



REPUBLIC OF KENYA



**EVIPNet**  
Evidence-informed Policy Network



# Strengthening Kenya's Response to Antimicrobial Resistance through Sustainable Financing

Formative Evidence Brief for Policy from the RADAAR (IVI)–EVIPNet (WHO) Initiative



# **Strengthening Kenya’s Response to Antimicrobial Resistance through Sustainable Financing**

## **Suggested citation**

Formative Evidence Brief for Policy. Strengthening Kenya’s Response to Antimicrobial Resistance through Sustainable Financing. Government of the Republic of Kenya and the RADAAR Project, International Vaccine Institute (IVI), Republic of Korea; 2025.

© 2025 Government of the Republic of Kenya and the RADAAR Project, IVI, Republic of Korea.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means – electronic, mechanical, photocopying, recording or otherwise – without the prior written permission of the copyright holders.

## **General disclaimer**

This Formative Evidence Brief for Policy (EBP) is intended for informational and policy guidance purposes only. The views expressed herein are those of the authors and do not necessarily reflect the official policy or position of the Government of the Republic of Kenya, the RADAAR Project, or the IVI. While every effort has been made to ensure the accuracy of the information presented, the authors and publishers accept no liability for any consequences arising from its use. Readers are advised to consult relevant experts and official sources before making decisions based on this brief.

## Contents

CONTRIBUTORS AND ACKNOWLEDGEMENT .....	iv
Authors, Contributors, and Funding .....	iv
Acknowledgements, Peer review and Editorial and design .....	v
ABBREVIATIONS AND ACRONYMS.....	vi
KEY MESSAGES.....	vii
EXECUTIVE SUMMARY .....	ix
1. INTRODUCTION.....	1
1.1 Background.....	1
1.2 The AMR financing gap in Kenya .....	2
1.3 What sustainable One Health AMR financing must achieve .....	5
1.4 Consequences of inaction on AMR financing .....	9
1.5 Underlying causes of AMR financing and implementation gaps in Kenya....	10
2. POLICY OPTIONS FOR ADDRESSING AMR FINANCING.....	12
2.1 Option 1: Establish dedicated AMR budget lines within national and county programme-based budgeting frameworks .....	12
2.2 Option 2: Integrating AMR financing into the Social Health Insurance Fund .....	15
2.3 Option 3: E-voucher system for animal health and AMR.....	16
2.4 Option 4: Regulatory AMR financing mechanism under PPB and Veterinary Medicines Directorate .....	17
2.5 Option 5: Financing environmental AMR surveillance and control through waste, water and pollution management systems .....	19
2.6 Option 6: Strategic public–private partnerships for sustainable AMR financing .....	20
2.7 Policy implementation pathway .....	22
3. IMPLEMENTATION CONSIDERATIONS: KEY RISKS AND MITIGATION MEASURES	24
REFERENCES.....	26
ANNEXES.....	I
Annex 1 Example policy option.....	I
Annex 1a : Public–private partnerships .....	I
Annex 1b : Implementation considerations: detailed risks and mitigation measures Dedicated budgetary allocation (national and county government) ....	III
Annex 1c : Public–private partnerships: barriers and counterstrategies across levels.....	VI
Annex 2 Documentation of search strategy.....	IX
Annex 2a : Problem statement.....	IX
Annex 2b : Policy options and implementation considerations .....	X

## List of tables

Table 1: AMR financing in Kenya: current situation versus required state for a One Health Response.....	7
Table 2: Underlying causes of AMR financing and implementation gaps in Kenya.....	10
Table 3: Option 1 – Establish dedicated AMR budget lines within national and county programme-based budgeting frameworks .....	13
Table 4: Option 2 – Integrating AMR financing into the Social Health Insurance Fund.....	15
Table 5: Option 3 – E-voucher system for animal health and AMR.....	16
Table 6: Option 4 – Regulatory AMR financing mechanism under PPB and Veterinary Medicines Directorate .....	17
Table 7: Option 5 – Financing environmental AMR surveillance and control through waste, water and pollution management systems .....	19
Table 8: Option 6 – Strategic public–private partnerships for sustainable AMR financing .....	20
Table 9: Key implementation risks and mitigation measures for AMR financing reform .....	24

## List of figures

Figure 1: Kenya AMR NAP implementation costs in Kenyan shillings (KES) 2023–2027 .....	3
Figure 2: Why sector-based funding fails in controlling AMR .....	4

## CONTRIBUTORS AND ACKNOWLEDGEMENT

### Authors

**Bridgit Muasa**, Animal Health AMR Surveillance and Systems, Directorate of Veterinary Services, Ministry of Agriculture and Livestock Development, Kenya

**Caroline Nasambu Wafula**, Clinical Pharmacist Fleming Fund Fellowship cohort 2 Human AMS Professional Fellow, Jaramogi Oginga Odinga Teaching & Referral Hospital (JOOTRH), Kenya

**Amos Lucky Mhone**, PhD Fellow, International Livestock Research Institute and University of Copenhagen

**Jeniffer Njuhigu**, NASIC Head Advocacy and Awareness Subcommittee, Kenya National Public Health Institute

**Elvis Waga**, Veterinary Medicines Directorate (VMD), Kenya

**Mitchelle Kasudi**, Research Associate, International Livestock Research Institute, Kenya

### Contributors

**Alexina Morang'a**, Epidemiologist, Directorate of Veterinary Services, Ministry of Agriculture and Livestock Development, Kenya

**Gathai Mundia**, Pharmacists Zihi Institute; Kenya National Public Health Institute

**Romona Ndanyi**, AMR Focal Point Animal Health, Directorate of Veterinary Services, Ministry of Agriculture and Livestock Development, Kenya

**Emmanuel Tanui**, National AMR Focal Point, Kenya National Public Health Institute

### Funding

This evidence brief for policy and training workshops to support its preparation were funded by the UK Fleming Fund under the Phase II grant, in partnership with its regional grantee – Regional AMR Data Analysis for Advocacy, Response and policy (RADAAR), IVI, Republic of Korea.

### Conflicts of interest

The authors and the funder declare that they have no professional or commercial interests related to any information, product or statement related to this brief evidence.

## **Acknowledgements**

This activity was supported by the Fleming Fund, through the RADAAR Project at the IVI, Seoul, Republic of Korea, in collaboration with the Government of Kenya.

### **Peer review**

Fadi El-Jardali, Professor of Health Policy and Systems, Founder and Director of Knowledge to Policy Center, American University of Beirut

Satyajit Sarkar, Research Scientist (AMR Policy & Advocacy), Project Coordinator and Technical Lead (RADAAR), IVI, Republic of Korea

Davi Mamblona Marques Romão, Expert for Evidence-Informed Public Policy, WHO headquarters, Geneva, Switzerland

Prerana Parajulee, Researcher, Policy and Economic Research Department, EPIC Unit, IVI, Republic of Korea

Emmanuel Manu Eraly, Consultant, Antimicrobial Resistance Department, IVI, Republic of Korea

Laetitia Gahimbare, Technical Officer, AMR Surveillance, Evidence and Laboratory, AMR Unit, HSS Cluster, WHO Regional Office for Africa

Sajan Gunarathna, Associate Researcher, Policy and Economic Research Department, EPIC Unit, IVI, Republic of Korea

### **Editorial and design**

Bandana Malhotra, Independent Scientific Writer/Editor (IVI Consultant), Bangalore, India

Jaehee Hwang, Workshops and Webinars Coordinator, Policy and Economic Research Department, EPIC Unit, IVI, Republic of Korea

Sujung Kim, Consultant, Global Affairs and Communication Unit, IVI, Republic of Korea

## **ABBREVIATIONS AND ACRONYMS**

AMR	Antimicrobial resistance
AMS	Antimicrobial stewardship
EQA	External quality assessment
EVML	Essential Veterinary Medicines List
FAO	Food and Agriculture Organization of the United Nations
GLASS	Global Antimicrobial Resistance and Use Surveillance System
GLASS-AMC	Global Antimicrobial Consumption Surveillance
IHME	Institute for Health Metrics and Evaluation
ISO	International Organization for Standardization
KES	Kenyan Shilling
LMIC	Low- and middle-income countries
MTEF	Medium Term Expenditure Framework
NASIC	National Antimicrobial Stewardship Interagency Committee
NAP-AMR	National Action Plan on Prevention and Containment of Antimicrobial Resistance
OECD	Organization for Economic Co-operation and Development
PBB	Programme-based budgeting
PPP	Public–private partnership
SHIF	Social Health Insurance Fund
SPARC	Strategic Partnerships for Antimicrobial Resistance in Communities
UNEP	United Nations Environment Programme
VMD	Veterinary Medicines Directorate
WAAW	World Antimicrobial Awareness Week
WHO	World Health Organization

## KEY MESSAGES

- Antimicrobial resistance (AMR) is already imposing a substantial and growing burden on Kenya's health system, food systems and economy. Preventable deaths, rising health-care costs, productivity losses and threats to food safety are occurring now, not in the future. Without sustained financing, these impacts will intensify and reduce fiscal and policy space over time.
- Kenya's primary constraint in responding to AMR is not the absence of policy frameworks or technical solutions, but the lack of sustainable, coordinated financing mechanisms. Despite a costed National Action Plan and established One Health coordination structures, AMR interventions remain fragmented, unevenly implemented across sectors and counties, and highly dependent on short-term external funding.
- Evidence consistently shows that effective AMR control depends on sustained investment in a small set of core system functions: diagnostic capacity, antimicrobial stewardship, infection prevention and control, surveillance and data systems. These functions must be financed as routine public goods across human health, animal health, food systems and environmental management, rather than delivered through isolated or project-based initiatives.
- Anchoring AMR financing within existing public finance and health financing systems is the most critical first step. Establishing dedicated AMR budget lines within national and county programme-based budgeting frameworks, alongside integration of AMR diagnostics and stewardship into the Social Health Insurance Fund, provides the foundation for predictability, accountability and equity while reducing out-of-pocket costs and reliance on empirical treatment.
- Complementary financing mechanisms are required to address the major drivers of resistance outside the clinical setting. Targeted incentive mechanisms in animal health can promote diagnostic-guided treatment, antimicrobial use reporting, and stewardship-compliant practices among farmers and veterinary practitioners. Financing environmental AMR surveillance and control through existing water, waste and pollution management systems addresses an under resourced transmission pathway that amplifies resistance across human and animal populations.
- Sustainable AMR financing can be strengthened further through domestic resource mobilization and strategic partnerships. Regulatory financing mechanisms linked to pharmaceutical oversight and carefully governed public-private partnerships can

expand fiscal space, support surveillance and stewardship and reinforce regulatory enforcement, provided strong transparency and accountability safeguards are in place.

- A phased and sequenced approach is essential. Foundational actions should prioritize budget integration and insurance coverage for diagnostics and stewardship. Complementary mechanisms in animal health and environmental management should follow, with regulatory and partnership-based financing layered as systems mature. Clear prioritization, budget visibility and performance monitoring are necessary to protect AMR investments during fiscal constraints.
- Delayed action will increase long-term costs and risks to national resilience. Timely implementation of the policy options outlined in this document offers high returns through reduced disease burden, stronger health and veterinary systems, safer food supply chains and improved economic stability. Coordinated leadership across Cabinet, national institutions and county governments is required to translate these options into sustained action.

## EXECUTIVE SUMMARY

Antimicrobial resistance (AMR) is an escalating and systemic threat to Kenya's health system, food security and economic resilience. Resistant infections already contribute to preventable mortality, prolonged illness, rising health-care costs and productivity losses. Without sustained action, AMR will continue to erode gains in human health, undermine livestock productivity and food safety, and impose growing fiscal pressure on households and the government.

Kenya has demonstrated strong policy leadership by developing a costed National Policy and National Action Plan on Prevention and Containment of Antimicrobial Resistance (2023–2027) and establishing One Health coordination mechanisms. The principal challenge is no longer policy direction or technical solutions. The binding constraint is the absence of sustainable, coordinated financing arrangements capable of supporting core AMR system functions across sectors and counties over time.

This policy evidence document assesses Kenya's AMR financing landscape and identifies structural weaknesses that undermine implementation. Current financing remains fragmented across human health, animal health, agriculture and environmental sectors. AMR-related expenditures are embedded within broader programmes, limiting visibility, accountability and protection during fiscal constraints. At county level, AMR activities compete with immediate service delivery priorities and lack predictable funding and performance incentives. Heavy reliance on short-term, donor-driven financing has further resulted in fragmented implementation and erosion of capacity once external support ends.

Evidence from global systematic reviews and implementation experience proves it: effective AMR control requires sustained investment in diagnostics, antimicrobial stewardship, infection prevention and control, surveillance, data systems and research into antimicrobial alternatives. These functions operate as interdependent public goods and are most effective when financed as routine services rather than as isolated projects. One Health approaches that integrate human health, animal health, food systems and environmental management consistently outperform sector-specific responses, particularly in settings where antimicrobial use in agriculture and environmental contamination contribute significantly to resistance. Economic analyses show that the long-term cost of inaction far exceeds the cost of preventive investment, positioning AMR financing as a high-return public investment.

This document presents a set of complementary policy options to strengthen sustainable One Health AMR financing using Kenya's existing public finance, insurance, regulatory

and partnership frameworks. These include establishing dedicated AMR budget lines within national and county programme-based budgeting; integrating AMR diagnostics and stewardship into the Social Health Insurance Fund to reduce out-of-pocket costs and incentivize appropriate care; deploying targeted incentive mechanisms in animal health to promote diagnostic-guided treatment and antimicrobial use reporting; financing environmental AMR surveillance and control through existing waste, water and pollution management systems; mobilizing domestic resources through regulatory mechanisms linked to pharmaceutical oversight; and selectively engaging the private sector through transparent, well-governed public–private partnerships. These options do not require new institutions but improved alignment and use of existing instruments.

Recognizing fiscal and institutional realities, this document proposes a phased policy pathway. Foundational actions should prioritize embedding AMR within public budgets and health insurance to secure predictable financing for core system functions and strengthen accountability. Complementary mechanisms in animal health and environmental management should then be scaled to address key transmission pathways and improve One Health integration. As systems mature, regulatory and partnership-based mechanisms can expand domestic resource mobilization and innovation. Clear sequencing, budget visibility and performance monitoring are essential to manage risks and ensure equitable implementation across counties.

Failure to act decisively will increase future health-care costs, weaken food systems and expose Kenya to avoidable public health and economic shocks. By contrast, timely investment in sustainable One Health AMR financing will deliver long-term returns through reduced disease burden, stronger health and veterinary systems, safer food supply chains and enhanced national resilience. The options and sequencing outlined in this document provide practical pathways to move from commitment to sustained implementation. Coordinated Cabinet-level leadership is now required to prioritize AMR financing within upcoming budget cycles and planning frameworks and secure Kenya's future against the growing threat of AMR.

# 1. INTRODUCTION

## 1.1 Background

Antimicrobial resistance (AMR) poses a rapidly escalating threat to public health, food security and economic development in Kenya. In 2021, AMR was directly responsible for an estimated 6670 deaths and associated with approximately 28 500 deaths nationwide (IHME, 2023; World Health Organization, 2022a, 2025). Kenya ranks among the highest-burden countries globally, with an age-standardized AMR mortality rate placing it 28th out of 204 countries. The death toll from AMR in Kenya surpasses fatalities caused by malaria, neglected tropical diseases, cancer, intestinal infections, maternal and neonatal conditions, digestive disorders, diabetes and kidney diseases (IHME, 2023). The rise and spread of drug-resistant microbes threaten years of medical progress and hinder the effective treatment of common infections. These figures signal a systemic threat rather than a future risk.

Despite the gravity of the AMR threat, Kenya still does not have a dedicated or sustainable funding model to fully support the necessary interventions. Although the Kenya National Action Plan on Prevention and Containment of AMR (NAP-AMR 2023–2027) is comprehensive and includes cost estimates, it remains significantly underfunded. Efforts to implement the NAP-AMR face considerable challenges largely rooted in fragmented and uncoordinated execution due to funding inconsistencies. Currently, AMR initiatives in Kenya are largely funded by external sources, such as the Fleming Fund (Phase 2 – £3 999 099) and various international research grants (Mukoko et al., 2025).

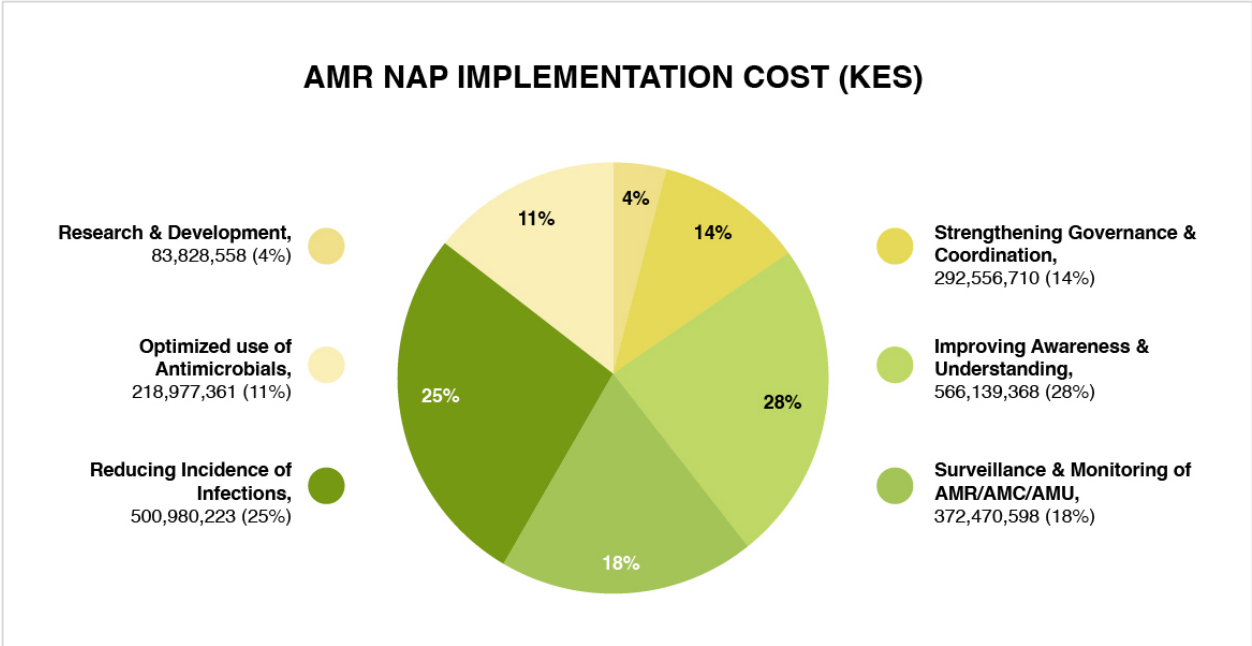
While these resources have supported surveillance and capacity-building, they remain temporary, fragmented and driven by donor priorities. This funding structure limits long-term planning, weakens national ownership and creates parallel implementation pathways that are difficult to sustain once projects end (Ileri et al., 2024; Painter et al., 2025; Palmer et al., 2025). Additionally, heavy dependence on donor-led initiatives often leads to fragmented execution, overlapping activities and a lack of alignment with Kenya's specific needs and priorities (Mukoko et al., 2025). Kenya's 43% poverty rate, competing health priorities and constrained public expenditure reduce the likelihood of scaling AMR interventions without targeted financing reforms. As a result, core AMR functions remain under resourced, leading to serious, wide-ranging consequences. Surveillance systems remain weak and unable to produce reliable, actionable data; laboratories are poorly equipped, limiting their ability to conduct culture and sensitivity testing; most health-care providers lack ongoing training in antimicrobial stewardship (AMS); and public education efforts are inconsistent or entirely lacking (Mukoko et al., 2025; Sohaili et al., 2024).

Kenya's participation in global surveillance initiatives like the Global Antimicrobial Resistance and Use Surveillance (GLASS-AMR), Global Antimicrobial Resistance and Use Surveillance – antimicrobial consumption (GLASS-AMC), Food and Agriculture Organization (FAO), International FAO Antimicrobial Monitoring System (InFARM) and Animal Antimicrobial Use Surveillance System (ANIMUSE) has improved data visibility but remains limited by inconsistent data submission and gaps in laboratory quality management. Expanding national laboratory accreditation and external quality assessment (EQA) coverage, especially in county and animal health laboratories, will be key to generating reliable AMR evidence for policy decisions. These systemic gaps leave Kenya highly vulnerable to future AMR outbreaks that could strain the health-care system, lead to worse health outcomes and diminish public confidence in medical services.

Failure to secure sustainable AMR financing at national and county levels will lead to rising costs across the One Health system (Merkur et al., 2013). Health services will face higher treatment costs and mortality, veterinary services will struggle to control infectious diseases, food production and safety will be compromised, and environmental reservoirs of resistance will expand. These interconnected failures undermine trade, household incomes and national resilience. Sustainable AMR financing is a cross-sector public investment essential for safeguarding health, food security and economic growth.

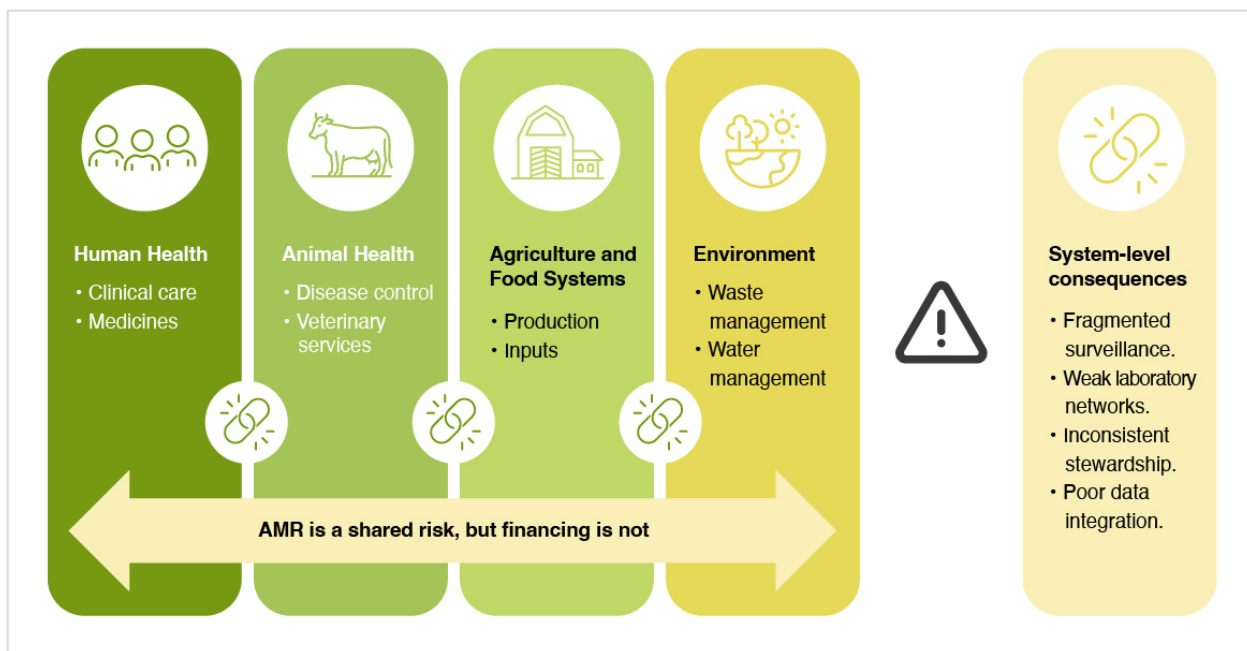
## **1.2 The AMR financing gap in Kenya**

Kenya's response to AMR is constrained less by the absence of strategic direction than by the lack of a coherent and sustainable financing framework to support implementation. The National Action Plan on AMR defines a broad set of priority interventions across human health, animal health, food systems and the environment, yet financing for these activities remains fragmented, embedded within wider sector budgets, and heavily reliant on short-term external support. Figure 1 summarizes the estimated implementation costs of the NAP AMR (2023–2027) by strategic objective, illustrating the scale of investment required and highlighting where financing demands are greatest. This contrasts sharply with the absence of dedicated budget lines, predictable funding flows and coordinated financing mechanisms at both the national and county levels. The resulting mismatch between planned interventions and available financing constitutes the core AMR financing gap in Kenya and undermines effective, equitable and sustained implementation.



**Figure 1: Kenya AMR NAP implementation costs in Kenyan shillings (KES) 2023–2027**  
 Source: Government of the Republic of Kenya, 2023 National Action Plan on Prevention & Containment of Antimicrobial Resistance – Kenya (2023–2027)

Despite the cross-sector nature of AMR, its financing in Kenya remains organized along sectoral and programmatic lines. Human health, animal health, agriculture and environmental management are planned, budgeted and financed separately, with limited coordination across ministries and other levels of government. This fragmentation results in parallel investments, uneven capacity and critical gaps at the human–animal–environment interface where resistant pathogens emerge and spread (Africa CDC, 2020; World Bank, 2019; World Health Organization, 2022b) Figure 2 shows why sector-based financing fails.



**Figure 2: Why sector-based funding fails in controlling AMR**

**Source:** adapted from the Quadripartite Strategic Framework for Collaboration on Antimicrobial Resistance, which reflects the joint One Health approach to AMR

Current public financing mechanisms do not reflect AMR as a shared systemic risk. Budget allocations for surveillance, laboratory services, AMS, and infection prevention are dispersed across multiple votes (money authorized by an appropriation Act for withdrawal from the Consolidated Fund or a county revenue fund) (Public Finance Management Act – Kenya Law, 2012) and often embedded within broader programmes without clear AMR tagging or accountability. At the national level, AMR-related activities are spread across multiple ministries and agencies, including health, livestock, agriculture and environment. Financing for surveillance, laboratories, infection prevention and AMS is embedded within broader sector programmes, making AMR expenditures difficult to track and vulnerable to reallocation during fiscal constraints. No single vote or financing mechanism consolidates AMR investments or holds responsibility for outcomes.

At the county level, AMR financing faces additional constraints. Counties prioritize visible service delivery needs such as curative care and frontline staffing, while cross-cutting functions like surveillance, laboratory quality management, and stewardship receive limited attention. The absence of conditional grants or earmarked transfers for AMR further weakens county-level implementation (County Allocation of Revenue Act – Kenya Law, 2021; World Health Organization, 2022b).

Donor financing has partially filled these gaps but has not corrected the underlying structural misalignment. External funding for AMR is typically time-bound, sector-specific

and focused on discrete outputs rather than sustained system functions. Evidence from low- and middle-income countries (LMICs) shows that once donor-supported projects end, surveillance systems weaken, laboratory capacity deteriorates and AMS gains are lost (Palmer et al., 2025; Seale et al., 2017). International guidance consistently frames AMR as a One Health challenge requiring coordinated and sustained investment across human health, animal health, food systems and environmental management. Failure to align financing mechanisms with this One Health risk profile increases long-term costs, undermines trade and food security, and weakens national resilience (OECD, 2018; United Nations Environment Programme, 2023; World Health Organization, 2022c). Addressing AMR therefore requires financing reforms that support core system functions, enable coordination across sectors, and strengthen national and county ownership. Sustainable AMR financing should be treated as a cross-sector public investment essential for protecting health, safeguarding food systems and supporting economic stability in Kenya.

### **1.3 What sustainable One Health AMR financing must achieve**

Sustainable financing for AMR in Kenya must be aligned with both the nature of AMR risk and the country's existing public finance framework. AMR is a systemic challenge that cuts across human health, animal health, food systems and the environment, and its impacts accumulate over time. Financing approaches that are short-term, sector-specific or project-based are therefore poorly suited to address a risk that is shared, persistent and dynamic. Kenya already has established public finance instruments capable of supporting a sustainable response, but these instruments are not yet consistently aligned to reflect AMR as a long-term One Health priority (County Allocation of Revenue Act — Kenya Law, 2021; Public Finance Management Act – Kenya Law, 2012; The County Public Finance Laws (Amendment) Act — Kenya Law, 2025; National Treasury and Economic Planning, 2023). **Table 1** shows the current situation versus the required state for a One Health response in Kenya.

Effective AMR financing must support the continuous functioning of core systems rather than intermittent activities. Surveillance, laboratory networks, AMS, infection prevention and control and AMR data systems are essential public goods that require predictable and recurrent funding. Kenya's Multi-Partner Trust Fund (MPTF) and recurrent ministerial budgets provide mechanisms for financing such functions, yet AMR-related activities remain embedded within broader sector programmes without clear identification or protection. This limits visibility, weakens accountability and exposes critical functions to reallocation during fiscal pressures, undermining continuity and system performance (World Health Organization, 2022c).

Financing arrangements must also reflect the shared One Health dimensions of AMR and enable coordinated action across sectors. While Kenya has established interministerial coordination structures and One Health platforms to support joint planning, financing decisions continue to follow sectoral budget lines. This disconnect constrains the ability of human health, veterinary, agricultural and environmental institutions to address AMR risks at their points of intersection, where transmission and amplification occur. Aligning financing decisions across sectors within existing programme-based budgeting processes is therefore essential to reduce duplication, address gaps and support integrated action (Ileri et al., 2024; National Treasury and Economic Planning, 2023; World Health Organization et al., 2022).

**Table 1: AMR financing in Kenya: current situation versus required state for a One Health Response**

<b>Financing dimension</b>	<b>Current AMR financing situation</b>	<b>Required financing state for effective One Health AMR control</b>
<b>Primary funding source</b>	Predominantly donor-funded, supplemented by limited domestic allocations	Predominantly domestic public financing, with donor funding as catalytic and complementary
<b>Budget structure</b>	AMR activities embedded within broader sectoral programmes with no dedicated or tagged budget lines	Dedicated or clearly tagged AMR budget lines within national and county budgets
<b>Time horizon</b>	Short-term, project-based funding aligned to donor cycles	Medium- to long-term financing aligned to national planning and medium-Term Expenditure Framework (MTEF) cycles
<b>Sector coverage</b>	Sector-specific investments with limited coordination across human health, animal health, agriculture and environment	Coordinated or pooled financing across sectors reflecting AMR as a shared One Health risk
<b>Financing of core functions</b>	Surveillance, laboratories and stewardship funded intermittently and unevenly	Recurrent financing for core system functions, including surveillance, laboratory networks, stewardship and data systems
<b>Accountability and ownership</b>	Diffuse accountability across multiple institutions and projects	Clear institutional ownership with defined responsibility for AMR outcomes
<b>County-level financing</b>	No protected or conditional funding for AMR activities; low prioritization in county budgets	Earmarked or conditional transfers to counties to support AMR surveillance, laboratories and stewardship
<b>Integration with national systems</b>	Parallel systems created under projects, weak integration into routine services	Full integration of AMR financing into national and county health, veterinary and environmental systems
<b>Sustainability</b>	High risk of capacity loss when donor projects end	Sustained capacity through predictable, recurrent public financing

Sources: Adapted from (OECD, 2018; World Bank, 2019; World Health Organization, 2022c)

Sustainable AMR financing must further strengthen ownership at both national and county levels. Counties are responsible for much of the service delivery, surveillance, veterinary public health and environmental health functions that underpin AMR control. However, AMR priorities compete with immediate service delivery demands within county budgets, and the absence of conditional or protected financing limits sustained investment. Kenya's intergovernmental fiscal transfer system, county integrated development plans and annual county budgeting processes provide entry points for embedding AMR priorities, but these opportunities remain underutilized in the absence of clear financing incentives and guidance (County Allocation of Revenue Act — Kenya Law, 2021; The County Public Finance Laws (Amendment) Act — Kenya Law, 2025; National Treasury and Economic Planning, 2023).

Resilience and continuity are central to sustainable AMR financing. Kenya's experience with donor-supported programmes has demonstrated the risks of capacity expansion followed by decline once external funding ends. Existing public service establishment systems, payroll mechanisms and recurrent operational budgets can support long-term continuity if AMR-related capacities, including trained personnel, laboratory accreditation and quality assurance systems, are deliberately absorbed into routine financing. Without such alignment, gains in surveillance, laboratory performance and stewardship remain vulnerable to disruption (Palmer et al., 2025; Seale et al., 2017).

Finally, sustainable AMR financing must be transparent, accountable and informed by evidence. Kenya's public financial management framework emphasizes results-based planning and reporting, yet AMR expenditures remain difficult to track due to limited budget tagging and fragmented reporting across sectors. Strengthening accountability requires clearer identification of AMR-related spending and closer linkage between financing and measurable outputs, including surveillance coverage, laboratory quality and data reporting. These measures are necessary to ensure that investments translate into actionable evidence and improved policy decisions (National Treasury and Economic Planning, 2023).

Taken together, these considerations demonstrate that sustainable One Health AMR financing in Kenya is achievable within the current public finance system. The primary challenge lies not in the absence of instruments, but in aligning existing financing mechanisms to reflect AMR as a shared, long-term risk requiring coordinated and sustained investment. The following section outlines policy options that operationalize this alignment within Kenya's existing financing framework.

## 1.4 Consequences of inaction on AMR financing

Failure to reform AMR financing in Kenya will result in predictable and compounding costs across the One Health system, affecting human health, animal health, food systems and the environment. Continued reliance on fragmented, short-term and donor-driven funding will increase health-care expenditure due to prolonged hospital stays, treatment failure and growing dependence on expensive second- and third-line antimicrobials (IHME, 2023; World Bank, 2019; World Health Organization, 2022a, 2022b, 2025).

Underfunded diagnostic and laboratory systems will entrench empirical treatment practices, accelerating the development and spread of resistant pathogens across human and animal populations. Limited access to culture and sensitivity testing undermines AMS and reduces the effectiveness of existing medicines, placing additional strain on already overstretched health and veterinary services (Mukoko et al., 2025; Sohaili et al., 2024; World Health Organization, 2022a; World Health Organization et al., 2022).

Inadequate financing for environmental AMR surveillance and waste management will allow resistant organisms and antimicrobial residues to persist and circulate in water systems, soils and food production environments. Poorly regulated discharge of pharmaceutical waste, health-care effluent and animal waste creates environmental reservoirs of resistance that facilitate transmission between humans, animals and ecosystems, amplifying AMR risks beyond the reach of clinical interventions alone (United Nations Environment Programme, 2023; World Health Organization et al., 2022).

At county level, the absence of protected or earmarked financing for AMR activities across sectors will widen inequities in access to diagnostics, effective treatment and safe food systems. Households will increasingly face high out-of-pocket costs for diagnostics and reserve antibiotics, disproportionately affecting low-income populations while communities reliant on livestock production face increased disease burden and income loss (Naghavi et al., 2024; Sohaili et al., 2024; World Health Organization, 2022a, 2025).

In animal health and food systems, insufficient financing for AMR control will reduce the effectiveness of disease prevention and treatment in livestock, compromise food safety and increase the circulation of resistant pathogens along the food chain. These impacts threaten agricultural productivity, rural livelihoods and domestic and export markets, with direct implications for national food security and economic stability (Azabo et al., 2022; Mshana et al., 2021; Musuka et al., 2025).

Failure to secure sustainable AMR financing will also perpetuate cycles of capacity expansion followed by decline as donor-funded projects end. Evidence from LMICs

shows that when external funding is withdrawn, surveillance systems weaken, laboratory quality deteriorates, environmental monitoring ceases and stewardship gains are rapidly lost, eroding public trust in health, veterinary and regulatory institutions (Ileri et al., 2024; Mukoko et al., 2025; Painter et al., 2025; Palmer et al., 2025; Seale et al., 2017).

### 1.5 Underlying causes of AMR financing and implementation gaps in Kenya

Several factors contribute to persistent gaps in the implementation of antimicrobial resistance interventions in Kenya, reflecting challenges in financing, coordination, surveillance capacity, workforce, and regulation across the One Health system. Table 2 summarizes some of these factors.

**Table 2: Underlying causes of AMR financing and implementation gaps in Kenya**

Domain	Underlying cause	Evidence from reports/studies	Reference
<b>Governance arrangements</b>	Fragmented health system with weak integration of AMR services into financing and poor coordination between national & county governments	Only 16/47 counties had active AMS committees by 2022; accountability unclear; limited prioritization in budgets	(Mukoko et al., 2025)
	Inadequate prioritization of AMR in national and county planning	AMR is often subsumed under other health programmes, limiting dedicated funding	(Government of the Republic of Kenya, 2023)
	Bureaucratic and unclear accountability channels	Limited ownership of AMR across ministries and weak coordination mechanisms	(Sohaili et al., 2024)
<b>Financial arrangements</b>	No earmarked funds for AMR activities across health, agriculture and natural resources sectors	Reliance on donor funding for most AMR programmes	(County Allocation of Revenue Act – Kenya Law, 2021; The County Public Finance Laws (Amendment) Act – Kenya Law, 2025)

	Social Health Insurance Fund does not cover AMR diagnostics or stewardship services	Out-of-pocket payments and donor-funded diagnostics dominate	(Government of the Republic of Kenya, 2024)
	Weak domestic resource mobilization for AMR	Gaps between planned and implemented activities in costed National Action Plan (NAP-AMR)	(Mukoko et al., 2025)
	Cross-sectoral financing integration	Lack of integrated AMR budget tracking across human, animal and environment sectors Separate budget codes under health, livestock and environment obscure total AMR expenditure	(National Treasury and Economic Planning, 2023)
<b>Delivery arrangements</b>	Limited infrastructure and capacity for AMR surveillance and diagnostics	Sentinel sites are limited; many facilities lack reliable AST capacity	(Moirongo et al., 2022)
	Limited human resources in microbiology and infectious diseases	Skills gaps in laboratory staff and weak laboratory-clinical interfaces	(Dyar et al., 2017)
	Poor accountability for AMR budget use at facility and county level	Weak monitoring & evaluation mechanisms in place	(Public Finance Management Act – Kenya Law, 2012; The County Public Finance Laws (Amendment) Act – Kenya Law, 2025)
<b>Degree of implementation</b>	Costed NAP-AMR exists but is under implemented due to financing constraints	Many activities remained “ongoing” or “incomplete” by end of the 2017–2022 NAP-AMR	(Mukoko et al., 2025)

## **2. POLICY OPTIONS FOR ADDRESSING AMR FINANCING**

Kenya has already articulated what needs to be done to address AMR through a costed NAP-AMR. The central challenge is no longer defining priorities but identifying financing approaches that can translate these priorities into sustained action across human health, animal health, food systems and the environment. Existing financing arrangements have proven insufficient to support core AMR functions at scale or overtime, particularly at county level, where implementation responsibilities are concentrated.

The policy options presented in this section respond directly to the structural financing constraints identified earlier in this brief. They focus on strengthening the use of existing public finance instruments, improving alignment across sectors and reducing reliance on short-term external support. Rather than proposing new institutions or parallel funding mechanisms, these options aim to embed AMR financing within Kenya's current fiscal and governance framework, while creating incentives for coordination, accountability and continuity.

Together, these options illustrate practical pathways through which Kenya can move from fragmented, project-based financing toward a sustainable One Health approach that protects health, food security and economic stability.

### **2.1 Option 1: Establish dedicated AMR budget lines within national and county programme-based budgeting frameworks**

This option proposes institutionalizing AMR financing through dedicated budget lines within national and county programme-based budgeting (PBB) frameworks. By embedding AMR expenditures within existing sector votes at both levels of government, this approach aims to improve visibility, accountability and sustainability of financing for core AMR system functions. Dedicated budget lines would support surveillance, laboratory networks, stewardship, data systems and coordinated One Health implementation, while enabling performance-linked financing and improved tracking of AMR investments across sectors and counties.

**Table 3: Option 1 – Establish dedicated AMR budget lines within national and county programme-based budgeting frameworks**

<p><b>National level</b></p>	<p>Integrate AMR as a defined budget line or tagged sub-programme within relevant sector ministries, including Health, Agriculture and Livestock, Environment and Fisheries, consistent with PBB structures.</p> <p>Finance core national AMR system functions, including reference laboratory coordination, surveillance oversight, external quality assurance, mentorship of county laboratories and referral support for complex antimicrobial susceptibility testing.</p> <p>Use consolidated procurement mechanisms, including framework contracts through the Kenya Medical Supplies Authority, to ensure a reliable supply of diagnostics, quality control materials and antimicrobial susceptibility testing inputs, reduce unit costs and minimize stock-outs.</p> <p>Support national AMR data systems through sustained financing for hosting, maintenance, validation and analysis of integrated One Health surveillance data, enabling routine reporting and evidence-based decision-making.</p> <p>Strengthen accountability by integrating AMR financial reporting into existing national public finance and health accounting systems, allowing trend analysis and comparison of investments across sectors.</p> <p>Apply performance-linked budget incentives tied to agreed AMR indicators, such as surveillance coverage and reporting to national and global AMR platforms, within existing results-based budgeting frameworks.</p> <p>Align AMR financing priorities with national development and economic frameworks, including Vision 2030, the Bottom-Up Economic Transformation Agenda and the Sustainable Development Goals.</p>
<p><b>County level</b></p>	<p>Establish AMR as a defined sub-programme within county sector budgets for health, agriculture, environment and fisheries, aligned with county integrated development plans and annual workplans.</p> <p>Allocate county resources to priority AMR functions, such as laboratory services, surveillance activities, stewardship implementation and environmental health interventions.</p> <p>Introduce performance-linked incentives within intergovernmental financing arrangements to reward counties and facilities that meet agreed minimum AMR implementation standards, such as functional testing capacity,</p>

	<p>reporting compliance and operational stewardship structures. Strengthen integration of AMR priorities into routine county planning and budgeting processes to improve ownership and sustainability.</p>
<p><b>Advantages</b></p>	<p>Makes AMR financing visible, trackable and auditable within existing public finance systems.</p> <p>Strengthens government ownership and reduces reliance on short-term external funding.</p> <p>Enables medium- to long-term planning for core AMR system functions. Improves coordination across human, animal and environmental sectors through aligned budgeting.</p> <p>Creates a foundation for performance-based financing and results monitoring.</p>
<p><b>Limitations and risks</b></p>	<p>Requires sustained prioritization within constrained fiscal space and competition with higher-profile programmes.</p> <p>Dependent on clear expenditure guidelines to prevent fragmentation across sectors and levels of government.</p> <p>Requires strengthening of county public financial management capacity to ensure effective utilization and accountability.</p> <p>Performance-linked allocations require phased implementation and safeguards to avoid disadvantaging lower-capacity counties.</p>
<p><b>Expected impact</b></p>	<p>Establishing dedicated AMR budget lines within national and county PBB will make AMR financing predictable, visible and accountable across the One Health system. This approach will strengthen coordination between sectors, protect AMR activities during fiscal constraints, and improve planning and performance monitoring at both the national and county levels. Predictable funding will expand surveillance and diagnostic capacity, support AMS and improve the quality and use of AMR data for decision-making. Over time, this will reduce inappropriate antimicrobial use, improve treatment outcomes, and create a stable public financing foundation upon which insurance-based, regulatory and partnership financing mechanisms can be built.</p>

## 2.2 Option 2: Integrating AMR financing into the Social Health Insurance Fund

This option integrates AMR diagnostics and stewardship into the Social Health Insurance Fund by introducing explicit reimbursement for culture, antimicrobial susceptibility testing and stewardship activities. By embedding AMR services within SHIF benefit packages and linking reimbursement to quality and performance, this approach aims to reduce out-of-pocket costs, promote diagnostic-driven treatment and create a sustainable financing pathway aligned with universal health coverage.

**Table 4: Option 2 – Integrating AMR financing into the Social Health Insurance Fund**

<p><b>National-level actions</b></p>	<p>SHIF would introduce explicit tariffs for priority AMR diagnostics, including culture and antimicrobial susceptibility testing, within reimbursable laboratory service packages. Reimbursement would be linked to quality standards through differentiated tariffs, with higher rates for facilities participating in national EQA schemes or accredited under ISO 15189 or ISO 17025, and lower rates where minimum quality requirements are not met. Stewardship would be financed as a defined service by reimbursing hospitals that maintain functional antimicrobial stewardship programmes, supported by routine audit, formulary review, and Drug and Therapeutics Committee documentation. Implementation would follow a phased roadmap, starting with tertiary and referral hospitals with established laboratory capacity and reporting pathways, then expanding to county and private facilities as readiness improves.</p>
<p><b>Facility-level payment design</b></p>	<p>To strengthen diagnostic-first care, SHIF would progressively introduce bundled payments for common infectious syndromes such as sepsis, pneumonia and urinary tract infections, with higher reimbursement where culture-guided therapy is documented and lower reimbursement where treatment remains empirical without clinical justification. Claim verification and routine audit would be built into SHIF controls to protect against overbilling and misuse.</p>
<p><b>Advantages</b></p>	<p>This option improves the affordability of diagnostics for patients and strengthens the financial viability of laboratories. It increases the demand for quality-assured testing, incentivizes stewardship implementation and promotes rational antimicrobial use. It also strengthens AMR data flows by linking reimbursement to participation in quality systems and reporting structures.</p>

<b>Limitations and risks</b>	Tariff design requires actuarial review and clear costing to manage fiscal exposure. Claims systems must detect misuse, including unnecessary testing or fraudulent billing. Smaller facilities may struggle to meet quality requirements without transitional support for EQA participation and laboratory strengthening. Administrative complexity may increase during early SHIF implementation and should be managed through phased roll-out.
<b>Expected impact</b>	Integrating AMR diagnostics and stewardship into SHIF expands access to evidence-based care, reduces inappropriate antimicrobial use and provides a sustainable domestic financing pathway for AMR containment aligned with UHC goals.

**2.3 Option 3: E-voucher system for animal health and AMR**

This option applies to a digital e-voucher financing model to promote responsible antimicrobial use in the animal health sector. By linking financial incentives to diagnostic use, stewardship-compliant treatment and antimicrobial use reporting, the mechanism encourages behaviour change among farmers and veterinary practitioners while strengthening One Health AMR surveillance and traceability.

**Table 5: Option 3 – E-voucher system for animal health and AMR**

<b>National-level actions</b>	The e-voucher mechanism would build existing digital voucher platforms piloted in the livestock sector, including those supported under the National Agricultural Value Chain Development Project. A defined “AMR-smart animal health voucher” would subsidize priority services such as diagnostic testing for veterinary pathogens and stewardship-aligned treatment, with redemption conditional on compliance with agreed quality and reporting criteria. National authorities would define eligible services, minimum diagnostic and stewardship standards and data reporting requirements linked to the national One Health AMR surveillance system.
<b>Implementation at service delivery level</b>	Farmers would receive digital vouchers linked to registered livestock and redeemable only through approved veterinary practitioners or laboratories. Service providers would redeem vouchers upon delivery of eligible services and submission of required documentation, including antimicrobial use data. Veterinary practitioners meeting reporting and quality standards could access additional incentives, such as continuing professional development credits or preferential participation in future programmes. Farmers participating in AMR-smart schemes could benefit

	from reduced service costs, improved market access, or prioritization in future voucher allocations.
<b>Advantages</b>	This option leverages existing digital infrastructure, reducing start-up costs and implementation time. It creates direct incentives for diagnostics, stewardship and data reporting in animal health, addressing a major gap in AMR financing. The model strengthens traceability, improves integration of animal health data into One Health surveillance systems, and promotes equitable access to services for small-holder farmers.
<b>Limitations and risks</b>	Effective implementation depends on the availability and quality of veterinary diagnostic services, which may be uneven across regions. Robust verification and audit mechanisms are required to prevent misuse or false redemption. Initial subsidies may be necessary to stimulate uptake, with a clear strategy needed to transition toward sustainable financing. Monitoring and evaluation systems must ensure that voucher use translates into meaningful improvements in diagnostics, stewardship and data quality.
<b>Expected impact</b>	A targeted e-voucher mechanism can shift antimicrobial use practices in livestock toward diagnostic-guided and stewardship-compliant care, strengthen AMR data generation in the animal health sector, and reinforce One Health integration without imposing additional financial burdens on small-holder farmers.

**2.4 Option 4: Regulatory AMR financing mechanism under PPB and Veterinary Medicines Directorate**

This option establishes a domestic financing stream for AMR activities by allocating a small, defined share of existing pharmaceutical regulatory revenues to national AMR priorities. By linking AMR financing to antimicrobial market authorization and oversight functions, the mechanism strengthens regulatory systems while generating predictable resources for surveillance, quality assurance and stewardship.

**Table 6: Option 4 – Regulatory AMR financing mechanism under PPB and Veterinary Medicines Directorate**

<b>National-level actions</b>	In this approach, a dedicated AMR financing window would be created within the Pharmacy and Poisons Board and the Veterinary Medicines Directorate. A modest proportion of annual regulatory revenues derived from licensing, registration and import permits for antimicrobials would be
-------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<p>earmarked to support AMR system functions. This allocation would be formalized through a Treasury circular or targeted legal amendment to ensure transparency, accountability and consistency with public finance regulations.</p> <p>In addition, a carefully calibrated AMR levy could be applied to antimicrobial registrations or imports for both human and veterinary use. Levies would be designed to be minimal in unit cost, avoiding significant price distortion, while collectively generating meaningful resources for national AMR and antimicrobial use activities. Funds would be directed toward agreed One Health priorities, including antimicrobial quality testing, post-market surveillance, national EQA schemes, AMR data system maintenance and stewardship training.</p>
<p><b>Governance and accountability</b></p>	<p>Strong governance arrangements would be essential to maintain credibility and stakeholder confidence. Oversight mechanisms would include clear eligibility criteria for funded activities, joint planning between human and animal health regulators, and annual public reporting on revenues collected and expenditures made. Financing decisions would be aligned with national AMR priorities and subject to routine audit.</p>
<p><b>Advantages</b></p>	<p>This option creates a predictable domestic funding stream that is not dependent on donor cycles. It aligns financing responsibility with entities that place antimicrobials on the market, strengthens regulatory oversight, and supports continuous surveillance and quality assurance. The mechanism also signals national commitment to cost-sharing and sustainability, strengthening Kenya’s position with development partners.</p>
<p><b>Limitations and risks</b></p>	<p>Implementation requires careful legal design and engagement with pharmaceutical stakeholders, who may resist new levies. Robust safeguards are necessary to prevent diversion of funds. There is a risk of partial cost pass-through to consumers if levy levels are not carefully set, which must be mitigated through caps and monitoring.</p>
<p><b>Expected impact</b></p>	<p>A regulatory AMR financing mechanism would provide Kenya with a stable source of funding to support critical surveillance, quality control and stewardship functions, reinforcing One Health AMR control while strengthening pharmaceutical regulation.</p>

## 2.5 Option 5: Financing environmental AMR surveillance and control through waste, water and pollution management systems

This option strengthens environmental AMR control by financing surveillance and mitigation of AMR in wastewater, effluents and environmental hotspots using existing environmental regulation and pollution control mechanisms. By embedding AMR priorities within water, sanitation, waste management and environmental monitoring systems, the approach addresses a critical but underfinanced driver of resistance at the human–animal–environment interface.

**Table 7: Option 5 – Financing environmental AMR surveillance and control through waste, water and pollution management systems**

<p><b>National-level actions</b></p>	<p>Environmental AMR priorities would be integrated into existing mandates of environmental and water sector institutions. This would include routine monitoring of antimicrobial residues and resistant organisms in wastewater from health-care facilities, pharmaceutical manufacturing sites, livestock production areas and urban sanitation systems. Financing would support laboratory testing, environmental sampling and data integration with national One Health AMR surveillance platforms. Resources could be mobilized through existing environmental compliance fees, pollution charges and budget allocations for environmental monitoring, rather than creating new financing structures.</p>
<p><b>Implementation at subnational level</b></p>	<p>Counties would incorporate environmental AMR activities into routine public health, water, sanitation and waste management functions. Financing would support targeted monitoring at high-risk sites such as hospitals, slaughterhouses, markets, landfills and wastewater treatment plants. County environmental and public health officers would be supported to collect samples, enforce compliance standards and report data into national AMR systems, strengthening local ownership and One Health integration.</p>
<p><b>Incentives and regulatory alignment</b></p>	<p>Environmental compliance mechanisms would be used to encourage risk reduction. Facilities meeting effluent treatment and waste management standards could benefit from reduced penalties or recognition schemes, while persistent non-compliance would trigger enforcement actions. This aligns AMR financing with existing environmental protection incentives rather than relying solely on health-sector budgets.</p>
<p><b>Advantages</b></p>	<p>This option addresses a major AMR transmission pathway that is currently underfunded. It builds on existing environmental laws, regulatory agencies</p>

	and monitoring systems, avoiding the need for new institutions. It strengthens One Health surveillance, improves environmental protection and reduces downstream risks to human and animal health.
<b>Limitations and risks</b>	Environmental AMR surveillance capacity is currently limited and would require phased scale up. Coordination across the environment, health, water and agriculture sectors is essential and may be administratively demanding. Clear standards and laboratory protocols are required to ensure data quality and policy relevance.
<b>Expected impact</b>	Financing environmental AMR surveillance and control reduces the circulation of resistant organisms and antimicrobial residues in ecosystems, strengthens early warning systems, and closes a critical gap in Kenya’s One Health AMR response. Over time, this approach lowers downstream health and veterinary costs while improving environmental and public health outcomes.

**2.6 Option 6: Strategic public–private partnerships for sustainable AMR financing**

This option mobilizes private sector capacity and capital to complement public financing for AMR through structured public–private partnerships (PPPs). The approach focuses on expanding diagnostic capacity, strengthening stewardship and supporting surveillance and pharmacovigilance, while maintaining public oversight, data ownership and alignment with national AMR priorities.

**Table 8: Option 6 – Strategic public–private partnerships for sustainable AMR financing**

<b>Diagnostic infrastructure partnerships</b>	Under this model, private laboratory networks would partner with the Ministry of Health and the Ministry of Agriculture and Livestock Development to expand access to AMR diagnostics. Public institutions would retain responsibility for policy direction, quality assurance and integration of data into national AMR surveillance platforms, including the One Health Antimicrobial Resistance System. Private partners would invest in diagnostic equipment, laboratory capacity and service delivery, recovering costs through regulated reimbursement mechanisms such as SHIF tariffs or approved e-voucher schemes. This arrangement would increase diagnostic coverage and reduce pressure on public laboratories while preserving national control over standards and data.
-----------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<p><b>Pharmaceutical stewardship partnerships</b></p>	<p>Pharmaceutical importers and distributors would be required or encouraged, through a structured partnership framework, to contribute a defined share of annual sales or equivalent in-kind support to a jointly governed AMR stewardship financing mechanism. Resources would be used to support antimicrobial stewardship training, rational-use campaigns and pharmacovigilance activities. Contributions could be linked to clearly defined non-financial incentives, such as expedited regulatory processes or public recognition, while safeguarding regulatory independence and avoiding conflicts of interest.</p>
<p><b>CSR-linked and innovative financing mechanisms</b></p>	<p>Voluntary corporate social responsibility (CSR) contributions from pharmaceutical and health-care companies could be formalized under a transparent PPP framework to support national AMR priorities, including targeted surveillance grants and public awareness initiatives. Where appropriate, innovative instruments such as outcome-based financing arrangements may be piloted, with private investors funding specific AMR outcomes and repayment linked to independently verified results. Such mechanisms would be carefully scoped to avoid fiscal risk and ensure value for money.</p>
<p><b>Governance and safeguards</b></p>	<p>Strong governance arrangements are essential for this option. All PPPs would operate under clear legal frameworks, with defined roles, public financial oversight, transparent reporting and safeguards to prevent undue influence over policy or priority setting. Public institutions would retain authority over standards, data use and national AMR strategy alignment.</p>
<p><b>Advantages</b></p>	<p>This option diversifies AMR financing beyond government budgets and donors, leverages private sector efficiency and innovation and expands service delivery capacity without immediate large-scale public capital investment. It can reduce fiscal pressure on the exchequer while maintaining domestic ownership of AMR priorities.</p>
<p><b>Limitations and risks</b></p>	<p>PPPs require clear legal and institutional frameworks and strong contract management capacity. There is a risk of moral hazard or priority distortion if governance safeguards are weak. Some arrangements may create contingent fiscal liabilities if not carefully designed, and negotiation and oversight costs can be significant.</p>
<p><b>Expected impact</b></p>	<p>Well-structured PPPs can expand diagnostic access, strengthen stewardship and surveillance and mobilize additional domestic resources for AMR control, while preserving public accountability and alignment with One Health objectives.</p>

## 2.7 Policy implementation pathway

Sustainable financing for AMR in Kenya will not be achieved through a single instrument or sector-specific intervention. Given the systemic and cross-sector nature of AMR, an effective response requires a phased and complementary set of financing actions that strengthen core systems first, then expand coverage across the One Health continuum, while progressively mobilizing additional domestic resources.

The preferred policy pathway begins by anchoring AMR financing within existing public budget and health financing structures. Establishing dedicated AMR budget lines within national and county PBB frameworks, alongside integration of AMR diagnostics and stewardship into SHIF, provides the foundation for sustainability. These measures ensure predictable financing for surveillance, laboratories, stewardship and data systems, reduce out-of-pocket costs for patients, and embed AMR control within routine service delivery and universal health coverage. Without this foundation, other financing mechanisms risk remaining fragmented or short-lived.

Building on this foundation, targeted complementary mechanisms should be deployed to address critical gaps across the One Health system. The use of digital e-voucher mechanisms in animal health can incentivize diagnostic-guided treatment, antimicrobial use reporting, and stewardship-compliant practices among farmers and veterinary practitioners, where informal antimicrobial use remains a major driver of resistance. In parallel, financing environmental AMR surveillance and control through existing waste, water and pollution management systems addresses an under resourced transmission pathway that amplifies resistance across human and animal populations. These complementary actions strengthen integration across sectors and reduce downstream health and economic costs.

As core systems stabilize and implementation capacity improves, Kenya can progressively expand domestic resource mobilization through regulatory and partnership-based mechanisms. Allocating a modest share of pharmaceutical regulatory revenues to national AMR priorities and selectively deploying well-governed PPPs can generate additional resources for surveillance, quality assurance and stewardship, while reinforcing regulatory oversight and innovation. These mechanisms are most effective when layered onto a stable public financing base and supported by strong governance safeguards.

Sequencing these actions over time allows Kenya to balance ambition with fiscal and institutional feasibility. Immediate priorities should focus on budget integration, insurance coverage for diagnostics and stewardship, and establishment of clear governance and

accountability mechanisms. Medium-term actions can scale animal health and environmental financing mechanisms, while longer-term reforms can expand regulatory and partnership-based financing as domestic systems mature.

Taken together, this phased pathway enables Kenya to transition from fragmented, project-based financing toward a sustainable One Health AMR financing architecture that protects health, food systems and economic resilience. The choices outlined in this brief provide decision-makers with practical, implementable options to move from commitment to sustained action.

### 3. IMPLEMENTATION CONSIDERATIONS: KEY RISKS AND MITIGATION MEASURES

Implementation of the proposed AMR financing options will require navigating a set of predictable political, fiscal and operational risks. These risks are not unique to AMR and can be addressed using existing governance, public finance and service delivery mechanisms. Table 9: Key implementation risks and mitigation measures for AMR financing reform summarizes the key implementation risks and corresponding mitigation measures relevant across the proposed policy options.

**Table 9: Key implementation risks and mitigation measures for AMR financing reform**

Risk area	Nature of the risk	Mitigation approach
<b>Fiscal and political prioritization</b>	AMR competes with higher-visibility health and development priorities, limiting allocation of domestic resources at national and county levels	Anchor AMR financing within existing sector programmes; use budget tagging to improve visibility; apply economic burden evidence to support prioritization during the Medium-Term Expenditure Framework (MTEF) and county budget processes.
<b>County readiness and capacity</b>	Variability in county planning, financial management and technical capacity may delay or weaken implementation	Phase implementation based on minimum readiness criteria; provide targeted technical support through national institutions; link selected financing mechanisms to performance benchmarks.
<b>Provider behaviour and incentives</b>	Continued reliance on empirical treatment and weak stewardship due to cost, convenience and competing incentives	Align financial incentives through Social Health Insurance Fund (SHIF) reimbursement, e-voucher mechanisms and performance-linked payments; link financing to diagnostics, stewardship compliance and reporting.
<b>Governance and accountability</b>	Risk of fragmented implementation, duplication across sectors or misuse of funds	Define clear expenditure guidelines; integrate AMR financing into existing oversight

		and reporting systems; require routine public reporting and audits.
<b>Equity and access</b>	Vulnerable populations and smallholder farmers risk exclusion from diagnostics and stewardship benefits	Use targeted subsidies, vouchers and phased inclusion to prioritize underserved areas and populations; integrate equity considerations into financing design.
<b>Private sector engagement</b>	Risk of conflicts of interest or weak accountability in PPP and regulatory financing mechanisms	Apply clear governance frameworks; retain public control over standards and data; ensure transparency through public reporting and independent oversight.
<b>Sustainability</b>	Risk of capacity loss if reforms rely excessively on time-bound external funding	Prioritize absorption of recurrent costs into domestic budgets; use donor financing primarily for transition and system strengthening.

## REFERENCES

Africa CDC. (2020). *African Union Framework for Antimicrobial Resistance Control 2020–2025 – Africa CDC*. <https://africacdc.org/download/african-union-framework-for-antimicrobial-resistance-control-2020-2025/>

Azabo, R., Dulle, F., Mshana, S. E., Matee, M., & Kimera, S. (2022). Antimicrobial use in cattle and poultry production on occurrence of multidrug resistant *Escherichia coli*. A systematic review with focus on sub-Saharan Africa. *Frontiers in Veterinary Science*, 9. <https://doi.org/10.3389/FVETS.2022.1000457>

County Allocation of Revenue Act - Kenya Law: Act 9 of 2021 (2021 In: Kenya Law [website]. (<https://new.kenyalaw.org/akn/ke/act/2021/9/eng@2021-07-16>, accessed 23 December 2025).

Dyar, O. J., Huttner, B., Schouten, J., & Pulcini, C. (2017). What is antimicrobial stewardship? *Clinical Microbiology and Infection*, 23(11), 793–798. <https://doi.org/10.1016/J.CMI.2017.08.026>

Government of the Republic of Kenya. (2024). *The Social Health Insurance Regulations - Kenya Law*. In: Kenya Law [website]. <https://new.kenyalaw.org/akn/ke/act/ln/2024/49/eng@2024-03-08> accessed 23 December 2025).

Government of the Republic of Kenya (2023). National Policy on Prevention and Containment of Antimicrobial Resistance 2023–2028. Nairobi: Ministry of Health, Kenya: 1–42 ([www.health.go.ke](http://www.health.go.ke), accessed 23 December 2025).

Institute of Health Metrics and Evaluation (IHME) (2023). The burden of antimicrobial resistance in Kenya. Global Health Data Exchange (GHDx). University of Washington (<https://www.healthdata.org/sites/default/files/2023-09/Kenya.pdf>, accessed 23 December 2025).

Ileri, S. G., Sadana, R., & Balachandran, A. (2024). How to finance national antimicrobial resistance action plans. *Bulletin of the World Health Organization*, 102(5), 370. <https://doi.org/10.2471/BLT.24.291638>

Merkur, S., Sassi, F., & McDaid, D. (2013). *Promoting health, preventing disease: is there an economic case? Policy summary*, 6. European Observatory on Health Systems and Policies, Copenhagen, Denmark. <http://www.euro.who.int/en/about-us/partners/observatory> accessed 23 December 2025).

Moirongo, R. M., Aglanu, L. M., Lamshöft, M., Adero, B. O., Yator, S., Anyona, S., May, J., Lorenz, E., & Eibach, D. (2022). Laboratory-based surveillance of antimicrobial resistance in regions of Kenya: An assessment of capacities, practices, and barriers by means of multi-facility survey. *Frontiers in Public Health*, *10*, 1003178. <https://pubmed.ncbi.nlm.nih.gov/36518572/>

Mshana, S. E., Sindato, C., Matee, M. I., & Mboera, L. E. G. (2021). Antimicrobial Use and Resistance in Agriculture and Food Production Systems in Africa: A systematic review. *Antibiotics*, *10*(8). <https://doi.org/10.3390/ANTIBIOTICS10080976>

Mukoko, J., Wesangula, E., Gitonga, N., Kusu, N., Odhiambo, C., Tanui, E., Azegele, A., Ndanyi, R., Joshi, M. P., Hafner, T., & Konduri, N. (2025). Kenya's National Action Plan on antimicrobial resistance: measuring implementation progress. *Frontiers in Tropical Diseases*, *6*, 1540713. <https://www.frontiersin.org/journals/tropical-diseases/articles/10.3389/fitd.2025.1540713/full>

Musuka, G., Machakwa, J., Mano, O., Iradukunda, P. G., Gashema, P., Moyo, E., Nsengimana, A., Manhokwe, S., Dhliwayo, T., & Dzinamarira, T. (2025). Antimicrobial Resistance and Its Impact on Food Safety Determinants Along the Beef Value Chain in Sub-Saharan Africa—A Scoping Review. *Tropical Medicine and Infectious Disease*, *10*(3), 82. <https://doi.org/10.3390/TROPICALMED10030082>

Naghavi, M., Vollset, S. E., Ikuta, K. S., Swetschinski, L. R., Gray, A. P., Wool, E. E., Robles Aguilar, G., Mestrovic, T., Smith, G., Han, C., Hsu, R. L., Chalek, J., Araki, D. T., Chung, E., Raggi, C., Gershberg Hayoon, A., Davis Weaver, N., Lindstedt, P. A., Smith, A. E., ... Murray, C. J. L. (2024). Global burden of bacterial antimicrobial resistance 1990–2021: a systematic analysis with forecasts to 2050. *The Lancet*, *404*(10459), 1199–1226. [https://doi.org/10.1016/S0140-6736\(24\)01867-1](https://doi.org/10.1016/S0140-6736(24)01867-1)

National Treasury and Economic Planning. (2023). *The National Treasury Circular No. 7/2023 – Guidelines for Implementation of the FY 2023-24 and the Medium-Term Budget*. National Treasury and Economic Planning. <https://newsite.treasury.go.ke/node/513> accessed 23 December 2025) Organisation for Economic Co-operation and Development (OECD). (2018). *Stemming the Superbug Tide: Just a Few Dollars More*. OECD Health Policy Studies, OECD Publishing. [https://www.oecd.org/content/dam/oecd/en/publications/reports/2018/11/stemming-the-superbug-tide\\_g1g98de5/9789264307599-en.pdf](https://www.oecd.org/content/dam/oecd/en/publications/reports/2018/11/stemming-the-superbug-tide_g1g98de5/9789264307599-en.pdf)

Painter, C., Limmathurotsakul, D., Roberts, T., van Doorn, H. R., Mayxay, M., Lubell, Y., Day, N. P. J., Turner, P., & Ashley, E. A. (2025). Sustainable antimicrobial resistance

surveillance: time for a global funding mechanism. *The Lancet Infectious Diseases*, 25(2), e99–e103. [https://doi.org/10.1016/S1473-3099\(24\)00649-2](https://doi.org/10.1016/S1473-3099(24)00649-2)

Palmer, L., Chattoe-Brown, A., & Leslie, T. (2025). *Sustaining AMR surveillance beyond the Fleming Fund An analysis of enablers and blockers*. The Fleming Fund. (<https://www.flemingfund.org/publications/sustaining-amr-surveillance-beyond-the-fleming-fund/>, accessed 23 December 2025).

Public Finance Management Act - Kenya Law (2012). <https://new.kenyalaw.org/akn/ke/act/2012/18/eng@2024-04-26>

Seale AC, Gordon NC, Islam J, Peacock SJ, Scott JAG. AMR Surveillance in low and middle-income settings - A roadmap for participation in the Global Antimicrobial Surveillance System (GLASS). *Wellcome Open Res.* 2017 Sep 26;2:92. doi: 10.12688/wellcomeopenres.12527.1. PMID: 29062918; PMCID: PMC5645727.

Singh, S., Charani, E., Devi, S., Sharma, A., Edathadathil, F., Kumar, A., Warriar, A., Shareek, P. S., Jaykrishnan, A. V., & Ellangovan, K. (2021). A road-map for addressing antimicrobial resistance in low- and middle-income countries: lessons learnt from the public private participation and co-designed antimicrobial stewardship programme in the State of Kerala, India. *Antimicrobial Resistance and Infection Control*, 10(1). <https://doi.org/10.1186/S13756-020-00873-9>

Sohaili, A., Asin, J., & Thomas, P. P. M. (2024). The Fragmented Picture of Antimicrobial Resistance in Kenya: A Situational Analysis of Antimicrobial Consumption and the Imperative for Antimicrobial Stewardship. *Antibiotics 2024, Vol. 13, Page 197, 13(3)*, 197. <https://doi.org/10.3390/ANTIBIOTICS13030197>

The County Public Finance Laws (Amendment) Act – Kenya Law. Act No. 16 of 2025 (2025). In: Kenya Law [website] (<https://new.kenyalaw.org/akn/ke/act/2025/16/eng@2025-08-19>, accessed 23 December 2025).

United Nations Environment Programme (2023). Bracing for superbugs: strengthening environmental action in the One Health response to antimicrobial resistance. Geneva: United Nations Environment Programme (<https://wedocs.unep.org/items/e06380a1-453c-4a77-811f-9bfcced60018>, accessed 23 December 2025).

van Duijn, S., Barsosio, H. C., Omollo, M., Milimo, E., Akoth, I., Aroka, R., de Sanctis, T., K’Oloo, A., June, M. J., Houben, N., Wilming, C., Otieno, K., Kariuki, S., Onsongo, S., Odhiambo, A., Ganda, G., & Rinke de Wit, T. F. (2023). Public-private partnership to

rapidly strengthen and scale COVID-19 response in Western Kenya. *Frontiers in Public Health*, 10, 837215. <https://europepmc.org/article/ppr/ppr391003>

World Bank (2019). Pulling together to beat superbugs: knowledge and implementation gaps in addressing antimicrobial resistance. Washington, DC: World Bank (<https://documents1.worldbank.org/curated/en/430051570735014540/pdf/Pulling-Together-to-Beat-Superbugs-Knowledge-and-Implementation-Gaps-in-Addressing-Antimicrobial-Resistance.pdf>, accessed 23 December 2025).

World Health Organization (2022a). Antimicrobial resistance TrACSS Kenya 2022 country profile. Geneva (<https://www.who.int/publications/m/item/Antimicrobial-resistance-tracss-ken-2022-country-profile>, accessed 23 December 2025).

World Health Organization (2022b). National action plan on antimicrobial resistance: review of progress in the human health sector. Geneva: World Health Organization (Antimicrobial resistance policy information and action brief series) (<https://www.who.int/publications/i/item/9789240062689>, accessed 23 December 2025).

World Health Organization (2025). Global Antibiotic Resistance Surveillance Report 2025. WHO Global Antimicrobial Resistance and Use Surveillance System (GLASS). Geneva (<https://www.who.int/publications/i/item/9789240116337>, accessed 23 December 2025).

FAO, UNEP, WHO, & WOA. (2022). *One health joint plan of action (2022-2026): working together for the health of humans, animals, plants and the environment*. Geneva (<https://www.who.int/publications/i/item/9789240059139>, accessed 23 December 2025).

# ANNEXES

## Annex 1 Example policy option

### Annex 1a : Public–private partnerships

Category	Selected option/element
<b>Local PPP examples</b>	<p>PharmAccess-led PPPs &amp; COVID-Dx in Kisumu County</p> <p>PharmAccess used public–private funding to create Africa’s first risk-equalization fund and medical credit fund, mobilizing donor and private capital to rapidly scale up COVID-19 testing, data collection and digital dashboards (van Duijn et al., 2023).</p> <p>Relevance to AMR: though targeting COVID-19, the partnership demonstrates digital, private–public collaboration in diagnostics, sample collection and surveillance infrastructure – capabilities directly applicable to AMR detection and reporting.</p> <p>USAID’s, The Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program – Strengthening AMR systems via PPP-style support</p> <p>The model built on existing governmental structures, invested in training of trainers for sustainability, linked AMS to continuing professional development, and institutionalized stewardship practices.</p> <p>Partnership for Primary care PPP by Amref Health Africa, Makueni County &amp; Philips (P4PC)</p> <p>Initiative to upgrade primary health facilities, refurbish infrastructure, roll out health insurance, staff training and strengthen supply chains with the aim of transforming the delivery and financing of primary care in Kenya</p>

	<p style="text-align: center;"><b>Financial Sustainability + Quality Health Outcomes</b></p>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>• Leverages private sector expertise, technology and capital, India Kerala PPP 10-year strategic AMR plan (Singh et al., 2021)</li> <li>• Can improve infrastructure and workforce development</li> <li>• Encourages innovation and efficiency in AMR service delivery</li> <li>• Builds sustainability through shared risk and incentives</li> </ul>
<b>Potential harms</b>	<ul style="list-style-type: none"> <li>• Risk of inequitable access if the private sector prioritizes profit</li> <li>• Potential conflicts of interest</li> <li>• Quality control challenges in public–private projects</li> </ul>
<b>Cost</b>	<ul style="list-style-type: none"> <li>• Reduces public cost burden through co-financing</li> <li>• May increase efficiency and value for money if well structured</li> <li>• Cost–effectiveness depends on regulatory and performance management</li> </ul>
<b>Uncertainty regarding benefits and potential harms</b>	<ul style="list-style-type: none"> <li>• Outcomes depend on contractual design, governance and enforcement</li> <li>• Risk of misalignment between public health goals and private incentives</li> </ul>
<b>Stakeholders’ views</b>	<ul style="list-style-type: none"> <li>• The private sector is generally supportive but seeks clear returns and policy stability.</li> <li>• The Ministry of Health is open but cautious of regulatory gaps.</li> <li>• Health professionals welcome private support in capacity-building and infection prevention and control.</li> </ul>

**Annex 1b : Implementation considerations: detailed risks and mitigation measures  
Dedicated budgetary allocation (national and county government)**

Level	Barriers	Counterstrategies
<p><b>Patient/citizen</b></p>	<p>Lack of awareness about AMR and its economic and health impact</p> <p>Limited access to diagnostics Limited inclusiveness in policies for vulnerable populations</p> <p>Preference for cheap or informal access to antimicrobials, reducing demand for funded stewardship programmes</p>	<ul style="list-style-type: none"> <li>• Conduct community awareness campaigns on AMR and the benefits of diagnostics.</li> <li>• Include gender and equity in AMR policies.</li> <li>• Ensure participation of community-based organizations and civil society in AMR budget advocacy to enhance transparency and accountability of domestic financing.</li> <li>• Implement community education campaigns linking AMR to human and animal health outcomes, its impact and mitigation measures (World Antimicrobial Awareness Week [WAAW], involvement of farmers in AMR research activities and providing feedback).</li> </ul>
<p><b>Professionals/ health workers/ vets</b></p>	<ul style="list-style-type: none"> <li>• Limited AMR training on AMS, surveillance and budget advocacy</li> <li>• Resistance to protocol changes (most animal health service providers rarely send samples to the laboratory for antimicrobial sensitivity testing; done in non-responsive cases. This has been attributed to diagnostic cost, distance to the laboratories, turnaround time and demand from clients for immediate treatment).</li> <li>• Competing priorities in service delivery overshadow AMR interventions (over-the-counter</li> </ul>	<ul style="list-style-type: none"> <li>• Introduce continuous professional development (CPD) on AMS and surveillance (hospitals are implementing the AMS guidelines), develop guidelines for animal health service providers to inform treatment (guidelines on prudent use of antimicrobials, Veterinary Medicines Essential List), provide easy access to guidelines/documents through the development of Strategic Partnerships for Antimicrobial Resistance in Communities (SPARC) prescription companion app.</li> <li>• Incentivize guideline adherence.</li> </ul>

	<p>sale of antimicrobials without prescription, conflict of interest when veterinarians both prescribe and sell antimicrobials).</p> <ul style="list-style-type: none"> <li>• There is a shortage of veterinarians to oversee the prescription of medicines, which hinders the effective dispensation of prescription-only medicines (POMs) by veterinary pharmacies and compromises their appropriate use.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop standard treatment guidelines for animal health.</li> <li>• Develop an Essential Veterinary Medicines List (EVML).</li> <li>• County governments prioritize employment of additional veterinarians to strengthen oversight of veterinary practice and to ensure responsible use of antimicrobials (medicines in general).</li> </ul>
<p><b>Organization/ Institution</b></p>	<ul style="list-style-type: none"> <li>• Limited human resources</li> <li>• Weak AMR infrastructure and supply chain disruptions</li> <li>• Political influence</li> <li>• Fragmentation across health, agriculture and environment sectors, each with its own budget line on AMR activities</li> <li>• Weak institutional capacity to plan and justify AMR-specific budget lines</li> <li>• Inconsistent disbursement of allocated funds due to other competing priorities</li> </ul>	<ul style="list-style-type: none"> <li>• Increase human capital.</li> <li>• Strengthen supply chains; invest in laboratory infrastructure and equipment.</li> <li>• Create awareness among the political class.</li> <li>• Operational Kenya National Public Health Institute is designed to enhance coordination and collaboration across various sectors, supported by a dedicated central budget line for AMR initiatives.</li> </ul>
<p><b>System/ governance</b></p>	<ul style="list-style-type: none"> <li>• Competing priorities in health financing</li> <li>• Weak governance</li> <li>• Limited awareness</li> <li>• Political shifts/interest affect sustainability of dedicated funding</li> <li>• Limited enforcement of policies mandating prudent antimicrobial use in both human and animal health. This is being</li> </ul>	<ul style="list-style-type: none"> <li>• Integrate AMR into health sector strategic plans.</li> <li>• Advocate via economic burden data.</li> <li>• Create awareness among the different governance bodies.</li> <li>• Kenya has a National Policy on Antimicrobial Resistance (AMR) prevention and control, along with a fully costed NAP-AMR for 2023–2027. The NAP-AMR clearly defines six strategic objectives, the corresponding</li> </ul>

	<p>attributed to financial and human resource constraints</p> <ul style="list-style-type: none"><li>• AMR is not consistently prioritized in national or county budget policies. The political class has limited knowledge of AMR and its impact</li></ul>	<p>activities to be carried out, and the estimated costs for each. Effective implementation of this plan is now essential.</p>
--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------

## Annex 1c : Public–private partnerships: barriers and counterstrategies across levels

Level	Barriers	Counterstrategies
<b>Patient/citizen</b>	<p>Lack of awareness about PPP Low awareness of AMR and the role of the private sector in addressing it</p> <p>Mistrust that PPP will mainly benefit private companies rather than the public</p> <p>Limited involvement of communities in AMR initiatives led by PPPs</p> <p>Fear of involvement of government officials in PPPs leading to inflated implementation costs, ultimately placing an undue financial burden on taxpayers</p>	<ul style="list-style-type: none"> <li>• Conduct community awareness campaigns on AMR prevention and control.</li> <li>• Leverage farmer cooperatives to mobilize citizen voices in AMR advocacy.</li> <li>• Use digital health platforms such as telemedicine for awareness and reporting.</li> <li>• Embed transparency and accountability in PPP frameworks.</li> <li>• Increase public demand for safe food and quality veterinary/human health services.</li> <li>• Institute transparency in PPP agreements by conducting thorough public participation and adhering to accountable decision-making processes.</li> </ul>
<b>Professionals/ health workers/ vets</b>	<ul style="list-style-type: none"> <li>• Limited PPP awareness</li> <li>• Resistance to changes</li> <li>• Political influence</li> <li>• Fear of profit-driven motives undermining stewardship</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct awareness campaigns.</li> <li>• Incentivize PPP implementation.</li> <li>• Increase awareness among the political class.</li> <li>• Co-develop training programmes with private sector support.</li> <li>• Partner with active professional associations (Kenya Veterinary Association, Pharmaceutical Society of Kenya, Nursing Council, KMPDU) in</li> </ul>

		antimicrobial stewardship campaigns.
<b>Organization/ Institution</b>	<ul style="list-style-type: none"> <li>• Limited human resources</li> <li>• Weak oversight with private sector infiltration</li> <li>• Political influence</li> <li>• Few incentives for private sector investment in AMR</li> <li>• Weak PPP design and oversight capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Increase human capital.</li> <li>• Strengthen public oversight.</li> <li>• Increase awareness among the political class.</li> <li>• Partner with pharmaceutical companies, pharmacies and diagnostic laboratories for stewardship and surveillance. (Pharmaceutical companies and industry associations formulate and implement AMS guidelines, ensuring that these are effectively disseminated to their distributors and sales representatives).</li> <li>• Kenya's thriving livestock and poultry industry presents strong private sector investment opportunities in vaccines, biosecurity and alternatives to antimicrobials.</li> <li>• Existing PPP frameworks under the Public Private Partnership Directorate can be expanded to include AMR.</li> <li>• Establish a national AMR Financing Task Force under the National Antimicrobial Stewardship Interagency Committee (NASIC) and the National Treasury to oversee fund utilization, coordinate partners and conduct annual expenditure tracking.</li> </ul>
<b>System/ governance/ national</b>	<ul style="list-style-type: none"> <li>• Competing priorities (limited political prioritization for AMR funding)</li> <li>• Weak governance</li> </ul>	<ul style="list-style-type: none"> <li>• Integrate AMR into health sector strategic plans.</li> <li>• Advocate via economic burden data.</li> </ul>

	<ul style="list-style-type: none"><li>• Lack of explicit policy direction on PPPs for AMR</li></ul>	<ul style="list-style-type: none"><li>• Create awareness among the different governance bodies.</li><li>• Use NAP-AMR (2023–2027) as an entry point for PPP integration.</li><li>• Existing PPP successes in health (e.g. HIV programmes, vaccines) can be replicated for AMR.</li></ul>
--	-----------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

## Annex 2 Documentation of search strategy

### Annex 2a : Problem statement

Databases	Search terms/strategy	Number of relevant articles including systematic reviews retrieved
PubMed	("antimicrobial resistance" OR "antimicrobial resistance" OR "antibiotic resistance" OR AMR) AND ("health financing" OR financing OR "health expenditure" OR "resource allocation" OR budgeting OR funding OR "sustainable financing" OR "domestic financing" OR "health system financing") AND (Kenya) AND ("systematic review"[Publication Type] OR "systematic review"[Title/Abstract])	8
Science direct	("antimicrobial resistance" OR "antibiotic resistance") AND ("health financing" OR funding OR "resource allocation" OR "health expenditure") AND (Kenya) **and filter using systematic review on the left panel because it uses few strings	250

## Annex 2b : Policy options and implementation considerations

Databases	Search term/strategy	Number of relevant articles including systematic reviews retrieved
<b>Science Direct (Government Budget)</b>	("antimicrobial resistance" OR "antibiotic resistance") AND ("health financing" OR funding OR "government budgeting" OR "resource allocation" OR "budget line" OR "health expenditure") **and filter using systematic review on the left panel	250
<b>PubMed (Government budget)</b>	("antimicrobial resistance" OR "antibiotic resistance") AND ("health financing" OR funding OR "government budgeting" OR "resource allocation" OR "budget line" OR "health expenditure") AND ("systematic review" OR "meta-analysis")	308
<b>Google scholar PPP</b>	("public-private partnership" OR "private sector engagement") AND ("antimicrobial resistance" OR AMR OR "diagnostic services") AND ("systematic review" OR "meta-analysis")	2290

