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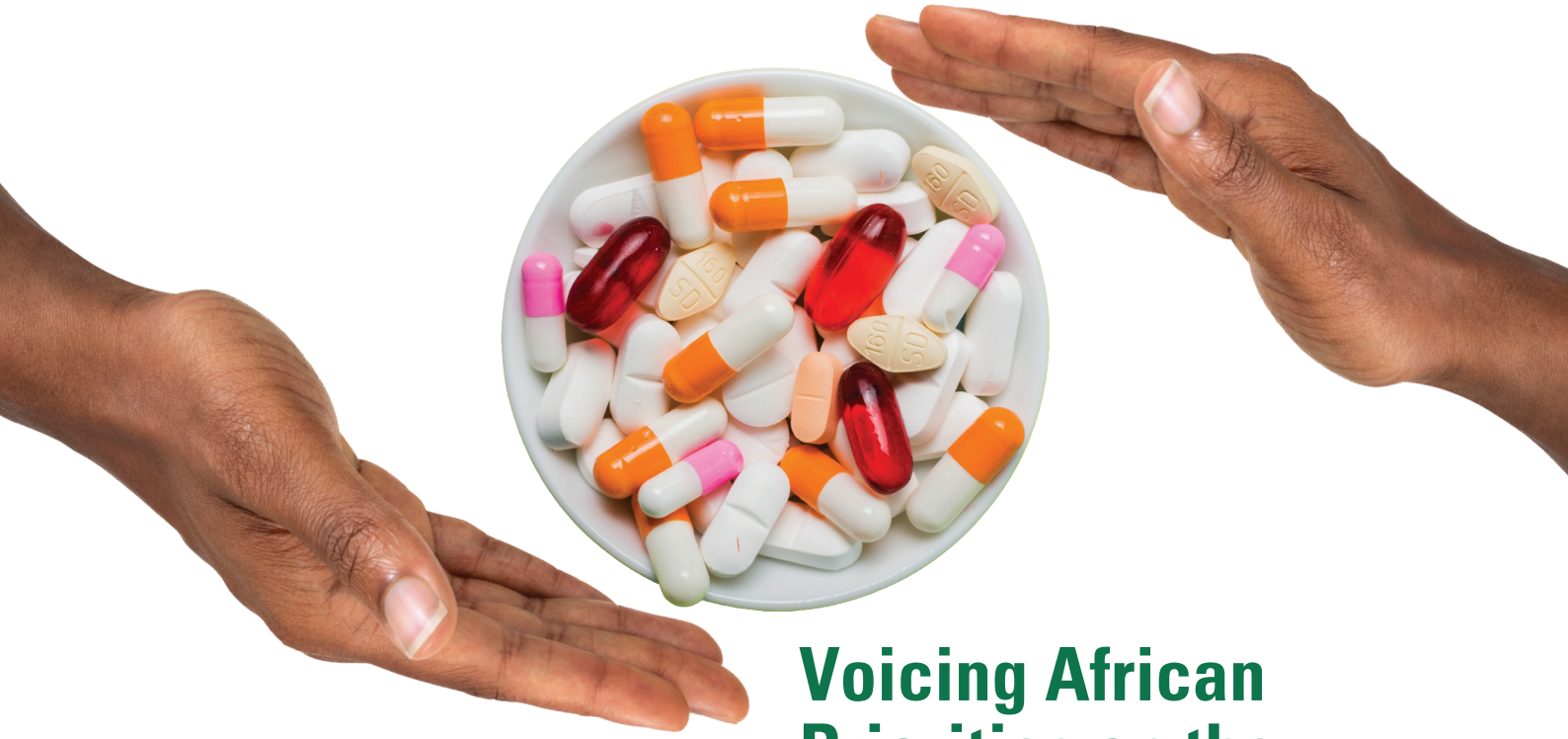

# Voicing African Priorities on the Active Pandemic

## ACCELERATING THE CONTINENTAL RESPONSE TO ANTIMICROBIAL RESISTANCE (AMR)

African Union AMR Landmark Report

An entity of the African Union

AFRICAN UNION
INTERAFRICAN BUREAU FOR ANIMAL RESOURCES

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# CONTENTS

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The **"Voicing African Priorities on the Active Pandemic: African Union AMR Landmark Report"** reflects a collective effort by numerous individuals, institutions, and partners dedicated to combating antimicrobial resistance (AMR) across Africa.

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1

# EXECUTIVE SUMMARY

Antimicrobial resistance (AMR) has emerged as a leading cause of death in the African region, surpassing fatalities from malaria, HIV, and TB. In response to this critical threat, the region has adopted the AMR Global Action Plan and the African Union Framework for Antimicrobial Resistance Control 2020 – 2025, which is tailored to meet the specific needs of African nations through a coordinated approach. While most countries in the region have developed and prioritized National Action Plans (NAPs) to tackle AMR, the overall response remains inadequate given the magnitude of the threat, which endangers human, animal, environmental, aquatic, and plant health.

Africa bears a significant burden of infectious diseases, accounting for approximately 95% of malaria deaths, 70% of people living with HIV, and 25% of TB deaths globally. In 2019, AMR was linked to approximately 55,000 deaths from HIV, 30,000 from malaria, and 255,000 overall. Major drivers of AMR in the region include the overuse and misuse of antimicrobials in human and food systems, migration, suboptimal vaccination rates, and environmental contamination from hospital and pharmaceutical effluents. Additionally, there is a lack of access to quality-assured antimicrobials and diagnostics, compounded by inadequate knowledge about AMR.

Unlike high-income countries, where indiscriminate antimicrobial use is the primary factor driving AMR, African countries face additional challenges, including a lack of access to clean and safe water, poor Water, Sanitation, and Hygiene (WASH) programs, inadequate infection prevention measures, and suboptimal vaccinations for preventable diseases. One in three hospitals in the region lacks clean, safe running water, and one in eight people defecate openly due to inadequate sanitation. Investments in WASH, infection prevention, and biosecurity could save approximately 700,000 lives annually.

Addressing AMR in Africa requires a comprehensive, multi-sectoral approach involving the entire society. Sustainable access to antimicrobials, including antibiotics, vaccines, and therapeutics, is crucial, as lack of access leads to more morbidity and mortality than AMR itself. Support for the region should focus on preventing infections, strengthening health and food systems, developing human resources, ensuring sustainable access to diagnostics and therapeutics, and investing in laboratory infrastructure to support surveillance and data generation.

AMR's impact extends beyond morbidity and mortality, threatening the achievement of Agenda 2030 goals, including poverty elimination, health for all, economic prosperity, gender equality, and Universal Health Coverage (UHC). It also jeopardizes advances in modern medicine, such as treating infectious diseases, performing complex surgeries, maternal and child health, and cancer treatment. The financial requirements for an effective AMR response in Africa are estimated to be between USD 2-6 billion per year, yet current funding falls short by a factor of 10 compared to other major disease areas. The estimated annual budget for AMR NAPs is around USD 100 million, indicating a substantial funding gap that necessitates additional support from both governments and the international community.

AMR disproportionately affects the most vulnerable populations, underscoring the urgency for the region to invest in infection prevention, health and food system strengthening, and the operationalization of the One Health Approach. Emphasizing multi-sectoral collaboration, integrating efforts across human health, animal health, and environmental sectors, and fostering regional and international partnerships for resource mobilization and technical support are crucial.

The comprehensive measures outlined in this report are essential for curbing the threat of AMR in Africa, ensuring the health and prosperity of future generations, and achieving sustainable development goals across the continent.


2

# INTRODUCTION

The African Union (AU) Antimicrobial Resistance (AMR) Landmark Report is the culmination of a collaborative effort involving the Africa Centres for Disease Control and Prevention (Africa CDC), the AU Inter-African Bureau for Animal Resources (AU-IBAR), Member States, and key stakeholders across the One Health domain.

The objectives of this report are multifaceted, aiming to address the critical issues of AMR in Africa by:

- **Demonstrating Political Commitment:** Showcasing the African Union and its Member States dedication to addressing AMR through the adoption of the African Union Framework for AMR Control 2020-2025. This commitment includes pledges made by Member States through their Regional Economic Communities (RECs) to tackle AMR within the region.
- **Acknowledging the Growing Burden of AMR:** Recognizing the existential threat AMR poses to human, animal, plant, aquatic, and environmental health, the report underscores the need for global community support to address gaps in the implementation of One Health National Action Plans (NAPs) and related strategies. While implementing AMR strategies and programs is economically intensive, the return on investment is unparalleled. AMR impacts the economy at multiple levels, affecting individuals, health and food systems, and national economies, thus highlighting the critical importance of robust AMR initiatives.
- **Reinforcing the Urgency of Containing AMR:** Emphasizing the threat AMR poses to achieving the United Nations (UN) Sustainable Development Goal (SDG) targets for 2030 and its existential threats. AMR has become a leading cause of mortality, surpassing deaths from HIV/AIDS, tuberculosis, and malaria. If left unaddressed, AMR will drive much of Africa into extreme poverty and cause significant annual losses in Gross Domestic Product (GDP), with the World Bank projecting a GDP loss of 1.1% by 2050 in a low-impact scenario, with low-income countries potentially losing over 5% of GDP.
- **Showcasing Commitment and Progress:** Highlighting the African regions dedication to combating AMR, detailing progress made, lessons learned, and challenges that remain.
- **Elevating African Priorities in the Global AMR Agenda:** Amplifying the voice of the African region to articulate its story, priorities, and specific context-based requests to the global community to complement its home-grown efforts in addressing AMR.
- **Recommending Concrete Actions:** Based on progress to date, the report provides actionable recommendations tailored to the African context. These recommendations address specific drivers of AMR on the continent with clear targets to show progress at country and regional levels.
- **Building Political Will to Stimulate Funding Opportunities:** Highlighting the urgent need for resources, the report aims to galvanize political commitment and attract funding from both domestic and international sources through innovative approaches to resource mobilization.
- **Strengthening the African Union's Position:** Enhancing the AU's ability to lead and coordinate multi-stakeholder initiatives on AMR. This involves bolstering collaborative efforts among governments, international organizations, civil society, and other key stakeholders, requiring a whole-of-society approach.
- **Making the Case for Strengthening Health and Food Systems:** The report highlights the persistent weakness of health systems to address AMR effectively in most African countries, even post-HIV/AIDS and amid the COVID-19 pandemic. Robust food systems are also crucial for preventing AMR spread, ensuring safe food production, handling, and consumption. Strengthening these systems involves enhancing agricultural practices, improving food safety standards, and ensuring better quality of and access to veterinary and human health services, which is essential to mitigating AMR's impact on public health and food security.
- **Addressing the Access Challenge:** The report raises the magnitude of the challenge in accessing both current and novel antimicrobials and diagnostics. Essential tools to limit the spread of AMR are often unavailable in most hospitals in the region, exacerbating the crisis and hindering effective treatment and containment of infections. It underscores the urgent need for improved supply chains, healthcare infrastructure investment, and international support to ensure that essential antimicrobials and diagnostics are accessible to all healthcare facilities across the region.
- **Complementing and Enhancing AMR Initiatives:**The African Union (AU) Antimicrobial Resistance (AMR) Landmark Report complements and enhances other reports and initiatives launched in preparation for the AMR High-Level Meeting at the United Nations General Assembly (UNGA). In aligning with these efforts, the report addresses immediate challenges while also striving to catalyse long-term actions and partnerships

beyond the UNGA. This approach is designed to ensure continued progress and sustained engagement in combating AMR.

- **Strengthening Regional Economic Communities:** Emphasizing the importance of tailored support and collaborative frameworks to bridge gaps in economic development and the maturity of healthcare and food systems among African countries, which impact the implementation of National Action Plans (NAPs) for AMR control.
- **Highlighting the Urgency of Addressing AMR:** Drug-resistant infections are on the rise globally. If AMR spreads unchecked, many infectious diseases will become untreatable, reversing a century of progress in medical practices. This report emphasizes the urgency of coordinated action to combat AMR, safeguard public health achievements, and prevent a devastating regression in the treatment of infectious diseases.

Central to this report are several strategic frameworks and initiatives that have been pivotal in shaping Africa's approach to AMR including:

**Frameworks and Positions**

- **Africa's Common Position on AMR Control**: Endorsed by AU Member States, this position outlines a unified approach to combating AMR across the continent. Recognizing AMR as a global risk beyond the capacity of any organization or nation to manage or mitigate alone, it advocates for an interagency approach to AMR activities in Africa. It recommends applying the "One Health approach" to contain and minimize the threat of AMR in Africa and encourages Member States to continue prioritizing and investing in the implementation of their National Action Plans on AMR.
- **Africa Union Continental Framework for AMR Control 2020-2025**: This framework delineates the actions needed to address the drivers of AMR, providing a roadmap for member states. It outlines four major strategic objectives: improving surveillance of antimicrobial use and AMR coordination, improving surveillance of AMR microorganisms, delaying the emergence of AMR, limiting the transmission of AMR, and mitigating harm from AMR microorganisms.

**Task Forces and Partnerships:**

- **AU Task Force on AMR: The AU Task Force on Antimicrobial Resistance (AMR)** is responsible for monitoring, reviewing, coordinating, and developing policies related to AMR across the African region, using a One Health approach that integrates human, animal, and environmental health sectors. With representation from all relevant sectors, the task force collaborates with AU agencies involved in human, animal, and plant health to measure, prevent, and mitigate the impacts of AMR microorganisms. By promoting and supporting the development of AMR National Action Plans (NAPs), the task force aims to create robust, multisectoral strategies that are inclusive of all health considerations, ensuring comprehensive and sustainable health outcomes across the continent.
- **The African Union Regional Quadripartite Collaboration:** This is a collaborative initiative involving the African Union (AU), the Food and Agriculture Organization (FAO), the United Nations Environmental Programme (UNEP), the World Health Organization (WHO), and the World Organisation for Animal Health (WOAH) to combat AMR across Africa. This partnership aims to strengthen and harmonize AMR surveillance, enhance laboratory capacities, and promote the prudent use of antimicrobials in human, animal, and environmental health sectors through a One Health approach. Key initiatives include supporting high-level advocacy initiatives as such Africa World Antimicrobial Awareness Week (WAAW), development and implementation of National Action Plans (NAPs) on AMR, fostering multi-sectoral coordination, and providing technical assistance to member states. By leveraging the expertise and resources of these international organizations, the African Union-Regional Quadripartite Collaboration is instrumental in driving forward comprehensive and sustainable efforts to mitigate the threat of AMR on the continent.

**Strategic Plans and Regulations**

- **AMR Global Action Plan (GAP):** GAP outlines five key strategic areas: raising awareness and knowledge of AMR; strengthening surveillance and research to monitor trends and inform policies; reducing infections through improved hygiene, vaccination, and biosecurity; optimizing the use of antimicrobial agents via stewardship programs and regulations; and ensuring sustainable investments in AMR control through long-term financial and political commitments.
- **International Health Regulations (IHR):** The IHR is a complimentary strategic binding document that provides an overarching legal framework that defines countries' rights and obligations in handling public health events and emergencies including AMR pathogens that have the potential to cross borders.
- **National Action Plan for Health Security (NAPHS):** This is a country-owned, multi-year planning process that can accelerate the implementation of IHR core capacities. Based on a One Health approach for all hazards and whole-of-government, it captures national priorities for health security, brings sectors together, identifies partners, and allocates resources for health security capacity development.

The African Union Continental Landmark Report on AMR encapsulates Africa's aspirations, achievements, challenges, and solutions in combating antimicrobial resistance. As a comprehensive, evidence-based resource, it guides national, regional, and global stakeholders in contributing meaningfully to the AMR dialogue, developing innovative solutions, and shaping a coordinated response to this critical challenge. By building on established frameworks, partnerships, and strategic plans, the report emphasizes the need for sustained collaboration, innovation, and investment at all levels. It calls on stakeholders across Africa and the global community to unite in implementing these strategies, ensuring that progress is consolidated and advanced to safeguard the health and well-being of current and future generations across the continent.

# 3

# BACKGROUND- OVERVIEW OF ANTIMICROBIAL RESISTANCE

## Global Context

Antimicrobial resistance (AMR) is recognized as one of the top ten public health threats facing humanity, making it a global health priority. AMR occurs when microorganisms such as bacteria, viruses, fungi, and parasites no longer respond to antimicrobial drugs that were once effective. This natural phenomenon is accelerated by human behaviours such as misuse and overuse of antimicrobials in both human and animal sectors and through food systems2. The resulting drug resistance leads to the ineffectiveness of antibiotics and other antimicrobial medicines, challenging treatment efficacy and escalating the risk of disease spread, severe sickness, disability, and mortality.

The existential impacts of AMR are far-reaching, posing threats to the achievement of the Sustainable Development Goals (SDGs) and Universal Health Coverage (UHC), and it represents a significant public health challenge. In 2019, 4.95 million deaths globally were associated with bacterial AMR, of which 1.27 million deaths were directly attributable to AMR. This surpasses the burden of HIV and Malaria, revealing AMR as a leading cause of global mortality, with sub-Saharan Africa facing the most dire consequences[3]. In addition to death and disability, AMR carries substantial economic implications at personal, national, and global levels.

The World Bank projects that by 2050, AMR could result in an additional US$1 trillion in healthcare expenses. Furthermore, by 2030, annual GDP losses could range from US$1 trillion to US$3.4 trillion. [4]. Antibiotics, are considered the cornerstone of modern medicine, enabling the treatment of infections, surgeries, maternal and child illnesses, cancer treatments, and the treatment of animals and livestock. However, the emergence and re-emergence of AMR could potentially revert us to an era when antibiotics did not exist, and minor surgeries and common infections were often fatal. AMR not only threatens to roll back decades of development gains and disrupt healthcare services but also poses a significant barrier to achieving global health security and economic development[5].

Although AMR affects populations in both high- and low-income countries (LMIC's), the Global Research on Antimicrobial Resistance (GRAM) study identified the highest burden in low-resource settings, which face the greatest burden of infectious diseases and have weaker health systems. In 2019, Sub-Saharan Africa (SSA) experienced the highest rate of AMR burden, with 23.7 deaths per 100,000 people and 255,000 deaths attributed to AMR, surpassing mortality from Malaria and HIV/AIDS[3].

In response to the serious implications of AMR for global public health, The World Health Assembly adopted the Global Action Plan on AMR, which provides a framework to guide countries in developing and implementing national action plans on AMR. This plan was endorsed in the 2016 UNGA high-level meeting on AMR, where Member States were urged to develop national action plans on AMR (NAPs) using a one health approach and to scale up AMR responses by incorporating AMR in the UN Sustainable Development Cooperation Framework6.

However, the adoption and implementation of AMR interventions in Africa have been limited due to misalignment of priorities, lack of resources, and inadequate coordination. The upcoming UNGA High-Level Meeting on AMR in September 2024 presents a unique opportunity for Africa to elevate its priorities and secure commitments towards addressing AMR.

**AMR Burden in Low-income Settings**

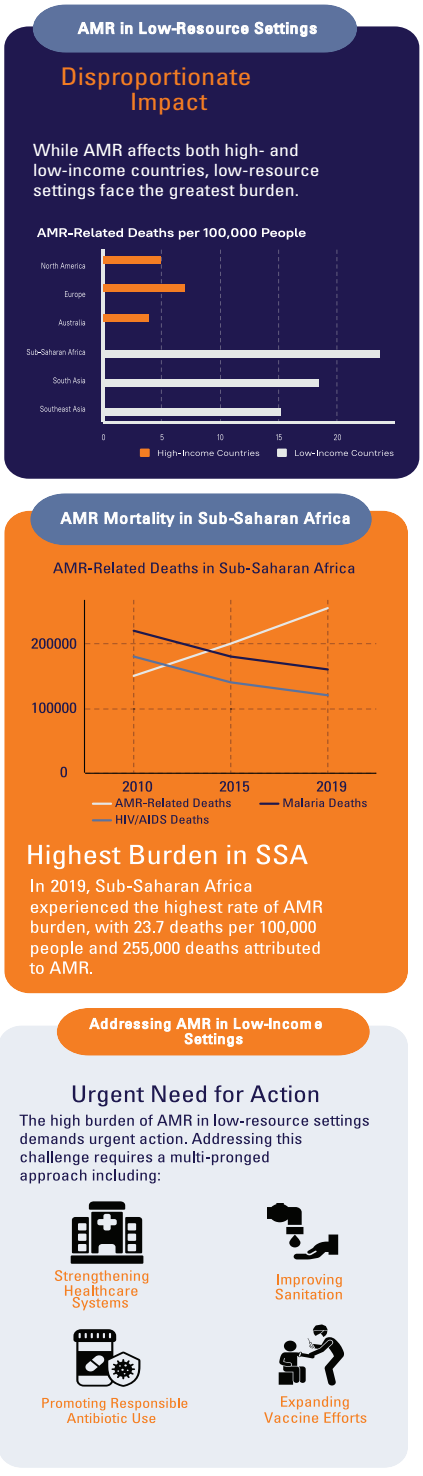
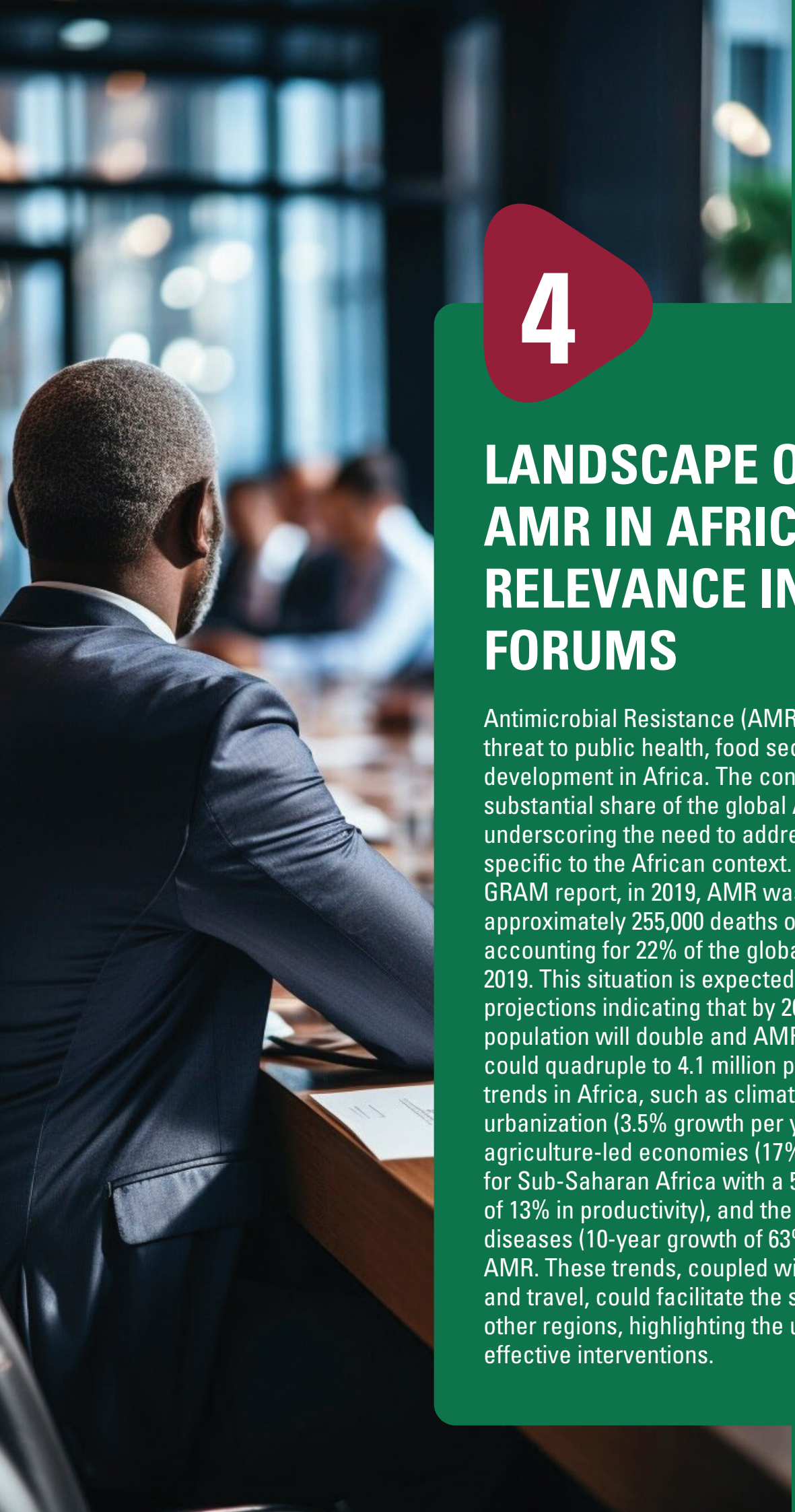



**Figure 1: AMR Burden in Low Income Countries**

By aligning global efforts with African needs, the continent can effectively enhance its capacity to combat AMR and contribute significantly to the global response.



# 4

# LANDSCAPE OF AMR IN AFRICA AND RELEVANCE IN GLOBAL FORUMS

Antimicrobial Resistance (AMR) poses a significant threat to public health, food security and development in Africa. The continent holds a substantial share of the global AMR burden, underscoring the need to address priorities specific to the African context. According to the GRAM report, in 2019, AMR was responsible for approximately 255,000 deaths on the continent, accounting for 22% of the global AMR burden in 2019. This situation is expected to worsen, with projections indicating that by 2050, the African population will double and AMR-associated deaths could quadruple to 4.1 million per year. Macro trends in Africa, such as climate change, urbanization (3.5% growth per year to 2050), agriculture-led economies (17% of total GDP for Sub-Saharan Africa with a 5-year growth of 13% in productivity), and the spread of zoonotic diseases (10-year growth of 63%) will exacerbate AMR. These trends, coupled with increased trade and travel, could facilitate the spread of AMR into other regions, highlighting the urgent need for effective interventions.

**The implementation of AMR One Health National Action Plans (NAPs) presents a signi icant challenge in Africa. Most LMIC's developed their AMR NAPs** between 2015 and 2018, typically for five-year periods. Progress has been mixed, with some countries initiating activities across various pillars, while others have not started implementing their plans. Implementation has often been fragmented due to the dependence on foreign funders, whose interests sometimes do not align with country priorities. Additionally, there is a lack of awareness, knowledge, and appreciation of the threat of AMR, its potential impact on every sphere of human life, and insufficient technical and financial resources for implementation. African countries have also lagged behind in implementing key resolutions and commitments, such as the Abuja Declaration, where African leaders committed to setting aside 15% of their national budgets towards health, and the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs).

**Africa falls behind on key AMR indicators** compared to other regions globally, particularly in the implementation of IPC, WASH, and the use of data for decision-making and policy changes. Although the percentage of African countries reporting to the Tracking AMR Country Self-assessment Survey (TrACSS) is comparable to the global average (85% in Africa vs. 88% Globally), other key indicators show significant disparities. For example, only 13% of African countries have IPC/WASH programs implemented nationwide in line with WHO guidelines. Additionally, only 35% of countries use antimicrobial consumption and use (AMC/U) data to inform decision-making and policies, and a mere 9% of countries use data to advocate for policy change and resource allocation (see Fig 2).

However, the continent has also made commendable progress in certain areas. Africa has shown significant strides in stewardship and surveillance, with 57% of African countries adopting the AWaRE (Access, Watch, Reserve) classification of antibiotics on National Essential Medicine Lists (NEMLs), which is close to the global average of 47%. Furthermore, 50% of African countries have implemented integrated surveillance systems for AMR, demonstrating progress in building evidence and improving reporting. The One Health approach, with 48% of African countries formalizing or initiating sectoral coordination, this is just slightly below the global average of 54%. These improvements highlight the continent's potential and ongoing efforts to combat AMR through comprehensive and coordinated strategies.

**Access to antibiotics** is another major challenge. Many countries on the continent rely on imports for over 90% of their pharmaceutical needs, resulting in frequent shortages and chronic out-of-stocks. Any stress on the global supply chain potentially affects access in LMICs and undermines the resilience of health systems. The pervasive lack of access to common antibiotics, has led to an over-reliance on a few available drugs, even when they are not the primary choice for treatment. This situation exacerbates the risk of developing and spreading

## Africa falls behind on key AMR interventions of IPC/WASH, setting baselines and targets, and using data to inform policies

Above global average | Below global average | +/-5% global average | Priority improvements

| | AMR intervention | Africa | The Americas | Eastern Mediterranean | Europe | South-East Asia | Western Pacific | Global average |
|---|---|---|---|---|---|---|---|---|
| | | Average score per region from countries reporting to TrACSS (%, 2023) | | | | | | |
| Address drivers of AMR in Africa | IPC/WASH: Programs implemented nationwide per WHO guidelines | 13% | 37% | 47% | 57% | 36% | 45% | 39% |
| | Awareness: Nationwide, government-supported campaigns | 33% | 23% | 35% | 53% | 45% | 41% | 38% |
| | Stewardship: Adopted AWaRe antibiotic classification on NEMLs | 57% | 33% | 53% | 39% | 73% | 27% | 47% |
| Build evidence and improve reporting | Set baselines: Adequate technical capacity, resources and systems to collect data across sectors | 11% | 13% | 18% | 20% | 36% | 18% | 19% |
| | Set targets: AMC/U data is used to inform decision-making and policies | 35% | 60% | 35% | 90% | 73% | 82% | 62% |
| | Improve reporting: Established or starting implementation of integrated surveillance system for AMR | 50% | 47% | 47% | 51% | 55% | 50% | 50% |
| Mobilize and coordinate resources | Governance: Data is used to advocate for policy change/resource allocation | 9% | 17% | 65% | 33% | 45% | 27% | 23% |
| | One Health approach: Formalized, joint or integrated sectoral coordination | 48% | 43% | 35% | 61% | 91% | 45% | 54% |

Note: 46/54 African countries report to TrACSS vs. 131/148 globally; Data is self-reported by country representatives; Where questions were left blank, it was assumed countries were not implementing the intervention
Source: Tracking AMR Country Self-assessment Survey – TrACSS (7.0) 2023

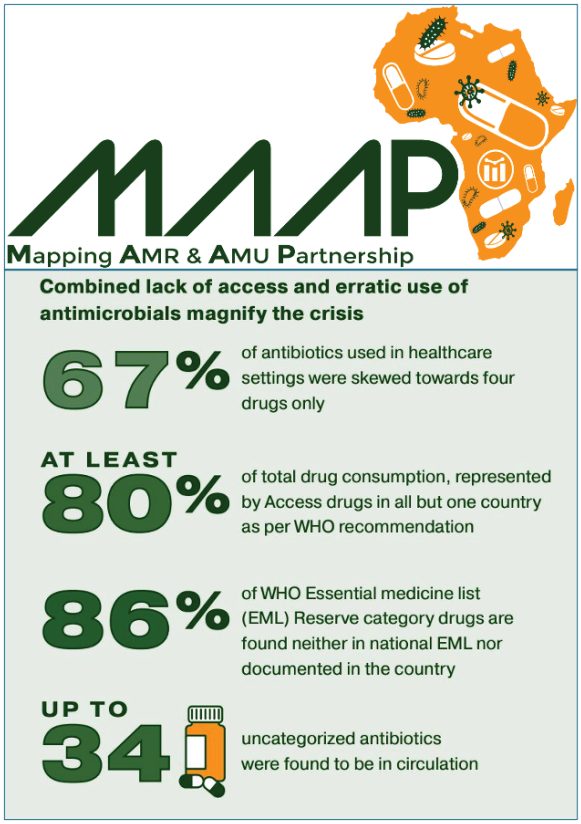
**Fig 2: Tracking AMR Country Self-assessment Survey in Africa– TrACSS (7.0) 2023**

antimicrobial resistance. According to the MAAP (Mapping Antimicrobial Resistance and Antimicrobial Use Partnership) study, 67% of antibiotics used in healthcare settings are skewed towards just four drugs, highlighting the limited options available. Additionally, at least 80% of total drug consumption is represented by Access drugs, yet critical WHO-recommended Reserve category drugs are missing from national Essential Medicines Lists (EMLs) in 86% of cases. This scarcity of vital antibiotics, such as amoxicillin, which is crucial for treating paediatric patients, often results in severe health outcomes like sepsis.

Furthermore, the registration process for some antibiotics can take up to two years in many countries, discouraging pharmaceutical companies from entering the market. This lengthy process further limits the availability of essential medicines. The MAAP study also indicates that up to 34 uncategorized antibiotics were found to be in circulation, reflecting erratic use that magnifies the crisis. Moreover, the continent's investment in research and development is inadequate, with very few countries possessing the necessary infrastructure to conduct phase 3 clinical trials or explore alternative therapies.

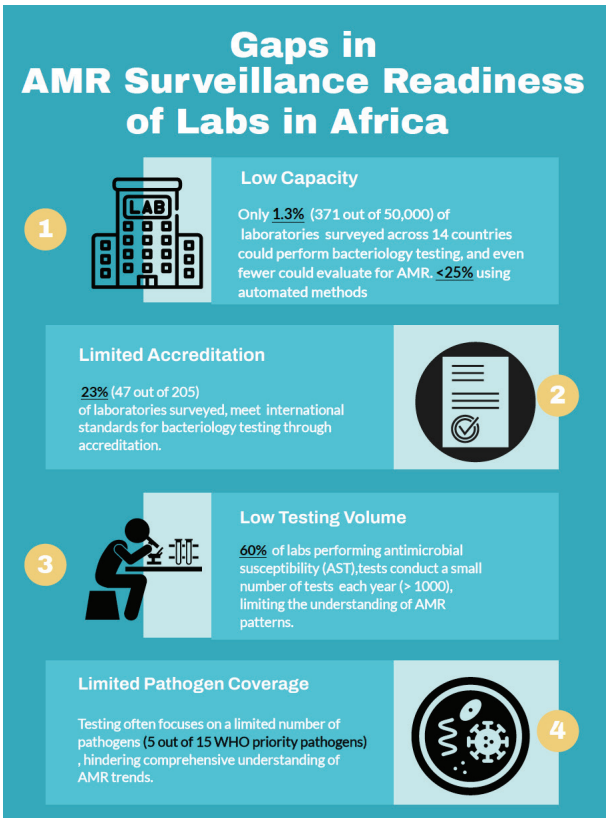
In terms of research and development most African countries have not invested adequately in developing diagnostics, producing antimicrobials, or exploring alternative antibiotic therapies. The lack of investment is compounded by the limited capacity and infrastructure to conduct phase 3 clinical trials, which are crucial for bringing new antibiotics to market.

**Generation of local data on AMR** to inform planning and make a compelling case to policymakers and communities about the extent and impact of AMR remains insufficient. The limited number of microbiology laboratories capable of conducting surveillance activities exacerbates this issue. An assessment conducted by the African Society for Laboratory Medicine (ASLM) in 14 African countries, where the Fleming Fund has been enhancing laboratory infrastructure and capacity, revealed that out of 371 laboratories surveyed from an estimated




Source: Mapping AMR and AMU Partnership

**Figure 3: Impact of limited access and erratic use of antibiotics in Africa**




Source: Mapping AMR and AMU Partnership

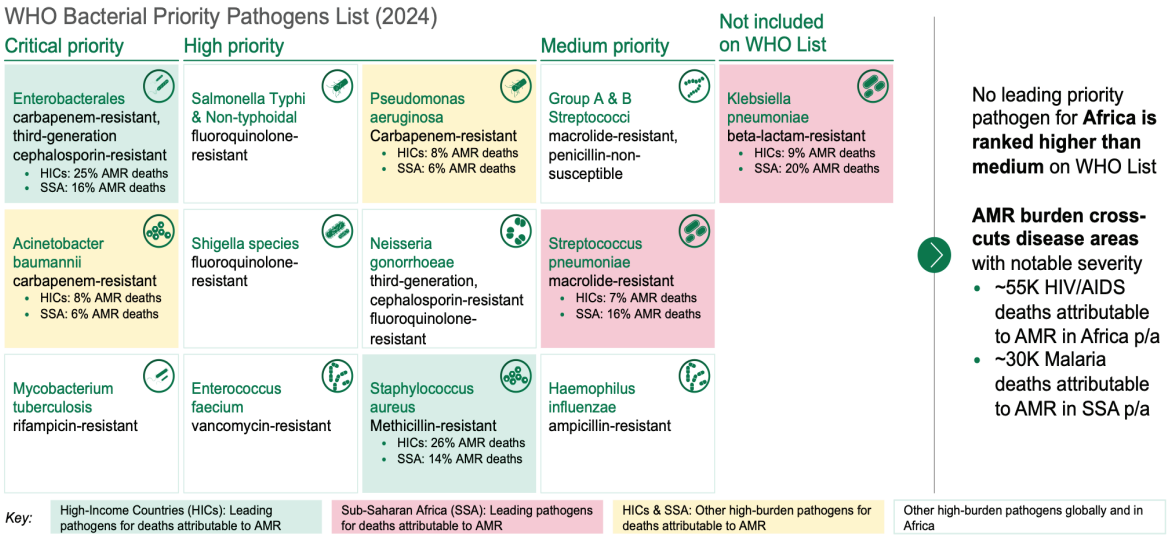
**Figure 4: Gaps in AMR Surveillance Readiness of Laboratory Networks in Africa**

50,000, only 1.3% performed bacteriological analysis for priority bacterial pathogens. The survey further revealed that, only one out of the 14 countries reported data to the WHO's Global Antimicrobial Resistance and Use Surveillance System (GLASS), which was launched in 2015 to foster AMR surveillance and inform strategies to contain AMR[10].

There is a noticeable misalignment between the WHO Priority Pathogens List and the pathogens that are of critical concern in Africa. For example, Streptococcus pneumoniae, Klebsiella pneumoniae, and Plasmodium falciparum, which are highly significant in the African context, are not classified as high or critical priorities on the WHO list. This discrepancy results in these pathogens receiving less focused resources and attention, which may hinder effective management and control efforts in the region (see Fig. 5).

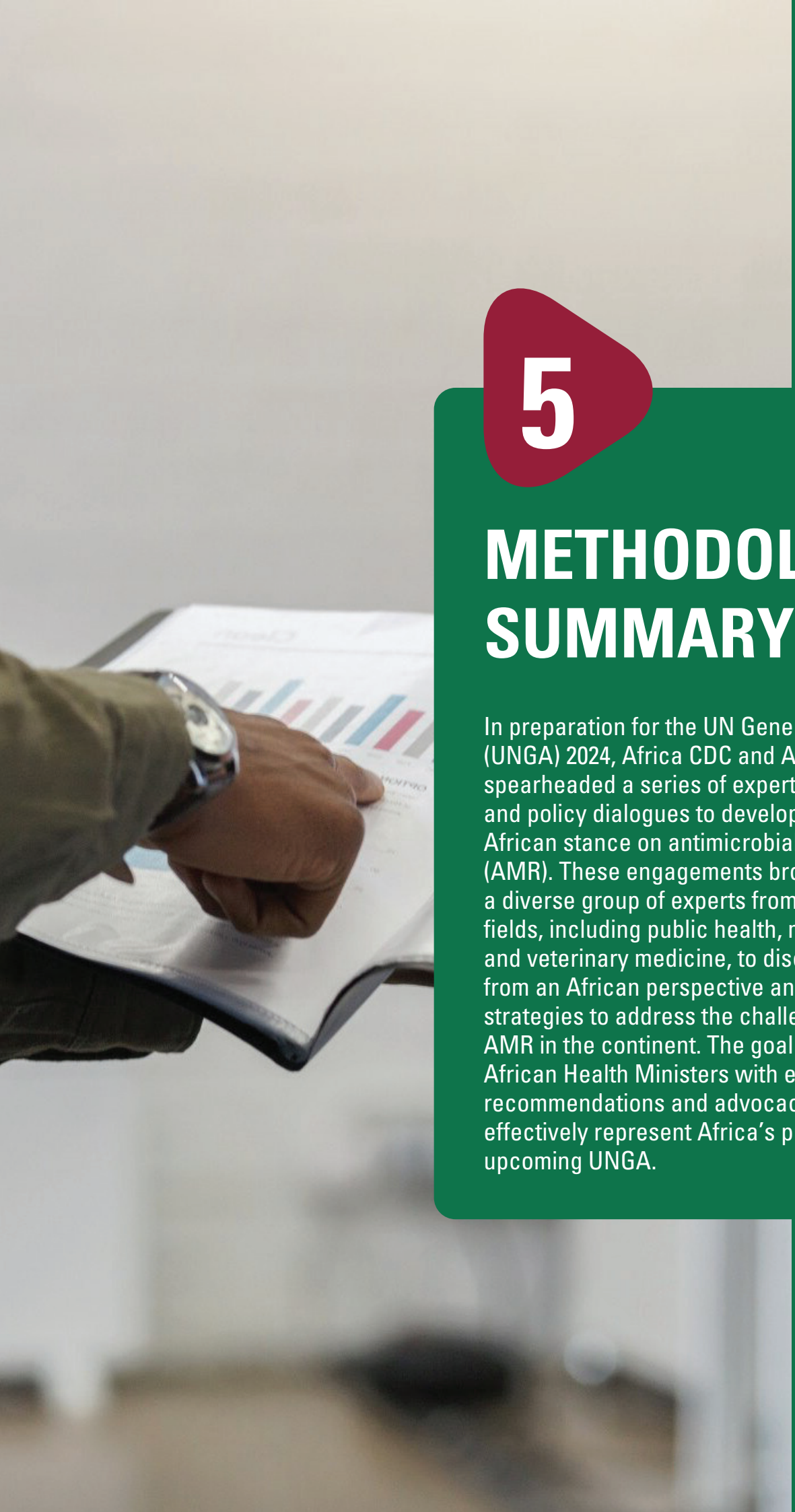
The upcoming UNGA High-Level Meeting on AMR in 2024 presents a unique opportunity for Africa to elevate its priorities and secure commitments towards addressing AMR. By aligning African needs with global efforts, the continent can effectively enhance its capacity to combat AMR and contribute to the global response. African experts have been convened to understand the key challenges to AMR control in Africa and develop detailed solutions. Leveraging global fora to advocate for African priorities and secure commitments will enable Africa to enhance its capacity to address AMR and more effectively contribute to the global response.

**Pathogens with leading AMR burden in SSA are not classified as high/critical in the WHO Priority Pathogens List**




Source: WHO Bacterial Priority Pathogens List, 2024 (link); The Lancet: Global Burden of Bacterial AMR in 2019, 2022 (link); Impact of HIV Drug Resistance on HIV/AIDS-Associated Mortality, New Infections, and ARV Therapy Program Costs in SSA, 2016 (link); BCG-WHO (Global Malaria Program) Analysis

**Figure 5: Priority Pathogens in Sub-Saharan Africa versus WHO Global Priority List**



# 5

# METHODOLOGY SUMMARY

In preparation for the UN General Assembly (UNGA) 2024, Africa CDC and AU-IBAR, spearheaded a series of expert consultations and policy dialogues to develop a unified African stance on antimicrobial resistance (AMR). These engagements brought together a diverse group of experts from various fields, including public health, microbiology, and veterinary medicine, to discuss AMR from an African perspective and formulate strategies to address the challenges posed by AMR in the continent. The goal was to equip African Health Ministers with evidence-based recommendations and advocacy tools to effectively represent Africa's priorities at the upcoming UNGA.

The process began with the establishment of a core team of experts from AU Member States, tasked with providing strategic direction for the AMR advocacy efforts at UNGA 2024. This core group facilitated multidisciplinary discussions involving stakeholders from the health, agricultural, and environmental sectors to identify common goals and priorities for AMR control in Africa. These discussions were aimed at developing a cohesive narrative that reflected Africa's unique challenges and proposed solutions, ensuring that the continent's voice is unified and impactful on the global stage.

A comprehensive approach was employed to gather the necessary data and insights to support the expert consultations. This included a thorough desk review of the current AMR landscape in Africa, which involved analysing data on antimicrobial consumption, surveillance systems, and national action plans. Additionally, a questionnaire survey was administered to AMR experts across the continent to complement the desk review, ensuring that the recommendations were informed by diverse perspectives and were well-aligned with the realities of different regions in Africa.

The process culminated in the production of a landmark report that encapsulated the key recommendations and insights derived from the consultations. This report, validated through an inclusive process involving stakeholders from Member States and relevant AMR partners, was designed to be a powerful advocacy tool for Africa at the UNGA 2024.

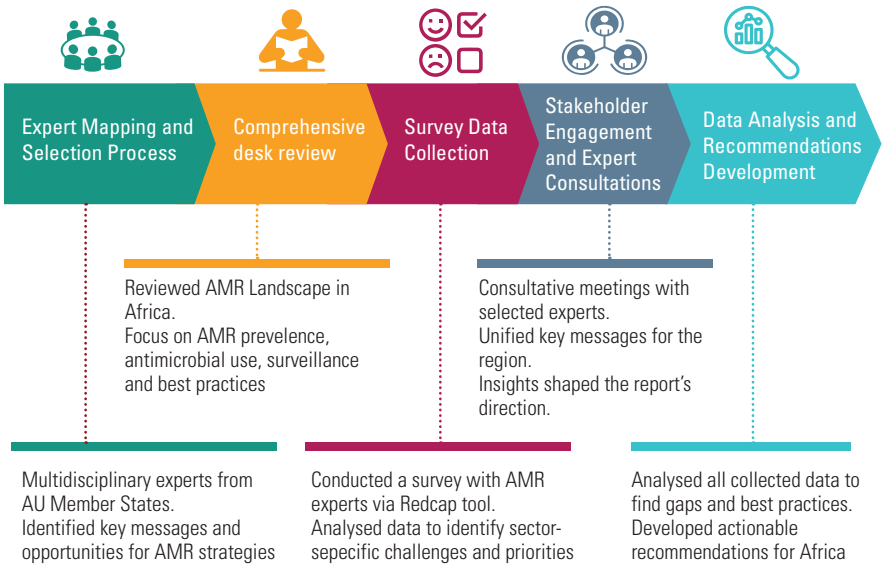



**Figure 6: Methodology Overview**

The report will be launched on the margins of the High-Level Meeting to maximize its visibility and impact, ensuring that Africa's priorities in combating AMR are prominently featured and addressed in the global health agenda.

# 6

# FINDINGS

**Progress Since Implementation of GAP and the AU Common Position**

Since the implementation of the Global Action Plan (GAP) and the AU Common Position on AMR, several advancements have been made in the fight against AMR in Africa:

- **National Action Plans (NAPs):** Approximately 80% of African countries have developed NAPs to address AMR (Fig. 7). These plans outline strategies and actions to combat AMR, reflecting the commitments made under GAP and AU Common Position. However, some NAPs were developed without a detailed situation analysis and lacked local data, compromising their effectiveness and weakening monitoring and evaluation. Additionally, some NAPs have not been fully costed limiting resource mobilization efforts and implementation of plans.

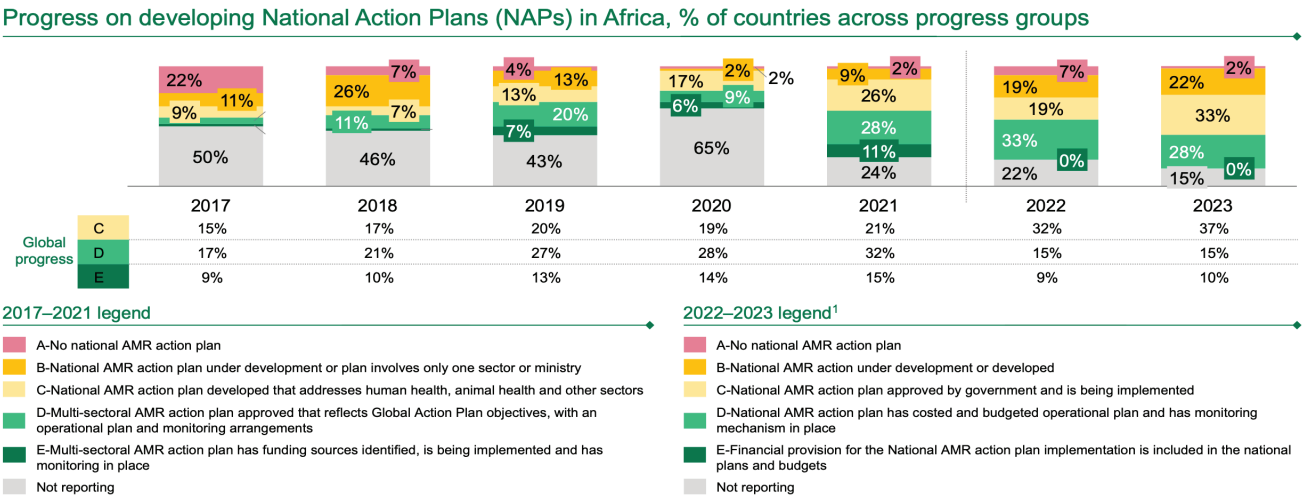
- **Policy and Governance:** Several countries have significantly improved policy frameworks and governance structures to support AMR control efforts. This includes the adoption of stewardship programs and the integration of AMR into national health policies. However, some countries reported weaknesses in their governance structures, infrequent meetings, and a lack of legal mandate to engage other line ministries for planning and securing commitments.
- **Surveillance Systems:** The establishment of the Global Antimicrobial Surveillance System (GLASS) has facilitated increased reporting and standardization of AMR data. Many African countries have enrolled in GLASS, contributing to a better understanding of AMR trends on the continent. However, there is still a significant underestimation of the burden of AMR in Africa due to limitations in surveillance and laboratory systems.
- **Capacity Building:** Efforts have been made to strengthen laboratory capacities for AMR detection. Initiatives funded by the Fleming Fund Grants, including MAAP, QWArS, and EQA Africa, have significantly enhanced laboratory systems across Africa. These initiatives have provided financial support for developing infrastructure, training personnel, and establishing robust AMR surveillance systems, resulting in improved diagnostic capabilities and data reporting. Other key initiatives include the Global Health Security Agenda (GHSA), Africa CDC's Antimicrobial Resistance Control Program, WHO-AFRO, the Clinton Health Access Initiative, ASLM, the Foundation for Innovative New Diagnostics, and the Global Fund's RSSH program. Collectively, these efforts have standardized testing procedures, enhanced diagnostic accuracy, and advanced laboratory capacity for AMR management in Africa. (EMRO and US CDC)

### Progress towards Core GAP Objectives

The Global Action Plan (GAP) on AMR outlines five core objectives, and while there have been significant advancements in various areas, challenges remain, as detailed below:

- **Improve Awareness and Understanding of AMR:** Significant efforts have been made to raise awareness among healthcare workers and the public through various campaigns and training programs. Despite these initiatives, more work is needed to effectively reach remote and underserved communities. Moreover, most national campaigns are concentrated in

**In 2023, 83% of African countries reported developing an AMR NAP, with 28% of those costing and monitoring their NAPs**




Source: The WHO Global Database for Tracking Antimicrobial Resistance (AMR) Country Self-Assessment Survey (TrACSS) 2017-2023.

**Figure 7. Progress in development of NAPs in Africa (2017-2023)**

November during World Antimicrobial Awareness Week, which is insufficient for sustained awareness raising.

- **Strengthen Knowledge through Surveillance and Research:** While progress has been made in establishing surveillance systems and conducting research on AMR in some countries, these efforts are not yet widespread or consistent. Data collection remains fragmented and insufficiently coordinated, highlighting the need for more comprehensive and systematic approaches.
- **Reduce the incidence of infection through effective IPC and increase vaccination coverage:** While some countries have implemented IPC programs, overall adoption remains low. Currently, only 13% of African countries have nationwide IPC/WASH programs consistent with WHO guidelines. Additionally, approximately 1 in 5 (20%) of African children do not receive essential vaccines, resulting in over half a million deaths from vaccine-preventable diseases (VPD) annually.
- **Optimize the use of antimicrobial agents:** Stewardship programs have been introduced across several countries to promote the rational use of antibiotics. These programs aim to improve prescribing practices, reduce inappropriate use, and enhance infection management. Despite these efforts, significant challenges persist, particularly in regulating antibiotic use within the agricultural sector, where antibiotics are often used indiscriminately for growth promotion and disease prevention in livestock.
- **Developing the Economic Case for Sustainable Investment:** Securing sustainable funding for antimicrobial resistance (AMR) initiatives has been challenging, with many countries heavily reliant on international donors. To ensure long-term support and effectiveness of AMR control efforts, it is essential to develop innovative financing mechanisms. This includes creating an economic case that highlights the benefits of investing in AMR initiatives, not just for public health but also for economic stability. By demonstrating the cost-effectiveness and potential economic returns of sustained AMR investments, countries can attract more diverse and reliable funding sources, reducing dependence on external donors and ensuring the continuity of AMR programs.
- **Addressing Access to Diagnostics and Antibiotics:** Access to essential diagnostics and antibiotics continues to be a significant challenge in many regions. However, through robust bilateral and multilateral support, several countries have made notable progress. Programs like PQM Plus have provided regulatory support, ensuring the quality and safety of these critical health products. Additionally, supply chain enhancements, supported by organizations such as USAID, the European Union (EU), and other international partners, have improved the availability of not just antibiotics but a broader range of essential medicines.
- **Strengthened Collaborations:** AU member states have increasingly formed strategic bilateral and multilateral partnerships with intergovernmental agencies, western countries, international civil societies, foundations, and professional organizations. These collaborations have been pivotal in supporting various elements of their National Action Plans (NAPs). Such partnerships provide essential resources, technical expertise, and capacity-building initiatives, which are crucial for effectively addressing AMR challenges. The African Union has played a leading role in fostering these partnerships at the continental level, ensuring that African countries are well-coordinated and integrated into the broader global efforts to combat AMR.

**Core objectives of this report and the challenges to their achievements**

Effectively addressing AMR in Africa requires concerted efforts across several key areas. This report focuses on six core objectives critical for advancing the AMR response on the continent:

- Objective 1: Strengthen Governance and Leadership
- Objective 2: Address the drivers of AMR in Africa
- Objective 2: Build AMR evidence and improve reporting
- Objective 4: Mobilize and coordinate resources
- Objective 5: Strengthen community engagement and education
- Objective 6: Enhance research and innovation

However, countries continue to face specific challenges that hinder the achievement of these objectives:

## Challenge 1: Strengthening Governance and Leadership

Governance and coordination structures at global, regional, national, and sub-national levels are still not fully aligned with the frameworks outlined in the Global Action and National Action Plans. This misalignment creates significant gaps in integrating diverse stakeholders and sectors, which is essential for mobilizing sustainable financial and human resources and hinders accountability. Effective governance and leadership are critical to the successful implementation of AMR strategies. However, existing inconsistencies impede progress and diminish the overall effectiveness of AMR initiatives.

- **Weak Governance Structures:** Many African countries lack robust governance frameworks for AMR, leading to unclear roles and responsibilities among various stakeholders. This results in fragmented efforts and poor coordination.
- **Insufficient Political Commitment:** Political will is crucial for implementing AMR strategies, yet many countries exhibit low levels of commitment, particularly in terms of allocation of national resources to combat AMR. This affects policy enforcement and resource allocation.
- **Fragmented Leadership:** The absence of clear and unified leadership in AMR initiatives results in disjointed actions. Effective leadership, including ministerial involvement, is necessary to drive national and regional AMR agendas.
- **Regulatory Gaps:** Weak regulatory systems fail to enforce existing AMR-related policies effectively. Strengthening regulations and their enforcement is essential for a cohesive response to AMR.
- **Limited Stakeholder Engagement:** Engaging all relevant stakeholders, including the private sector and civil society, is critical. However, this remains a challenge in many regions, particularly in rural and underserved areas, where limited resources and infrastructure hinder effective collaboration and implementation.

## Challenge 2: Addressing the Drivers of AMR in Africa

Addressing the drivers of AMR in Africa involves tackling multiple issues that contribute to the spread and persistence of antimicrobial resistance. These include gaps in IPC/WASH programs, poor adherence to biosecurity and animal husbandry practices, vaccination challenges, regulatory barriers, socio-economic barriers, low public awareness, and underdeveloped public health systems.

- **Gaps in IPC/WASH:** Only 13% of African countries have nationwide IPC/WASH programs consistent with WHO guidelines, leaving many populations vulnerable to healthcare-associated infections and other AMR-related issues.
- **Poor Adherence to Biosecurity and Animal Husbandry Practices:** Inadequate implementation of biosecurity and animal husbandry practices leads to the spread of infections among animals and humans, increasing the reliance on antibiotics.
- **Vaccination Challenges:** Limited vaccination coverage elevates the incidence of infections requiring antibiotic treatment, contributing to higher infection rates and subsequent antimicrobial resistance.
- **Regulatory Barriers:** Weak regulatory frameworks and enforcement mechanisms contribute to the irrational use of antimicrobials, with antibiotics often available without prescriptions.
- **Socio-Economic Barriers:** High costs and limited availability of resources hinder access to diagnostics, vaccines, and antibiotic treatment, especially in high-risk groups.
- **Public Awareness:** Low levels of public awareness and understanding of AMR contribute to antibiotic misuse and overuse across sectors.
- **Underdeveloped Public Health Systems:** Many African countries lack adequate laboratory capacity and infrastructure necessary for advanced bacteriology and microbiology testing, which are essential for effective AMR management. Only 10% of laboratories in Africa meet the required standards for advanced microbiological diagnostics. This deficiency significantly hampers the ability to accurately identify and respond to AMR threats.

## Challenge 3: Building Evidence and Improving Reporting

Understanding the AMR landscape and making informed decisions requires robust evidence and effective reporting systems. Many African struggle with inadequate data collection, analysis, and utilization systems. Comprehensive AMR surveillance systems are implemented in only a few countries, leaving significant gaps in the overall data landscape. Additionally, the absence of standardized reporting mechanisms and the lack of integration of surveillance data across human, animal, and environmental health sectors further hinder the creation of a cohesive evidence base.

- **Inadequate AMR Burden Data, Collection, Analysis, and Use of AMR Data**: Many countries struggle to establish robust surveillance systems and utilize data effectively for policy and decision-making.
- **Global Reporting Platforms Focused on the Global North**: Major global AMR reporting platforms predominantly feature data from developed countries, neglecting the global South.
- **Disparity in Data Availability Linked to Weak Health Infrastructure:** Weak health information systems and limited laboratory capacities contribute to disparities in AMR data availability.
- **Unequal Sector Coverage:** There is often a significant imbalance in AMR data coverage between human health and other sectors, such as animal and plant health.
- **Lack of Standardized Indicators and Harmonized Methodologies:** The absence of standardized indicators and harmonized methodologies complicates efforts to create a cohesive global understanding of AMR trends.

## Challenge 4: Mobilizing and Coordinating Resources

Effectively combating AMR in Africa requires consistent and well-coordinated resources, yet the continent often depends on sporadic international funding. This reliance on external support leads to fragmented efforts and short-term projects that fail to address the enduring nature of AMR threats. The lack of sustained financial commitment undermines the continuity and effectiveness of AMR control measures.

- **Lack of Consistent and Sustained Financing**: Reliance on intermittent funding undermines the continuity and effectiveness of AMR control measures.
- **Misalignment of Funding with Areas of Need**: Allocation of AMR funding often does not align with areas of greatest need, resulting in insufficient data collection and inadequate actions to mitigate AMR.
- **Absence of Functional Governance Structures**: Weak regulatory frameworks, insufficient coordination among sectors, and the absence of dedicated bodies to oversee AMR activities result in unclear ownership and responsibilities across sectors.

## Challenge 5: Strengthening Community Engagement and Education:

One of the key hurdles in combating AMR in Africa is insufficient community engagement and education This gap limits public understanding and support for AMR initiatives, which are a crucial for driving behaviour change and improving adherence to appropriate practices across sectors. Without comprehensive community involvement and educational outreach, efforts to promote respon-sible antimicrobial use and enhance infection prevention and control measures are significantly weakened.

- **Low Public Awareness:** Many communities lack awareness about AMR, its causes, and its consequences. This leads to inappropriate use of antibiotics and other antimicrobials.
- **Cultural Barriers:** Cultural beliefs and practices can influence attitudes towards antibiotic use and compliance with treatment regimens.
- **Limited Educational Programs:** There is a scarcity of educational initiatives to inform the public about AMR. Effective community education programs are essential for behaviour change.
- **Engagement of Local Leaders:** Involving local leaders and community influencers in AMR initiatives is crucial for gaining community trust and support.
- **Access to Information:** Limited access to accurate and reliable information about AMR hinders effective community engagement and education efforts.

## Challenge 6: Enhancing Research and Innovation:

Advancing research and fostering innovation are vital for developing new tools, technologies, and strategies to combat AMR in Africa. However, progress in this area is hampered by various obstacles. Limited funding for research, inadequate infrastructure, and a shortage of skilled researchers are significant barriers. Furthermore, the lack of collaboration between research institutions and restricted access to advanced technologies impede the development and implementation of effective solutions. Overcoming these challenges is essential to drive innovation and create sustainable strategies for AMR management.

- **Insufficient Research Funding:** Limited financial resources are allocated to AMR research, hindering the development of new antibiotics, diagnostics, and treatment strategies.
- **Lack of Research Infrastructure:** Many African countries lack the necessary infrastructure to conduct high-quality AMR research, including laboratories and technological tools.
- **Brain Drain:** The migration of skilled researchers to countries with better research opportunities impacts the local capacity for AMR research.
- **Collaborative Research Gaps:** There is a need for more collaborative research efforts between African institutions and international partners to leverage global expertise and resources.
- **Innovation Barriers:** Regulatory and bureaucratic hurdles can slow down the innovation process, making it difficult to bring new AMR solutions to market.

By tackling the challenges, Africa can significantly bolster its capacity to combat AMR. Addressing these critical areas will also ensure the sustainability and effectiveness of these efforts in the long term.

# 7

# RECOMMENDATIONS

To effectively combat Antimicrobial Resistance (AMR) in the African region, it is crucial to implement a comprehensive and strategic approach that addresses the multifaceted challenges identified in this report. The following strategies and recommendations below, represent key actions that are essential to advancing the AMR response across the continent. These strategies encompass strengthening governance, enhancing resource allocation, and fostering collaboration across sectors to mitigate the impact of AMR in Africa.

# 1 Priority Actions to Strengthen Governance and Leadership

- **Enhance Leadership Commitment:**
  - **Advocate for high-level political commitment to AMR interventions.** Promote AMR interventions by advocating for the establishment of dedicated AMR desks or focal points within the offices of vice presidents or other high-ranking officials to ensure visibility and prioritization.
  - **Engage political leaders:** Secure commitments from political leaders at international, regional, and national level to prioritize AMR in national policies and strategies.
- **Implement Integrated Governance Structures:**
  - **Develop Adaptable Governance Mechanisms:** Create governance and coordination frameworks that are adaptable to the unique conditions of each country. Ensure these mechanisms are integrated within existing systems and aligned with established structures across sectors.
  - **Establish a Central AMR Coordinating Body:** Form a central coordinating entity that includes One Health stakeholders from human, animal, and environmental health sectors to oversee and guide AMR efforts.
- **Strengthen Coordination and Communication:**
  - **Create a well-resourced Secretariat:** Establish a dedicated secretariat to act as a liaison between the central coordinating body and technical working groups (TWGs), to facilitate effective partner engagement, coordination, and collaboration.
  - **Ensure Capacity Building and Monitoring:** Continuously build capacity through targeted training programs and implement effective monitoring and evaluation of AMR efforts at national and sub-national levels.

One Health approach

- **Define Clear Terms of Reference (TORs):**
  - **Prescribe Well-Defined TORs:** Develop clear and comprehensive TORs for all positions within the AMR coordinating body, ensuring that roles and responsibilities are well-defined and understood.
  - **Institutional Positioning:** Position the coordinating committee within an institution that has the authority and mandate to implement AMR interventions across the One Health sectors ensuring alignment and integration with broader health initiatives.
- **Promote Legislative Support and Institutional Mechanisms:**
  - **Legislative Empowerment:** Advocate for the enactment of legislation to strengthen the hosting institution of the AMR coordinating committee, ensuring it operates as an empowered entity with equal representation and active participation from stakeholders across all relevant sectors.
  - **Institutionalize Coordination Mechanisms:** Establish and formalize mechanisms to ensure the coordination of AMR activities within and across sectors, addressing the challenges of recognizing AMR as a One Health issue, and fostering integrated, multi-sectoral approaches.
- **Engage Diverse Stakeholders:**
  - **Broaden Stakeholder Involvement:** Expand membership of AMR coordinating committees to include representatives from malaria, TB, and HIV programs, as well as ministries responsible for finance and planning. This inclusion ensures that AMR activities are prioritized and adequately funded within national budgets.
  - **Foster Dialogue and Collaboration:** Facilitate regular high-level dialogues and collaborative efforts among diverse stakeholders to build a cohesive and effective response to AMR. These interactions should aim to enhance synergy, foster mutual understanding, and promote coordinated action.

## Case Study

### Demonstrating the Impact of Strong Governance and Strategic Coordination on AMR Management:

### AMR Coordinating Committee (AMRCC) in Malawi

### Integrated One Health Approach

Malawi's AMR Coordinating Committee (AMRCC) exemplifies effective governance and leadership in the fight against antimicrobial resistance (AMR). Established within the Ministry of Health, the AMRCC integrates One Health stakeholders across human, animal, and environmental health sectors, creating a comprehensive and unified approach to AMR. This integration is underpinned by robust legislative frameworks that both empower and mandate the committee's activities, ensuring a structured and legally supported operation.

### High-Level Political Commitment

High-level political commitment is a cornerstone of the AMRCC's success. AMR has been prioritized on the national health agenda through consistent engagement with political leaders, securing their support and fostering an environment where AMR initiatives can thrive.

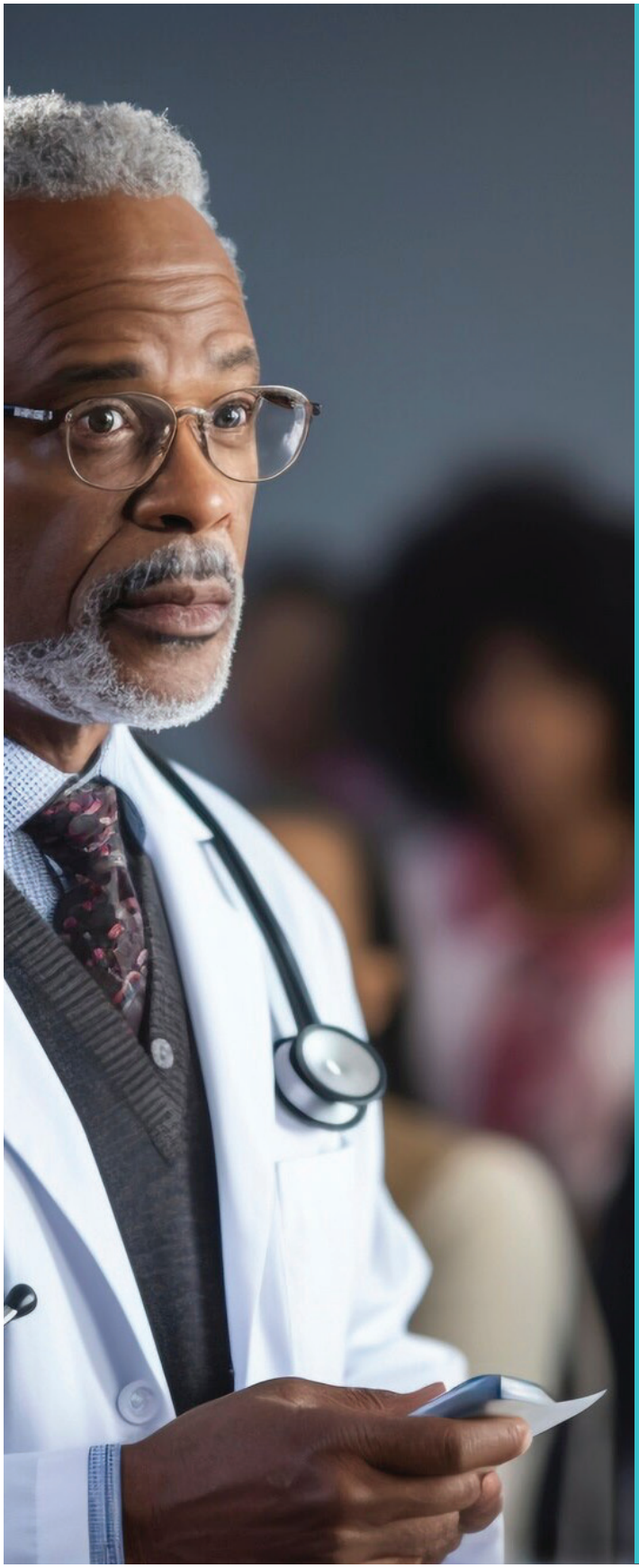
This commitment is reflected in the comprehensive National AMR Action Plan, which outlines clear objectives and activities designed to combat AMR. Key focus areas include enhancing surveillance systems, promoting rational use of antimicrobials, and strengthening infection prevention and control (IPC) measures.

### Capacity Building and Training

Capacity building is another critical component of the AMRCC's strategy. Continuous training programs are provided for healthcare workers, veterinarians, and laboratory personnel, equipping them with the necessary skills to effectively manage and combat AMR. These efforts are supported by a robust monitoring and evaluation (M&E) system that tracks progress and measures outcomes, ensuring accountability and continuous improvement in AMR management.

### Stakeholder Engagement and Collaboration

Stakeholder engagement and collaboration are central to the AMRCC's approach. The committee has cultivated strong partnerships through regular stakeholder meetings, workshops, and



conferences. These platforms facilitate dialogue, the sharing of best practices, and coordinated efforts among diverse groups. Public awareness campaigns play a pivotal role in educating the public about AMR and promoting responsible antimicrobial use. By aiming to change behaviours and reduce antibiotic misuse, these campaigns help to create a more informed and proactive community.

**Holistic and Effective AMR Management**

The holistic approach adopted by the AMRCC has significantly bolstered Malawi's capacity to manage AMR. This model demonstrates the effectiveness of integrated governance and strategic leadership in addressing AMR challenges. By fostering collaboration, securing political commitment, and implementing structured and comprehensive action plans, the AMRCC has set a benchmark for other countries. The success of Malawi's AMRCC serves as a blueprint for nations seeking to enhance their AMR response, showcasing how coordinated efforts and strong leadership can drive significant progress in the fight against antimicrobial resistance.

# 2 Priority Actions to Control and Reduce AMR Drivers in Africa

- **Improve adoption of IPC, WASH, biosecurity, and animal husbandry measures in human, animal, and environmental sectors.**
    - **Strengthen WASH and IPC Protocols at Health Facilities:** Ensure all health facilities implement practical and culturally appropriate WASH protocols and IPC core components, as defined by the Africa CDC and WHO. Leverage regional initiatives like Africa CDC's Infection Prevention and Control (IPC) program to provide training and resources tailored to the African context.
    - **Enhance Biosafety, Biosecurity, and Animal Husbandry Practices:** Promote adherence to biosafety, biosecurity, and good animal husbandry measures among animal/agriculture producers, as outlined in the World Organisation for Animal Health (WOAH) guidelines. Utilize regional networks such as the Pan African Veterinary Vaccine Centre (PANVAC) to provide localized training and resources. Encourage the formation of cooperatives among small-scale farmers to facilitate knowledge sharing and implementation of best practices.
    - **Implement Community-Led WASH Programs:** Support community-led initiatives to improve water, sanitation, and hygiene (WASH) in rural and underserved areas. Engage local leaders and organizations to foster community ownership and sustainability of WASH projects.
    - **Develop Regional Biosecurity Standards:** Collaborate with regional bodies such as the African Union and Africa CDC to implement and strengthen existing biosafety and biosecurity standards tailored to the African context. The Africa CDC's Biosafety and Biosecurity program has developed comprehensive guidelines that consider local agricultural practices and socio-economic conditions, making them practical and achievable for African countries. These guidelines are supported by the AU Africa CDC IPC Legal Framework, which provides a solid legal basis for infection prevention and control measures across the continent. By adopting and integrating these established standards, African nations can ensure a cohesive and effective approach to biosecurity, enhancing their capacity to prevent and control infectious diseases.
    - **Promote Public-Private Partnerships:** Encourage partnerships between governments, NGOs, and the private sector to mobilize resources and expertise for implementing WASH, IPC, and biosecurity measures. This could include initiatives like subsidizing costs for biosecurity equipment and materials for smallholder farmers.

### Case Study: Adapting learnings in COVID-19 to Combat Antimicrobial Resistance in Africa.

The COVID-19 pandemic highlighted essential strategies that can be adapted to combat AMR in Africa. By applying these lessons, such as improved hygiene protocols, rapid diagnostics, and health system assessments, we can effectively strengthen efforts to prevent and control AMR in the continent.

### Adherence to IPC/WASH in Health Facilities and by the Public

Measures adopted during COVID-19:

- Rigorous protocols for hand hygiene, use of PPE, and disinfection of surfaces, with centralized governance and localized implementation in health facilities.
- Signage for COVID-19 awareness and reminders of protocols to be followed.


- Public health campaigns and community engagement on the importance of handwashing, mask-wearing, and social distancing.

Adaptation for AMR prevention/control:

- Advocate for maintaining and strengthening protocols for hand hygiene, PPE, and surface disinfection.
- Include AMR explainers in health facility signage and public/community campaigns.

**Rapid Diagnostic Tests to Enable Swift Quarantine and Treatment**

Measures adopted during COVID-19:

- Rapid development, regulatory approval, and procurement of rapid diagnostic tests (e.g., through global partnerships like the Access to COVID-19 Tools [ACT] Accelerator).
- Workforce training and development.
- Integrated testing facilities in communities.
- Diligent recording and reporting of infections data and use of digital tools (e.g., mobile applications for contact tracing).

Adaptation for AMR prevention/control:

- Increase investment in rapid diagnostics for AMR high-burden pathogens in Africa, including access to resistant clinical samples to accelerate diagnostic R&D.
- Build testing capacity in terms of workforce and facilities.

**Health Systems Assessment for Pandemic/AMR Preparedness**

Measures adopted during COVID-19:

- Country-level evaluations of healthcare infrastructure, workforce, supply chains, and pandemic response capabilities.
- Identification of gaps in health systems to enable risk communication and motivate targeted investment.

Adaptation for AMR prevention/control:

- Develop AMR preparedness assessments to evaluate country-level capacity to detect and manage resistance.
- Include the effectiveness of local IPC/WASH programs, access to essential vaccines/ antimicrobials, AMR testing capacity in laboratories, and government funding for AMR initiatives.

## Case Study: FAO / Government of Kenya-Led Pilot Project on Antibiotic-Free Poultry Farming

This pilot project exemplifies how targeted interventions combining education, practical training, and certification can significantly impact AMR reduction efforts in agriculture. By empowering farmers with knowledge and skills and fostering a culture of sustainable farming practices, initiatives like this contribute to broader efforts in combating AMR and promoting food security in Kenya.

### Context

In the context of addressing Antimicrobial Resistance (AMR), the Food and Agriculture Organization (FAO), in collaboration with the Government of Kenya, has implemented interventions targeting livestock and poultry farmers. These interventions focus on promoting proper feeding, vaccination, and hygiene practices to reduce the need for antibiotics. A successful initiative in Gatundu North, specifically in the Makwa area, highlighted the potential impact of improved hygiene practices on poultry health and productivity.

A Knowledge, Attitudes, and Practices study conducted by FAO identified that out of 10 common poultry diseases in the area, 6 could be prevented through better hygiene practices. FAO and the County Government of Kiambu launched a season-long pilot project from September 2020 to March 2021 to address this. The project aimed to enhance hygiene standards and promote antibiotic-free rearing practices among 50 poultry farmers.

### Intervention

The intervention utilized FAO's Farmers Field School (FFS) approach, where farmers were organized into three groups for classroom sessions. Each group was supervised by two FFS-trained facilitators. Practical training was conducted at fully stocked poultry units in demonstration farms.

### Key Outcomes

1. Demonstrated Feasibility of Antibiotic-

- **Increase vaccination rates for high-priority pathogens in high-risk African countries.**
    - **Train and Deploy Health Workers:** Invest in training and deploying health workers to run vaccination campaigns in underserved facilities and communities. Leverage mobile clinics and community health workers to reach remote and rural areas. Regional programs like the African Union's Africa Health Strategy can support the scale-up of these efforts, ensuring that health workers are equipped with the necessary skills and resources.
    - **Ensure Sustainable Access to Vaccines:** Collaborate with regional organizations such as the African Vaccine Acquisition Task Team (AVATT), AU Pan-African Veterinary Vaccine Centre (AU-PANVAC) and the Africa Centres for Disease Control and Prevention (Africa CDC) to ensure sustainable access to vaccines across all African countries. Establish regional vaccine manufacturing hubs to reduce dependency on external suppliers and improve vaccine availability. Encourage public-private partnerships to fund vaccine procurement and distribution, ensuring a stable supply chain.
    - **Promote Public Awareness and Trust:** Conduct targeted public awareness campaigns to educate communities about the importance of vaccination and address vaccine hesitancy. Engage local leaders and influencers to promote vaccine acceptance and adherence. Utilize community radio, social media, and other locally relevant communication channels to reach diverse populations.
- **Raise public, professional, and policymaker awareness of AMR.**
    - **Encourage Individual Accountability through AMR Public Awareness Campaigns:** Launch targeted public awareness campaigns to educate the public about proper antibiotic use, the importance of vaccination, and the dangers of AMR. Utilize community radio, social media, and local influencers to disseminate information effectively. Promote stewardship by encouraging responsible antibiotic use and adherence to prescribed treatments.
    - **Engage Professional Bodies to Mandate Continuous Education on AMR:** Partner with professional healthcare associations to make continuous education on AMR a requirement for license renewal annually. Develop and implement training programs focusing on

Free Egg Production:

- All three training groups successfully produced eggs free from antibiotic residues.
- Birds in the demonstration units achieved peak egg production without any disease-related deaths over approximately 26 weeks.

2. Sustained Adoption of Best Practices:
    - Farmers continued to implement the hygiene and husbandry practices learned during the project on their own farms.
    - These farmers also became advocates in their communities, spreading awareness about the benefits of proper hygiene and sustainable poultry rearing practices.
3. Enhanced Market Opportunities:
    - Participating farmers received certificates validating their adherence to good layer production practices, specifically minimizing the unnecessary use of antibiotics.
    - These certificates enabled farmers to access commercial markets more effectively, demonstrating their commitment to producing antibiotic-free poultry products.

Source: FAO: Livestock Farmer Field School teaches good practices to reduce antimicrobial resistance, 2021 (link); Africa Sustainable Livestock 2050: Biosafety and Public Health Practices in Poultry Farming in Kenya, 2023 (link); Promoting hygienic poultry slaughter in Kenya, 2022

### Case Study: Promoting Public Awareness and Trust in Vaccination Campaigns in Ghana

#### Background

Ghana has made significant progress in enhancing public awareness and trust in vaccination through targeted campaigns and community engagement. The Ghana Health Service (GHS), in collaboration with international partners such as UNICEF and the World Health Organization (WHO), has

antimicrobial stewardship, proper prescription practices, and infection prevention and control (IPC). Utilize regional platforms such as the Africa Centres for Disease Control and Prevention (Africa CDC) to standardize and disseminate educational materials.

- **Policy Advocacy and Engagement**: Work with policymakers to prioritize AMR on national health agendas and allocate necessary resources. Advocate for the development and enforcement of policies that support antimicrobial stewardship, including regulations on antibiotic sales and usage. Advocate for the harmonization of policies to create a unified approach to tackling AMR.

- **Increase uptake of alternatives to antimicrobials.**
  - **Enhance Knowledge and Use of Alternatives:** Promote the knowledge and use of alternative options to antimicrobials, such as probiotics, improved nutrition, tick control, and good agricultural practices. Utilize regional agricultural extension services and training programs to disseminate information and provide practical support to farmers and veterinarians.

- **Increase availability of high-quality diagnostics, vaccines, and antimicrobials for high-priority pathogens in high-risk African countries.**
  - **Ensure Inclusion on National Essential Medicines Lists:** For high-priority pathogens, ensure that necessary first and second-line treatments are included on National Essential Medicines Lists for both human health and animal/agriculture sectors. Collaborate with regional entities like the African Medicines Agency (AMA) to harmonize these lists and ensure consistent standards across countries. This harmonization will facilitate the procurement and distribution of essential medicines, ensuring that all high-risk countries have access to critical treatments.
  - **Expand Access to Quality Diagnostics:** Invest in expanding access to quality diagnostics in health facilities, particularly rapid diagnostic tests for resistant strains. Establish robust referral systems on two fronts:
    - **National Level:** Develop referral pathways that connect primary health facilities with referral hospitals and national reference laboratories to address the insufficient capacity of lower-tier laboratories in performing bacteriology and microbiology tests, including AMR diagnostics.

implemented strategic initiatives to address vaccine hesitancy and improve vaccination coverage.

**Strategic Initiatives**

- **Targeted Public Awareness Campaigns:** The GHS launched nationwide public awareness campaigns to educate communities on the importance of vaccination. These campaigns provided evidence-based information about vaccine safety and efficacy, aimed at dispelling myths and misconceptions.
- **Engagement with Local Leaders and Influencers:** Leveraging the influence of local leaders, the GHS engaged chiefs, religious leaders, and other community influencers to endorse vaccination. These leaders played a pivotal role in promoting vaccine acceptance by disseminating positive messages and encouraging community members to get vaccinated.
- **Utilization of Community Radio and Social-Media:** To reach diverse populations, the GHS utilized community radio stations and social media platforms extensively. Radio programs were broadcast in local languages to ensure accessibility and understanding. Social media campaigns targeted younger audiences, leveraging platforms such as Facebook, Twitter, and WhatsApp to disseminate information effectively.

**Outcomes**

This integrated approach resulted in a significant increase in vaccination rates nationwide. Public trust in vaccines improved markedly, with growing community support for vaccination programs. The involvement of local leaders and influencers was particularly effective in overcoming vaccine hesitancy in areas that were previously resistant.

        - **Regional Level:** Leverage centres of excellence and regional laboratories to support national reference labs in managing complex and advanced diagnostics. This collaboration will enhance diagnostic capacity and ensure the availability of reliable and timely diagnostic services across the region. By integrating these referral systems, the overall diagnostic infrastructure will be strengthened, enabling better identification and management of high-priority pathogens, and contributing to the reduction of antimicrobial resistance.

- **Strengthen overall health systems.**
    - **Build Laboratory Capacity and Training:** Develop and implement comprehensive training programs to build capacity in laboratories, focusing on diagnostic testing, microbiology, and genomics. Engage regional training centres and leverage partnerships with academic institutions to provide continuous professional development and technical support.
    - **Develop Health System Assessment for AMR Preparedness:** Create a framework for health system assessment for AMR preparedness, similar to pandemic preparedness assessments. This framework should evaluate the readiness of health systems to respond to AMR threats, identify gaps, and prioritize areas for improvement. Collaborate with regional bodies to standardize and implement these assessments, ensuring a cohesive and coordinated approach across the continent.
    - **Integrate AMR Stewardship Programs:** Implement AMR stewardship programs in healthcare settings to monitor and guide the appropriate use of antimicrobials. Train healthcare professionals in best practices for prescribing antibiotics and managing infections and support the establishment of stewardship teams to oversee these efforts.

### Case Study: Leveraging Regional Centres of Excellence to Support Access to Advanced COVID-19 Diagnostics

During the COVID-19 pandemic, regional centres of excellence played a crucial role in enhancing diagnostic capacity across Africa. The African Centre of Excellence for Genomics of Infectious Diseases (ACEGID) in Nigeria developed and distributed COVID-19 test kits throughout West Africa, providing advanced PCR tests and genomic sequencing to rapidly identify cases and detect new variants. Similarly, the South African National Bioinformatics Institute (SANBI) collaborated with the National Institute for Communicable Diseases (NICD) to establish high throughput testing facilities and train technicians in advanced diagnostic techniques, increasing testing capacity in Southern Africa. The East African Health Research Commission (EAHRC) in Tanzania expanded diagnostic infrastructure by setting up regional reference laboratories, while Institute Pasteur in Dakar, Senegal, developed and disseminated rapid diagnostic tests (RDTs) and provided technical training, ensuring effective utilization in areas with limited lab access.

These efforts led to a significant increase in diagnostic capacity, reducing result turnaround times and improving diagnostic accuracy across the continent. By enhancing training programs and providing advanced diagnostic tools, regional centres of excellence enabled local healthcare workers to better manage the pandemic. This case study highlights the vital role of regional collaboration and centres of excellence in addressing diagnostic challenges and improving health outcomes during public health emergencies.

# 3 Priority Actions to Build Evidence and Improve Reporting

- **Establish country-level baselines for antimicrobial consumption and resistance, consolidating country-wide reporting.**
    - **Strengthen Surveillance and Monitoring:** Enhance surveillance and monitoring processes across human, animal, plant, and environmental sectors to track the spread of antimicrobial resistance and consumption. Use regional initiatives like the Africa CDC's Regional Integrated Surveillance and Laboratory Network (RISLNET) to support these efforts.
    - **Develop Comprehensive Baselines:** Calculate and estimate health baselines, and develop necessary baselines for animal, agricultural, and environmental sectors. Utilize regional expertise and resources to ensure accurate and relevant data collection.
- **Define a core set of indicators to measure the impact of AMR in Africa.**
    - **Standardize Core Indicators:** Define a core set of indicators for the continent to create high-quality and comparable data across countries. Collaborate with regional institutions to ensure these indicators are relevant and achievable within the African context.
    - **Provide Measurement Guidelines:** Develop and disseminate guidelines for measuring core indicators, with a particular focus on the animal, agriculture, and environment sectors. Use regional workshops and training programs to build capacity for accurate data collection and reporting.

### Case Study: Strengthening Surveillance and Monitoring Through the Pathogen Genomics Initiatives (PGI) and RISLNET During COVID-19

The Pathogen Genomics Initiatives (PGI) by Africa CDC was developed in response to the COVID-19 pandemic, aiming to enhance surveillance and monitoring networks for antimicrobial resistance (AMR) and other pathogens across Africa. With a focus on capacity building, PGI provided advanced training in genomic sequencing and bioinformatics to laboratories across the continent. The initiative also established several genomic sequencing hubs, which serve as regional centres of excellence, offering sequencing services and support to neighbouring countries with limited capabilities. By integrating with the Regional Integrated Surveillance and Laboratory Network (RISLNET), PGI enabled comprehensive and real-time tracking of pathogen spread and AMR patterns, ensuring effective utilization of genomic data in monitoring efforts.

The PGI has standardized genomic sequencing protocols and data sharing practices, facilitating consistency and better collaboration across regions. It also provides support for data analysis and interpretation, helping regional laboratories generate actionable insights from sequencing efforts and enhancing their ability to respond to AMR threats. Furthermore, PGI promotes collaboration and information sharing among African countries through workshops, conferences, and online platforms, fostering a community of practice for sharing experiences and best practices. These combined efforts, developed in the wake of the COVID-19 pandemic, have significantly bolstered the continent's capacity for robust and comprehensive AMR surveillance and monitoring, demonstrating the effectiveness of integrating regional initiatives like PGI and RISLNET.

- **Measure the cost of inaction in the African context.**
    - **Develop Health and Economic Impact Estimates:** Create estimates of the health impacts (e.g., lives lost) and economic costs (e.g., productivity loss) Trade impact, associated with inaction on AMR. Use these estimates to advocate for increased investment and initiatives to combat AMR, leveraging platforms such as the African Union's Policy Framework for AMR. (TADE, World Bank)
- **Strengthen data and information sharing platforms.**
    - **Introduce Peer Learning Groups:** Establish peer learning groups for countries to share best practices and approaches for implementing National Action Plans (NAPs). Facilitate regular meetings and workshops to encourage knowledge exchange and mutual support.
    - **Support Data Provision to Key Reporting Organizations:** Assist all African countries in providing data to key reporting organizations such as TrACSS (Tripartite AMR Country Self-Assessment Survey) and ANIMUSE (African Network for the Monitoring and Use of Substances of Economic Significance). Develop regional data-sharing platforms to streamline and standardize reporting processes.

**Proposed Core Continental Indicators for AMR**

| Recommendation | Indicator | Source of data |
|---|---|---|
| Overall AMR burden | Mortality rate attributable to AMR infections per 100,000 population | WHO |
| | Overall cases of high priority pathogens in Africa | Hospital infection surveillance systems, national health databases |
| Improve adoption of IPC, WASH, biosecurity, and animal husbandry measures | Percentage of acute health care facilities with an IPC programme in place that addresses the core components defined by WHO Global Guidelines | WHO IPC Global Survey |
| Increase vaccination rates | Immunization coverage for influenza and Penta 5 | Joint Reporting Form (JRF), WHO/UNICEF |
| Improve antimicrobial stewardship | Percentage of labs serving the national AMR surveillance sites covered by external quality assurance | GLASS |
| Increase availability of diagnostics, vaccines, and antimicrobials | Stock-outs (non-availability) of specified antibiotics at the central warehouse, regional or district medical stores and distributors | TRACSS |
| Strengthen overall health systems | Burden of infectious disease in disability-adjusted life-years (DALYs) per 100,000 population | Global burden of disease estimates (key bacterial infections plus HIV, TB, and malaria) |
| Balance regulation and enforcement | Countries that have reviewed legislation and regulations within the last five years and have a plan | TRACSS; Annual review of AMR legislation and regulations |

# 4 Priority Actions to Mobilize and Coordinate Resources

- **Endorse targets applicable for Africa to support AMR actions.**
    - **Align Priorities with Political Targets:** Align African priorities with high-level political targets set in regional or global agendas, such as the 10-20-30 targets (10 new vaccines, 20 new diagnostic tools, 30 new treatments by 2030). Collaborate with the African Union and regional bodies to ensure these targets are practical and achievable within the African context.
- **Mobilize funding to close the gap for AMR actions across Africa.**
    - **Estimate Funding Needs:** Conduct comprehensive assessments to estimate the funding required to effectively address AMR actions across Africa. Use these estimates to advocate for increased financial support from national governments, regional bodies, and international donors.
    - **New Financing Mechanisms:** Create innovative financing mechanisms, such as AMR-specific funds, public-private partnerships, and regional funding pools. Consolidate resources among national, regional, and international stakeholders to ensure a coordinated and sustainable approach to AMR financing. (Case Study of COVID-19 in Africa)
- **Support fully costed NAPs with funding tied to milestones.**
    - **Develop Full Costing and Resourcing Estimates:** Assist countries in developing detailed costing and resourcing estimates as part of their National Action Plans (NAPs). Ensure these estimates include specific milestones and deliverables to facilitate funding allocation and accountability.
    - **Secure Funding for NAPs:** Advocate for and secure funding from national budgets, regional funds, and international donors to support fully costed NAPs. Ensure that funding is tied to achieving specific milestones to promote accountability and measurable progress. (Supporting Regional Agencies to help countries achieve key interventions within the NAPS)
- **Promote the One Health approach by incorporating AMR into broader agendas to coordinate resources.**
    - **Develop Dedicated Policies and Budget Plans:** Formulate dedicated policies that integrate AMR actions into broader health, agricultural, and environmental agendas. Develop clear budget plans that outline funding requirements and allocation strategies for AMR activities within the One Health framework.
    - **Foster Multi-Sectoral Collaboration:** Encourage collaboration among health, agriculture, and environmental sectors to coordinate resources effectively. Leverage existing regional initiatives, such as the Africa CDC's One Health program, to promote a unified and integrated approach to AMR management.

# 5 Priority Actions to Strengthen Community Engagement and Education

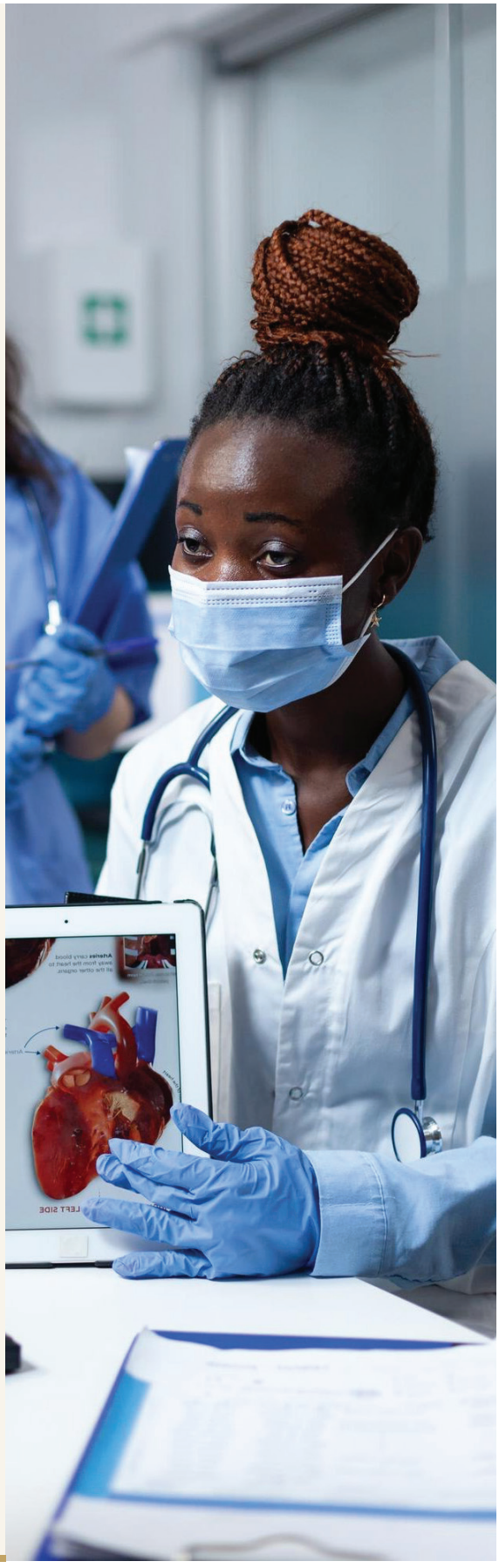
- **Develop and Implement Comprehensive Public Education Campaigns:**
    - **Design Targeted Public Education Campaigns:** Launch targeted public education campaigns to raise awareness about AMR, its causes, and its impacts. Utilize diverse media platforms, including radio, television, social media, and community gatherings, to reach various demographics.
    - **Create Locally Tailored Educational Materials:** Develop educational materials that reflect cultural and linguistic diversity to ensure widespread understanding. Incorporate local contexts and examples to make the information more relatable and impactful. (Case study- Tanzania)
- **Enhance Community-Based Interventions:**
    - **Promote Community-Led AMR Initiatives:** Train local leaders and community health workers in AMR knowledge and advocacy. Equip them with the tools to educate their communities and promote responsible antimicrobial use. Utilize existing structures like community health committees and traditional councils to facilitate these initiatives.
    - **Establish Community Monitoring Programs:** Develop community-based monitoring programs to track antibiotic use and resistance patterns. Encourage local accountability and engagement by involving community members in data collection and reporting. (CHW program- Africa CDC)

### Case Study: "Holela, Holela Takokosi" Campaign for Antibiotics Awareness in Tanzania

The "Holela, Holela Takokosi" campaign in Tanzania, supported by Breakthrough ACTION Project Tanzania, Johns Hopkins Center for Communications Pro-grams in collaboration with the Tanzanian Ministry of Health, serves as an exemplary model for effective public education on antimicrobial resistance (AMR). This initiative addressed antibiotic misuse and resistance by utilizing a variety of media platforms, including radio, television, social media, and community gatherings, to reach diverse demographics across the country. Radio programs effectively reached rural communities, while television and social media targeted urban populations and younger audiences.

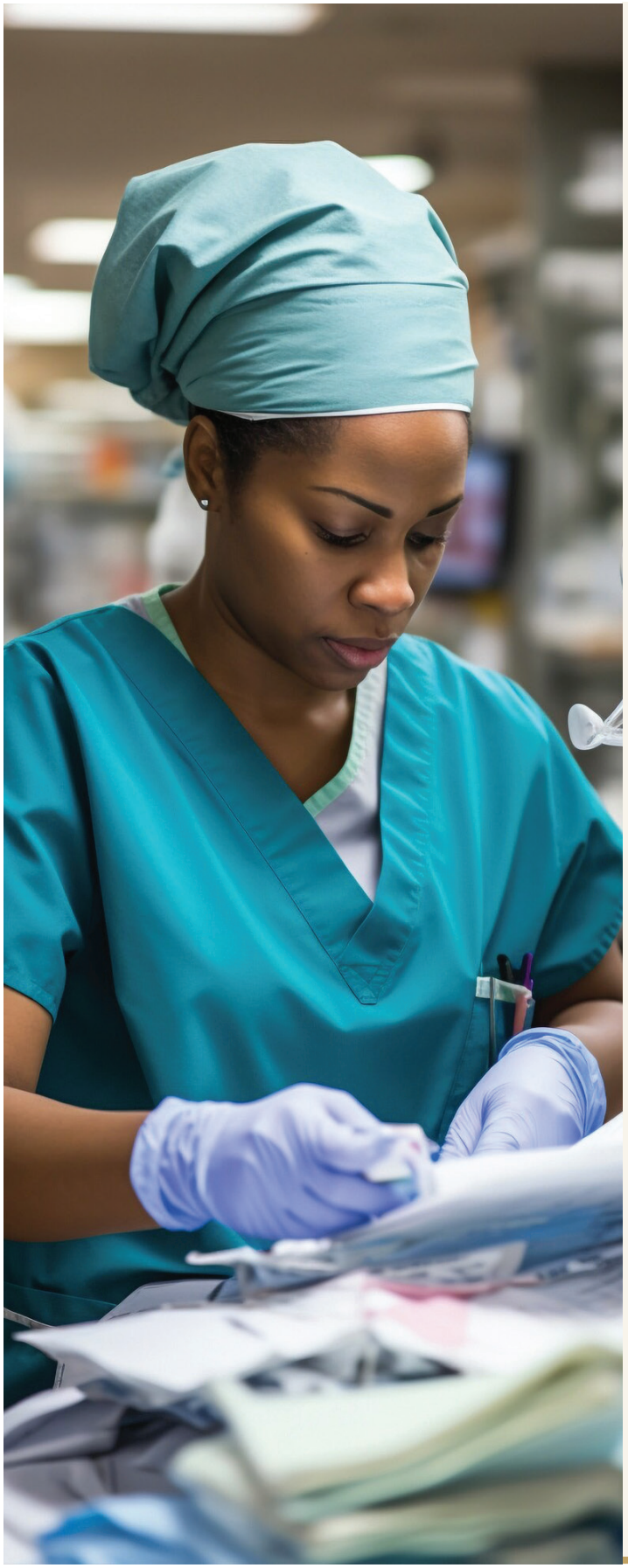
A key strength of the campaign was the development of educational materials tailored to reflect Tanzania's cultural and linguistic diversity, ensuring widespread understanding and engagement. By incorporating local contexts and examples, the campaign made information more relatable and impactful. Educational content was presented in multiple local languages and used culturally relevant scenarios to illustrate the dangers of antibiotic misuse and the importance of responsible use. The campaign's comprehensive and culturally sensitive approach significantly improved public understanding of AMR, fostering a more informed public capable of making better decisions regarding antibiotic use. This case study highlights key strategies that can be adopted by other countries aiming to enhance their AMR awareness and education efforts.

- **Strengthen Pre-Service-Based Education Programs:**
    - **Integrate AMR Education into School Curricula:** Work with educational authorities to incorporate AMR education into school curricula, teaching young people about the importance of antimicrobial stewardship from an early age. Include interactive lessons and activities to engage students.
    - **Organize School-Based Campaigns and Activities:** Foster a culture of awareness and prevention by organizing school-based campaigns and activities. Collaborate with teachers and student leaders to promote these initiatives effectively.
- **Facilitate Professional Development and Training:**
    - **Implement Continuous Education Programs for Healthcare Professionals:** Develop and provide ongoing education and training programs for healthcare professionals to keep them updated on the latest AMR trends and best practices. Utilize regional training centres and professional associations to deliver these programs.
    - **Mandate AMR Education for Licensure:** Make AMR education a requirement for professional licensure and renewal to ensure ongoing commitment to antimicrobial stewardship. This will guarantee that healthcare professionals are continually updated on AMR issues and practices.
- **Leverage Technology and Social Media:**
    - **Use Digital Platforms and social media:** Utilize digital platforms and social media to disseminate information and engage the public on AMR issues. Create compelling content that can be easily shared to raise awareness and educate a broad audience.
    - **Develop Mobile Applications and Online Resources:** Create mobile applications and online resources to provide accessible information and support community education efforts. These tools can offer up-to-date guidance on antimicrobial use and best practices for preventing AMR.



# 6 Priority Actions to Enhance Research and Innovation

- **Increase Funding and Investment in Research**
    - **Advocate for Increased Funding:** Lobby for greater allocation of national and international funds dedicated to AMR research and innovation. Engage with regional bodies like the African Union to secure sustained financial commitments.
    - **Establish Dedicated AMR Research Grants and Scholarships:** Create specific grants and scholarships to support scientists and researchers focusing on AMR solutions. Encourage public-private partnerships to fund these initiatives and foster innovation.
- **Build and Upgrade Research Infrastructure**
    - **Invest in Research Facilities:** Allocate resources for the development and enhancement of research facilities, laboratories, and technological tools necessary for high-quality AMR research. Prioritize the establishment of well-equipped laboratories in underserved regions.
    - **Foster Regional Research Hubs:** Develop regional research hubs to facilitate collaborative research efforts and resource sharing. These hubs can act as centres of excellence, drawing on the strengths of various institutions and countries to tackle AMR comprehensively.
- **Promote Interdisciplinary and Cross-Sector Collaboration**
    - **Encourage Interdisciplinary Research Initiatives:** Promote research projects that bring together experts from various fields, including microbiology, epidemiology, public health, and veterinary science. Leverage the diverse expertise to develop holistic solutions to AMR.



- **Strengthen Partnerships:** Foster strong partnerships between academic institutions, governments, and private sector organizations to drive innovation and knowledge exchange. Create platforms for regular dialogue and collaboration.

- **Streamline Regulatory and Ethical Approval Processes**
  - **Simplify Approval Processes:** Work towards simplifying and expediting regulatory and ethical approval processes to facilitate quicker development and deployment of new AMR solutions. Ensure that the processes are transparent and efficient.
  - **Develop Clear Guidelines and Frameworks:** Establish clear guidelines and frameworks that align with international standards while promoting innovation. Provide support and training to researchers to navigate these processes effectively.

- **Support Capacity Building and Talent Retention**
  - **Implement Capacity Building Programs:** Develop programs to build research capacity by training scientists and researchers in cutting-edge AMR research methodologies. Utilize regional training centres and international partnerships for knowledge transfer.
  - **Create Incentives for Talent Retention:** Implement measures to retain skilled researchers in Africa, such as offering competitive salaries, career development opportunities,


8

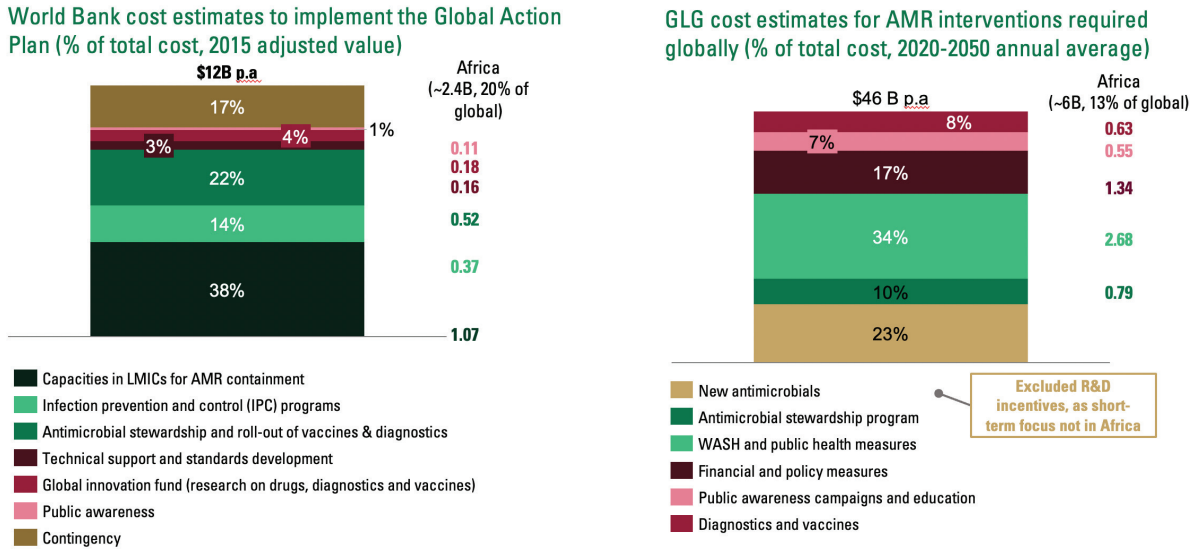
# FUNDING NEEDS

**Funding Requirements:** Figures 9-11 outline the estimated funding requirements and current funding landscape for AMR in Africa. The continents share of the estimated funding required for an effective AMR response total between **$2 to 6 billion per year.** However, the current funding available for combating AMR is significantly lower, by a factor of approximately 10, compared to other major diseases. Furthermore, the AMR National Action Plans (NAPs) of many countries in Africa are inadequately funded. The estimated budget for these NAPs is approximately $100 million per year, which falls far short of the total funding needs. This shortfall highlights the urgent necessity for additional support from both governments and the international community. Consolidated funding efforts are crucial to effectively address and mitigate the growing threat of AMR in Africa.

## Estimated Funding Requirements and Current Funding Landscape for AMR in Africa

Despite the critical threat posed by Antimicrobial Resistance (AMR), the funding available for combating AMR is significantly lower than that for other major disease areas by a factor of approximately 10. This disparity highlights the urgent need for increased financial commitment and resource allocation to effectively address AMR and prevent its potentially devastating impacts on public health in Africa and beyond. In addressing AMR, the estimated funding required for Africa ranges from $2-6 billion per year, primarily driven by containment and preventive measures. Investing in cost-effective measures like Water, Sanitation, and Hygiene (WASH) and Infection Prevention and Control (IPC) could potentially avert up to 20% of AMR-associated deaths in the region annually. However, an analysis of the current funding landscape reveals a significant gap. While major funders are concentrating on research and development (R&D) in the global North and surveillance efforts in the global South, there is a critical shortage of funds allocated for containment and preventive measures in Africa. Addressing these funding disparities is essential for a comprehensive and effective response to AMR on the continent.

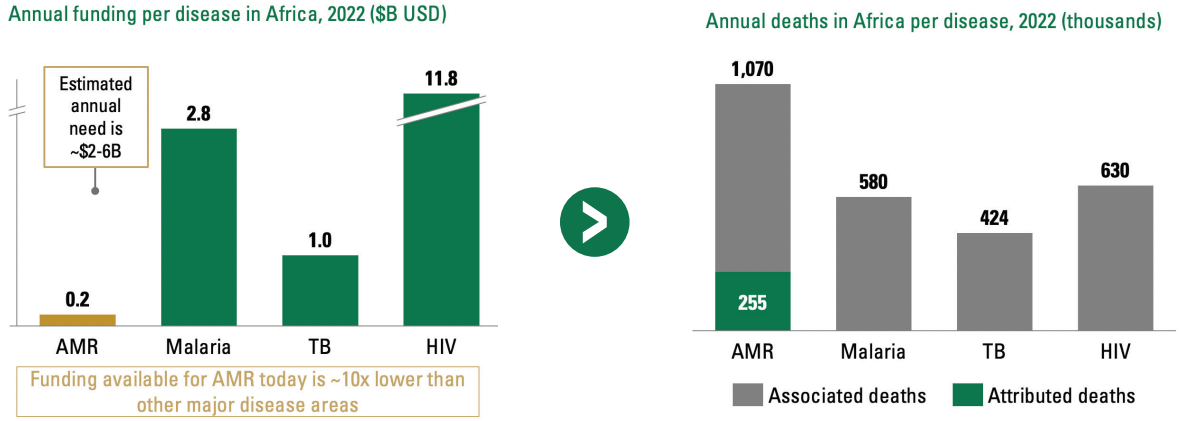
### Two approaches to top-down estimate of ~$2-6B are driven mainly by containment and prevention measures




O'Neill, Tackling Drug-Resistant Infections Globally: Final Report and Recommendations", Review on Antimicrobial Resistance. 2016. (link); Global Leaders Group on Antimicrobial Resistance: Building the investment case for action against antimicrobial resistance, 2024

**Figure 8: Investimat Case for AMR containment and prevention measures**

### Estimated total AMR funding needs are on par with other disease areas, though AMR presents a potentially higher death burden




Source: The Lancet: The burden of bacterial antimicrobial resistance in the WHO African region in 2019: a cross-country systematic analysis; WHO: Malaria, 2023, Strengthening the fight against tuberculosis, 2024, UNAIDS Global Aids Monitoring Financial Dashboard, WHO Global Tuberculosis program data, WHO AFRO malaria statistics

**Figure 9: AMR Funding Needs for Africa**

| Organisation | Use of Funds | Global annualized value ($), 2023[1] | Africa annualized value ($), 2023[1] | Regions Receiving Funds (non-exhaustive) |
|---|---|---|---|---|
| AMR Action Fund | R&D | 100m | 0 | North America and Europe |
| CARB-X | R&D | 70m | 0 | Asia, Australia, Europe, North America |
| Global AMR Innovation Fund (GAMRIF) | R&D | 16m | 0.3m | UK, China, Argentina, South Africa |
| Global Antibiotic Research and Development Partnership (GARDP) | R&D | 10m | 4.5m | Japan, USA, India, Brazil, Australia, Singapore, Kenya, South Africa |
| UK Global AMR Innovation Fund | Both R&D and implementation | 27m | 12.7m | Several low- and middle-income countries |
| Fleming Fund | Implementation | 72m | 46.8m | Eswatini, Kenya, Malawi, Nigeria, Senegal, Sierra Leone, Tanzania, inter alia |
| JPIAMR-ACTION | Implementation | 19m | 0 | Sweden, Argentina, Canada, Belgium, other EU countries |
| United Nations Antimicrobial Resistance Multi-Partner Trust Fund | Implementation | 5m | 2.0m | Cambodia, Ethiopia, Ghana, Indonesia, Kenya, Morocco, Peru, Tajikistan, Senegal, Zimbabwe |
| Bill & Melinda Gates Foundation | Indirect | Unknown | Unknown | Several low- and middle-income countries |
| Wellcome Trust | Indirect | Unknown | Unknown | UK |
| Global Fund | Indirect | Unknown | Unknown | Several low- and middle-income countries |

**~70% of funding goes to R&D globally compared to implementation**

**Note: Non-EU countries require an EU partner**

[1]Committed amount to AMR in USD equivalent divided by duration of the commitment
Source: Organisation websites; BCG analysis

### Potential Economic and Health Benefits of Investing in AMR Initiatives

Investing in antimicrobial resistance (AMR) initiatives, while requiring substantial initial funding, promises significant long-term health and economic benefits.

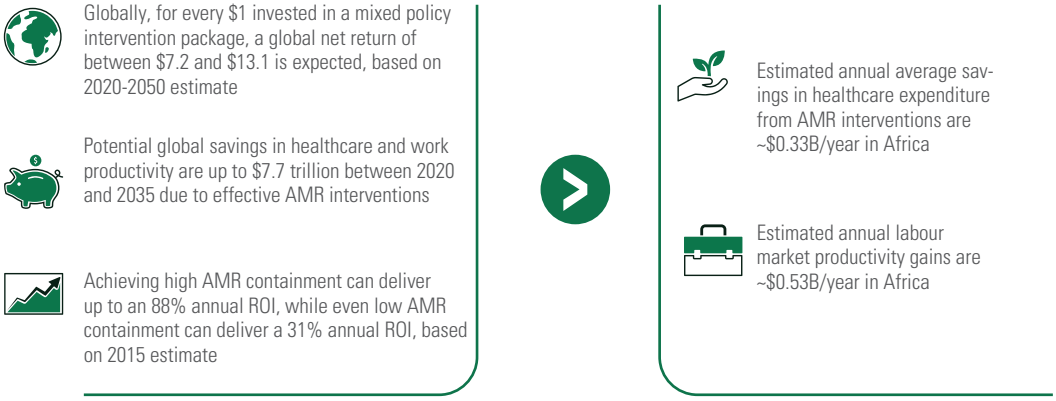
- **Health Benefits:** Investment in AMR initiatives has the potential to avert up to 200,000 deaths annually in Africa, including 90,000 deaths among children under five. Increasing vaccine coverage for pathogens listed on the WHO Priority Pathogens List could avert approximately 510,000 AMR-related deaths globally, with up to 389,000 of these lives saved by boosting coverage for the top six vaccines. This underscores the critical role of vaccines in combating AMR and the need to enhance immunization programs across Africa. Improved Water, Sanitation, and Hygiene (WASH) and Infection Prevention and Control (IPC) measures can significantly reduce the prevalence of antibiotic-resistant genes (ARGs). Regions with full access to WASH exhibit a 22% lower abundance of ARGs, and those with 50-75% access have a 12% lower abundance compared to regions with only 0-25% access. Enhancing WASH infrastructure is particularly effective in managing priority pathogens, highlighting its importance in AMR strategies.

- **Economic Benefits:** Effective AMR interventions can yield substantial economic returns, by reducing healthcare costs and increasing productivity. The estimated annual savings in healthcare expenditure due to AMR interventions are around $330 million, while productivity gains are estimated at $530 million per year. By mitigating the burden of AMR, countries can optimize resource allocation, decrease healthcare expenditures, and bolster overall economic productivity.

## Estimated returns on investments from AMR interventions

Strategic investments in antimicrobial resistance (AMR) interventions offer substantial returns, with potential to enhance health outcomes and economic productivity significantly. Global estimates suggest a return on investment (ROI) ranging from 31% to 88%, with an estimated $7.7 trillion in cumulative savings between 2020 and 2035. In Africa, AMR interventions are projected to yield annual savings of $0.338 per capita in healthcare expenditure and $0.538 per capita in increased labour productivity.

**AMR interventions can generate highly positive expected returns, including improvements in health expenditure and productivity**




Source: O'Neill, Tackling Drug-Resistant Infections Globally: Final Report and Recommendations", Review on Antimicrobial Resistance. 2016. (link); Global Leaders Group on Antimicrobial Resistance: Building the investment case for action against antimicrobial resistance, 2024

**Figure 10: Return on investment from AMR interventions**

## Leveraging Consolidated Funding Mechanisms for AMR Response: Insights from the COVAX Model

Pooled funding mechanisms can effectively mobilize diverse stakeholders into one coordinated fund. The COVAX initiative, for instance, successfully engaged governments, global health organizations, pharmaceutical companies, and private sector partners to mobilize funds. Similarly, cost-sharing can be used to combine grant resources with MDB financing for an effective AMR response. This approach leverages diverse funding sources and ensures a coordinated and comprehensive strategy to tackle AMR.

The COVAX Cost-Sharing mechanism is designed to aggregate global vaccine supply and demand through a partnership launched in July 2021 between Gavi, the World Bank, the Asian Development Bank (ADB), and UNICEF, with the European Investment Bank (EIB) joining later. Under this arrangement, low- and middle-income country (LMIC) members of the Gavi COVAX Advance Market Commitment (AMC) could order additional COVID-19 vaccines from COVAX, funded by a mix of grants and loans from multilateral development banks (MDBs).

**Impact and Achievements:** COVAX delivered nearly 2 billion doses of vaccines to 146 economies.

**How It Works:**

1. **Negotiation and Deals:**
   - Gavi negotiates deals with vaccine manufacturers for the COVAX portfolio using donor grant funds.
   - These deals are structured to allow countries to purchase additional doses on COVAX terms using approved MDB funds.
2. **Order and Purchase Process:**
   - Interested countries request their MDB funds to be channelled through COVAX under pre-negotiated arrangements between Gavi, UNICEF, the World Bank, EIB, and ADB.
   - MDBs provide funding assurances to Gavi, enabling signing of contracts with COVAX suppliers for the additional doses.

This mechanism demonstrates an effective model of international cooperation and innovative financing to address global health challenges.

9

# NEXT STEPS

**Steps Leading up to the UNGA High-Level Meeting:**

The next steps in the dissemination and implementation of the AU Continental Landmark Report on AMR are outlined across short-term, medium-term, and long-term goals. In the short term (0-6 months), the focus will be on finalizing and disseminating the report to all relevant stakeholders, including national governments, regional bodies, and international partners. This phase will also involve engaging stakeholders through meetings, workshops, and webinars to discuss the report's recommendations, build consensus, and refine strategies for effective implementation.

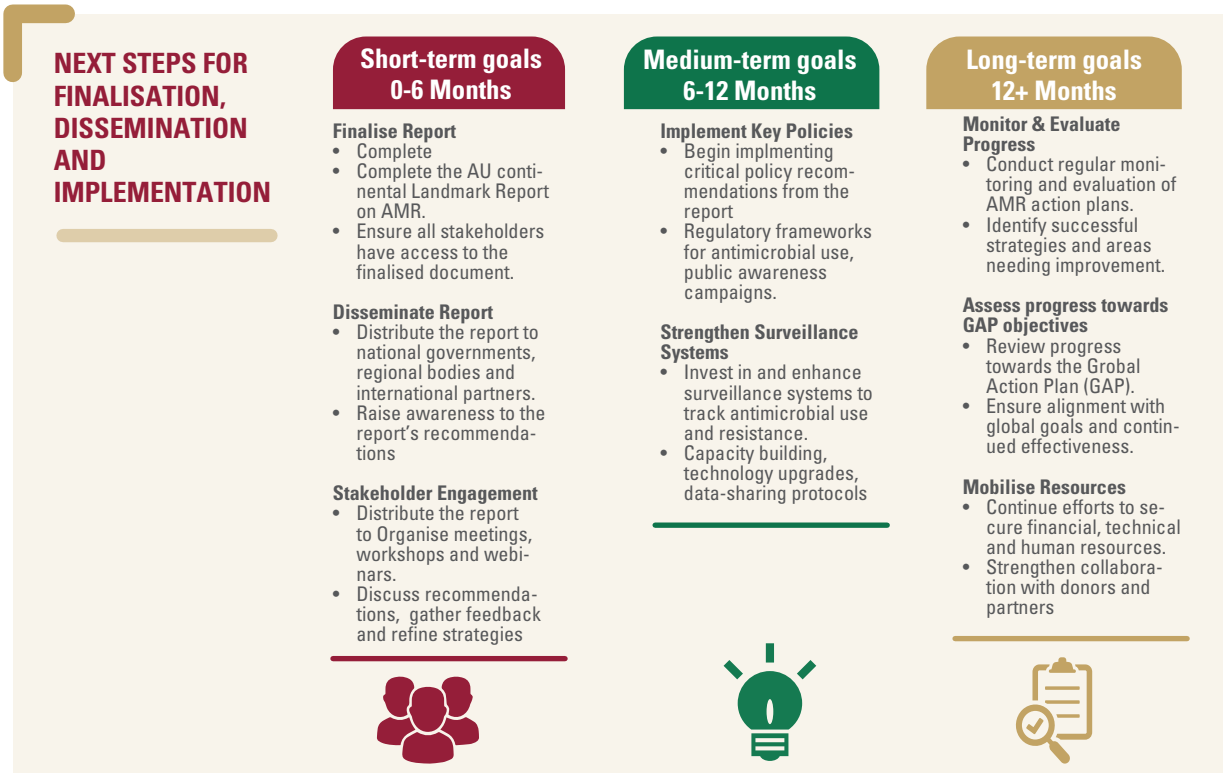



**Figure 11: Next Steps**

In the medium term (6-12 months), the emphasis will shift to implementing key policy recommendations from the report. This includes establishing robust regulatory frameworks to govern antimicrobial use, launching targeted public awareness campaigns to educate both the public and healthcare professionals about AMR, and developing and strengthening surveillance systems. These efforts will involve significant investments in capacity building, technology upgrades, and the establishment of data-sharing protocols across countries and regions.

Looking towards the long term (12+ months), the focus will be on monitoring and evaluating the progress of AMR action plans, with regular assessments to ensure that the core objectives outlined in the Global Action Plan (GAP) on AMR are being met. This phase will also involve sustained efforts to mobilize financial, technical, and human resources to support ongoing and new AMR initiatives. Strengthening partnerships with international donors, private sector stakeholders, and regional bodies will be crucial to ensuring the continued availability of resources and support.

**Stakeholder Roles in the AMR Response**

The successful implementation of the recommendations in this report requires coordinated efforts and a clear delineation of roles and responsibilities among various stakeholders. This framework outlines the key roles and responsibilities necessary for addressing AMR effectively:

- **Governments:**
  - **Leadership and Implementation:** Lead the development and execution of comprehensive AMR action plans with well-defined goals and measurable targets.
  - **Budget Allocation and Resource Mobilization:** Dedicate sufficient budgets for AMR initiatives, pursue opportunities for co-funding with international partners, and integrate AMR into broader health agendas.
  - **Regulatory Enforcement:** Implement and enforce stringent regulatory measures to control antimicrobial use and ensure compliance with national and international standards.
- **Regional Organizations:**
  - **Coordination and Advocacy:** Coordinate AMR efforts among member states, providing a unified platform for advocacy, increased funding, and strategic partnerships.
  - **Programmatic and Technical Support:** Offer programmatic support and disseminate best practices and guidelines tailored to the African context.
  - **Monitoring and Evaluation:** Facilitate regional monitoring and evaluation mechanisms to track the progress and effectiveness of AMR initiatives.
- **Civil Society:**
  - **Public Awareness and Advocacy:** Drive public awareness campaigns to educate communities about AMR, advocate for policy reforms, and engage the public in AMR control efforts.
  - **Community Mobilization:** Empower local communities to take ownership of AMR initiatives, fostering accountability and sustainability through grassroots involvement.
- **Academics and Researchers:**
  - **Research and Development:** Conduct Africa-specific research on AMR to inform policy decisions and generate evidence-based recommendations.
  - **Impact Assessment:** Perform impact studies to demonstrate the benefits of investing in AMR initiatives and advocate for increased funding.
  - **Surveillance and Data Collection:** Support surveillance activities to monitor resistance patterns and inform public health responses.
- **Private Sector:**
  - **Public-Private Partnerships:** Collaborate with governments to create incentives for local manufacturing of vaccines and development of new treatments for high-burden pathogens.
  - **Healthcare Investment:** Invest in healthcare infrastructure, support public awareness campaigns, and promote responsible antibiotic use through corporate policies and practices.
- **International Partners:**
  - **Funding and Resource Mobilization:** Increase financial support for AMR initiatives in areas of greatest need and help bridge funding gaps to enable comprehensive implementation of AMR action plans.
  - **Knowledge Transfer and Capacity Building:** Facilitate knowledge sharing and provide technical assistance to strengthen the capacity of African countries in combating AMR.
  - **Global Collaboration:** Promote international collaboration to leverage global expertise, resources, and innovations in the fight against AMR.

**Recommendations for the African Union to Address AMR:**

**Advocate for Increased Support for Prevention Measures:**

- **Leverage Continental Platforms:** Utilize AU summits, Africa CDC, and regional economic communities to advocate for prevention measures, including IPC, WASH, bio-security, animal husbandry, and waste management.
- **Promote Accessibility to Affordable Diagnostics:** Encourage the development of regional manufacturing hubs for diagnostics to reduce costs and improve supply chains, ensuring diagnostics are affordable and accessible across all sectors.

**Strengthen Health Systems and Regulatory Frameworks:**

- **Support Health System Strengthening Programs:** Promote programs that enhance primary healthcare and reinforce regulatory frameworks, integrating AMR awareness into existing initiatives like PHC and UHC.
- **Highlight AMR in Existing Structures:** Ensure that AMR is a key focus within existing AU health initiatives, leveraging ongoing efforts and resources.

**Enhance Surveillance and Reporting Efforts:**

- **Create Harmonized Guidelines for Core Indicators:** Develop and implement harmonized guidelines for AMR indicators to be measured consistently across African countries, tailored to regional contexts.
- **Facilitate Regular Engagement and Information Sharing:** Establish regular forums for information sharing, peer-learning workshops, and collaborative networks among member states to enhance collective problem-solving in AMR initiatives.

**Mobilize and Coordinate Resources:**

- **Advocate for Elevating AMR on Agendas:** Promote AMR at national, regional, and international levels, creating accountability mechanisms for the implementation of National Action Plans (NAPs).
- **Identify and Consolidate AMR Funding Opportunities:** Establish a dedicated AMR fund to ensure predictable, equitable, and sustainable resource access, leveraging international partnerships to consolidate funding.

**Enhance Public Awareness and Education:**

- **Develop Continental Campaigns:** Launch continent-wide public awareness campaigns to educate communities about AMR, using culturally relevant materials and diverse media platforms.
- **Integrate AMR Education:** Incorporate AMR education into school curricula and community health programs to foster early awareness and long-term behavioural change.

**Promote Research and Innovation:**

- **Support Africa-Specific Research:** Fund research initiatives focusing on Africa-specific AMR challenges, encouraging collaborations between African and international research institutions.
- **Facilitate Innovation:** Promote the development and adoption of new technologies and innovative practices in diagnostics, treatment, and AMR management, supporting local innovation and capacity building.

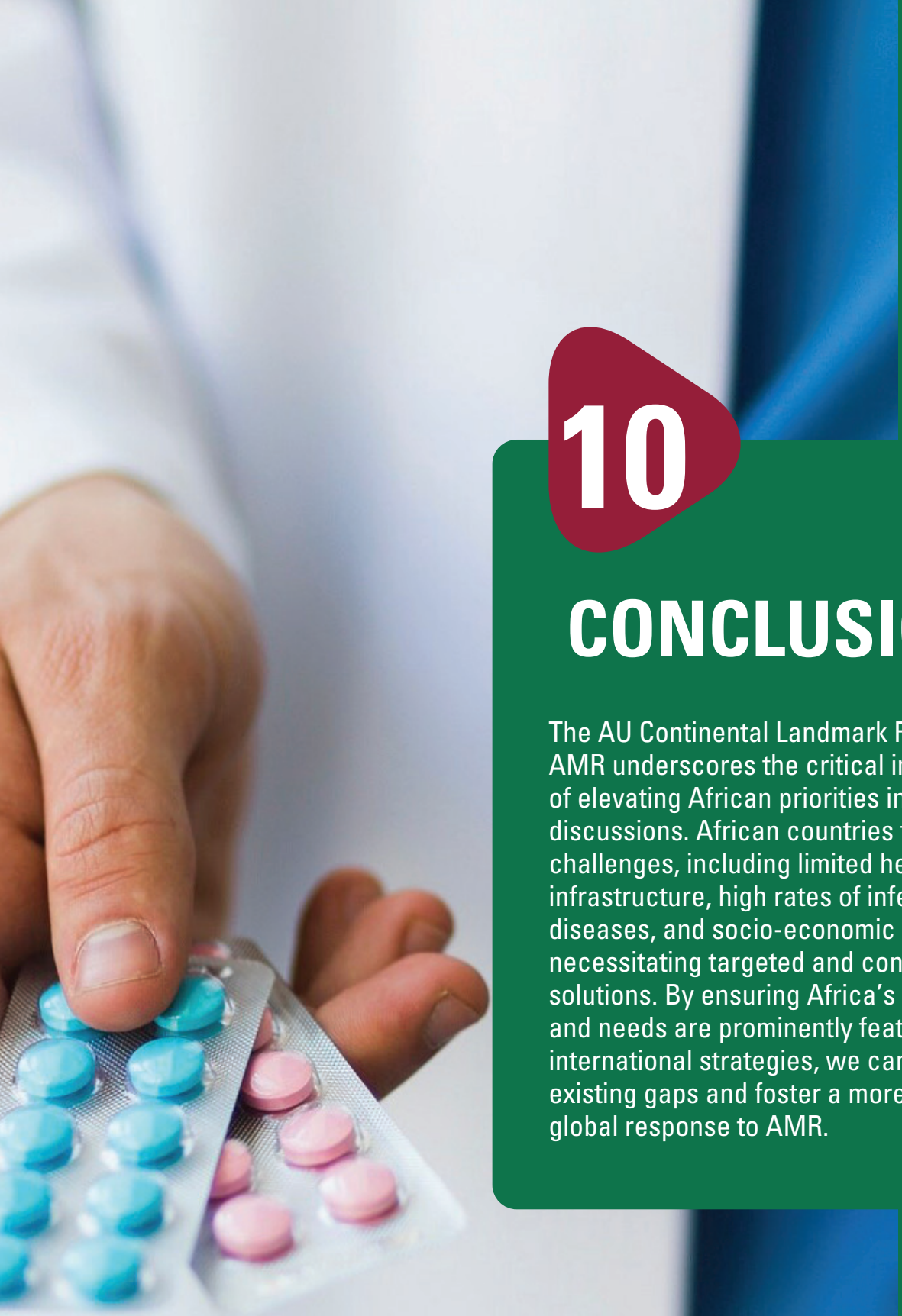
**Develop and Support Sustainable AMR Policies:**

- **Formulate and Enforce Policies:** Develop and enforce policies that govern antimicrobial use and ensure compliance with national and international standards.
- **Create Incentives for Compliance:** Establish incentives for compliance with AMR policies among healthcare providers, agricultural producers, and the pharmaceutical industry.

**Strengthen Regional Collaboration:**

- **Promote Inter-Country Collaboration:** Facilitate regional collaboration to share best practices, resources, and strategies in combating AMR.
- **Develop Regional Centres of Excellence:** Establish regional centres of excellence for AMR research, training, and surveillance to provide technical support and capacity building.

By implementing these recommendations, the African Union can play a crucial role in addressing AMR, improving health outcomes, and fostering sustainable development across the continent.



10

# CONCLUSION

The AU Continental Landmark Report on AMR underscores the critical importance of elevating African priorities in global AMR discussions. African countries face unique challenges, including limited healthcare infrastructure, high rates of infectious diseases, and socio-economic disparities, necessitating targeted and context-specific solutions. By ensuring Africa's perspectives and needs are prominently featured in international strategies, we can bridge existing gaps and foster a more effective global response to AMR.

The report highlights the progress made since implementing the Global Action Plan (GAP) and the AU Common Position on AMR while identifying the significant challenges that continue to impede progress. It emphasizes the need for improved IPC/WASH programs, better use of data for decision-making, and strengthened governance to allocate resources effectively. The findings and recommendations presented in this report provide a comprehensive roadmap for advancing AMR control efforts in Africa.

As we approach the UNGA High-Level Meeting on AMR, it is crucial for all stakeholders to unite in supporting the recommendations outlined in this report. Governments, regional organizations, civil society, academia, the private sector, and international partners must work collaboratively to implement the proposed strategies and ensure sustainable progress.

The stakes are high, and the potential benefits of addressing AMR are immense. Investing in AMR initiatives will save lives, improve health outcomes, boost economic productivity, and strengthen healthcare systems across the continent. We call upon the global community to recognize the urgency of the AMR crisis in Africa and commit to taking bold and coordinated actions.



Together, we can make significant progress in combating AMR, safeguarding public health, and securing a healthier future for Africa and the world. Let this report serve as a catalyst for renewed commitment and concerted efforts to address one of the most pressing public health challenges of our time.

# GLOSSARY

1. **Antimicrobial Resistance (AMR):** The ability of microorganisms (such as bacteria, viruses, fungi, and parasites) to resist the effects of antimicrobial drugs, making standard treatments ineffective and infections persist, increasing the risk of spread, severe illness, and death.
2. **Africa Centres for Disease Control and Prevention (Africa CDC):** A specialized agency of the African Union that supports public health initiatives of member states and strengthens their capacity to respond to disease threats across the continent.
3. **One Health Approach:** A collaborative effort across various sectors, including human health, animal health, and the environment, to achieve optimal health outcomes by recognizing the interconnectedness of these sectors.
4. **National Action Plans (NAPs):** Strategic plans developed by countries to combat antimicrobial resistance (AMR), often aligned with the WHO's Global Action Plan on AMR.
5. **Global Action Plan (GAP) on AMR:** A framework developed by the WHO to guide national and international efforts to combat antimicrobial resistance, focusing on awareness, surveillance, infection prevention, antimicrobial use, and investment in new tools and research.
6. **Infection Prevention and Control (IPC):** Policies and practices implemented in healthcare and community settings to prevent the spread of infections, crucial in the fight against AMR.
7. **Water, Sanitation, and Hygiene (WASH):** A critical aspect of public health focusing on the availability and sustainable management of clean water and sanitation, as well as promoting hygiene practices, all essential in reducing AMR.
8. **Biosecurity:** Procedures and measures designed to protect populations from harmful biological agents, including those that contribute to AMR in agriculture and other sectors.
9. **Surveillance:** The systematic collection, analysis, and interpretation of health data to monitor the spread of AMR and inform public health decisions.
10. **Antimicrobial Stewardship:** Efforts to optimize the use of antimicrobial medications to slow the development of resistance, ensuring these drugs remain effective.
11. **African Union Framework for AMR Control 2020-2025:** A strategic document guiding the African Union's efforts to combat AMR, focusing on surveillance, governance, and multi-sectoral collaboration.
12. **International Health Regulations (IHR):** A legal framework developed by the WHO to manage public health emergencies of international concern, including those related to AMR.
13. **African Medicines Agency (AMA):** An agency established to regulate the safety and efficacy of medicines across Africa, including those used to treat infections caused by AMR pathogens.
14. **Regional Economic Communities (RECs):** Sub-regional organizations in Africa that promote economic integration and coordinate policies, including those related to health and AMR.
15. **World Organisation for Animal Health (WOAH):** An international organization dedicated to improving animal health globally, playing a role in combating AMR through animal health initiatives.
16. **Fleming Fund:** A UK aid program that supports countries in improving their AMR surveillance systems and laboratory capacity.
17. **Global Antimicrobial Surveillance System (GLASS):** A WHO initiative that collects, analyses, and shares global data on AMR to inform policy decisions and combat AMR effectively.
18. **AWaRE (Access, Watch, Reserve):** A WHO classification system for antibiotics designed to guide their use, reduce the development of resistance, and preserve the effectiveness of existing treatments.
19. **Sustainable Development Goals (SDGs):** A set of global goals established by the United Nations, aiming to address various challenges including health, where combating AMR is essential to achieving these goals.
20. **Pandemic Preparedness:** Efforts to strengthen health systems and build capacity to respond to infectious disease outbreaks, including those exacerbated by AMR.
21. **Public Health Surveillance:** The continuous and systematic collection, analysis, and interpretation of health-related data to plan, implement, and evaluate public health practices, especially in managing AMR.

22. **Regulatory Frameworks:** Legal and policy frameworks that govern the use of antimicrobials and the enforcement of AMR control measures.
23. **Essential Medicines List (EML):** A list maintained by the WHO of the most efficacious, safe, and cost-effective medicines needed in a health system, including antimicrobials crucial in the fight against AMR.
24. **Multilateral Development Banks (MDBs):** Financial institutions that provide funding and professional advice for development projects, including initiatives to combat AMR.
25. **AMRCC (Antimicrobial Resistance Coordinating Committee):** A governance body responsible for overseeing and coordinating national AMR strategies. It integrates stakeholders from human, animal, and environmental health sectors to ensure a comprehensive approach to AMR management.
26. **AMR Surveillance:** The ongoing collection and analysis of data regarding antimicrobial resistance, which helps in understanding and managing the spread of resistance.
27. **National Reference Laboratories:** Centralized laboratories within a country that provide specialized testing services, including for AMR, and support the diagnostic needs of lower-tier laboratories.
28. **Public-Private Partnerships (PPPs):** Collaborations between government agencies and private sector companies to leverage resources and expertise for public health initiatives, including those aimed at combating AMR.
29. **Advocacy and Awareness Campaigns:** Efforts aimed at educating the public, policymakers, and healthcare providers about AMR, its risks, and the importance of responsible antimicrobial use.
30. **Capacity Building:** Efforts to strengthen the skills, competencies, and abilities of people and institutions to improve their performance in combating AMR, including through training programs and resource allocation.
31. **Stakeholder Engagement:** The process of involving all relevant parties (governments, healthcare providers, civil society, etc.) in the development and implementation of AMR strategies to ensure effective and coordinated action.

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