2018) to $825 million (2023), resulting in funding shortfalls for pandemic preparedness, laboratory infrastructure, and diagnostic supplies.

Overall, these findings underscore the urgent need for Kenya to enhance domestic investments, prioritize consistent budgetary support, and streamline coordination among stakeholders to address the systemic gaps in surveillance and pandemic preparedness

5.2 Recommendations

1.Strengthen Policy, Legislative, and Institutional Framework for Coordinating S-PPR
Kenya's response to health crises has been hindered by fragmented institutional arrangements and limited coordination among stakeholders. To address this, Kenya should enact a Pandemic Preparedness and Response Act to designate the Kenya National Public Health Institute (KNPHI) as the central coordinating body. The Act should clearly define the roles of key agencies, integrate national and county-level activities, and create a unified, multisectoral response framework. Regular multi-agency simulations should be mandated to improve preparedness, and a Public Health Emergency Operations Center (PHEOC) should be established to manage real-time data sharing, resource allocation, and communication.

2.Establish a Sustainable National Pandemic Preparedness Fund: Kenya's dependence on donor funding, which constituted over 90% of S-PPR expenditures during the COVID-19 pandemic, exposes vulnerabilities in times of global funding shifts. To mitigate this, the government should create a National Pandemic Preparedness Fund, managed by the Central Bank. This fund would pool resources from domestic revenues, donor contributions, and levies (such as a proposed health security levy on excisable goods). Unlike annual budget lines, this revolving fund would be available for emergency responses and capacity-building initiatives. Key investments should focus on upgrading surveillance infrastructure and establishing emergency stockpiles, including addressing the $20–30 million funding gap for laboratory upgrades across counties.

3.Increase Domestic Investment in Health Security: Kenya has consistently underfunded its health sector, allocating only 9.7% (for FY 2023/24) of the national budget to healthcare, well below the Abuja Declaration target of 15%. A greater share of this budget should be directed toward PPR to ensure that essential areas such as laboratory infrastructure and emergency response are adequately funded. The government should aim to allocate at least 1–2% of the health budget specifically for PPR, reducing reliance on external donors and strengthening the country's capacity to manage health crises independently.

4.Invest in PPR Infrastructure and Workforce Capacity: Kenya's health system lacks adequate surveillance infrastructure, with only 60% of counties possessing reliable diagnostic capabilities. The government should expand the electronic Integrated Disease Surveillance and Response (e-IDSR) system nationwide, ensuring that all counties have real-time reporting capabilities. The workforce capacity must also be strengthened by recruiting and training at least 100 additional epidemiologists annually, as well as equipping counties with rapid response teams. Infrastructure investments should include upgrading laboratories to Biosafety Level 3 standards and procuring mobile diagnostic units for remote areas. Furthermore, Community Health Promoters should be formally integrated into the surveillance system, trained in early warning reporting, and provided with stipends to enhance grassroots health delivery.

5.Centralize Resource Pooling for PPR: Resource fragmentation remains a critical issue, as evidenced by uncoordinated donor funding and separate county-level health programs. The government should establish a Centralized PPR Resource Pool under KNPHI, consolidating all funding streams related to pandemic preparedness. This pool should operate on a performance-based grant system, where counties are allocated, resources based on meeting specific PPR benchmarks, such as improved disease reporting rates. Centralization would reduce duplication, ensure equitable distribution of resources, and align donor contributions with national priorities, particularly for marginalized regions.

6.Advocate for the Integration of PPR into National Health Strategies: Kenya's health financing priorities often favor curative services over preventive measures like pandemic preparedness, partly due to limited political understanding of prevention's benefits. Advocacy efforts should emphasize the return on investment from early interventions that prevent costly outbreaks. Policymakers should be engaged through forums like the Health Sector Intergovernmental Consultative Forum, where the synergies between PPR and broader health goals, such as Universal Health Coverage (UHC), can be highlighted. Integrating PPR into Kenya's Health Sector Strategic and Investment Plan (2023–2028) will institutionalize it as a national priority, ensuring sustained funding and political commitment.

7.To mitigate the impact of declining U.S. health assistance, Kenya should establish a National Health Security Financing Mechanism (NHSFM) under the National Treasury and the Ministry of Health to ensure sustainable domestic funding for disease surveillance, HIV/AIDS programs, malaria control, and vaccine distribution. This should be done through enhancing Public-Private Partnerships (PPPs) in pharmaceutical production, vaccine manufacturing, and diagnostic kit supply chains to reduce import dependency and strengthen local health system resilience

8.Develop a National PPR Resource Efficiency Framework: Kenya faces inefficiencies in resource expenditure for S-PPR, as reflected by low budget absorption rates and diverted funds. To improve this, Kenya should develop and implement a National PPR Resource Efficiency Framework, including the following measures:

- **Real-Time Financial Monitoring System:** Introduce a digital financial tracking system integrated with the e-IDSR platform to enable real-time tracking of PPR funds, ensuring transparency and accountability.
- **Dedicated PPR Audit Unit:** Establish a specialized audit unit within KNPHI to conduct quarterly audits of PPR funds, assess compliance, and recommend corrective actions.
- **Performance-Based Funding for Counties:** Link resource disbursements to counties' achievement of specific PPR performance indicators, such as timely disease reporting.
- **Capacity Building in Budget Management:** Conduct training for county health officials on financial management and procurement processes, addressing capacity gaps that hinder efficient resource use.