



# RISING TO THE CHALLENGE

UTILISING DIAGNOSTICS TO COMBAT  
INFECTIOUS DISEASES AND AMR

Symposium Report

Sept. 29 – Oct. 1, 2025

Les Pensières Centre for Global Health



At the two-day symposium, *Rising to the Challenge: Utilising Diagnostics to Combat Infectious Diseases and AMR*, ('the Symposium') participants examined how to address utilisation and valuation challenges that prevent diagnostics from being fully effective against AMR and how to overcome these barriers for better health outcomes, considering different healthcare settings.

With thanks to the co-hosts of this symposium: Africa CDC, The AMR Action Fund, AUROBAC-Tx, bioMérieux, and ESCMID.

Special thanks to the organising committee: Yewande Alimi, Bruce Altevogt, Deepali Patel, Holger Rohde, Florence Sejourne and Robert Leo Skov.

Huge thanks to Angie Dunn for meeting planning and coordination.

The symposium was designed and facilitated by Alex Tasker, Nancy Lee, and Robert Black.

---

*“Diagnostics are the foundation of safe, just and sustainable healthcare.”*

---

*All quotes in this report were made by participants during the symposium.*

*All photos included in this report are subject to licensing restrictions. Images provided without an accompanying website link are licensed solely for inclusion within this report and may not be used, reproduced, or distributed individually outside of this document.*

*Image/Graphic design credit: Alex Tasker using DALL-E*

*Healthcare, Medicine, Nurse image: available at <https://pixabay.com/photos/healthcare-medicine-nurse-hospital-6930981/>*

# CONTENTS

<b>Forward</b> .....	<b>0</b>
<b>Executive Summary</b> .....	<b>4</b>
<b>The Challenge</b> .....	<b>7</b>
<b>Methodology</b> .....	<b>9</b>
<b>Prioritised Areas For Action</b> .....	<b>10</b>
<b>Crosscutting Enablers</b> .....	<b>11</b>
<b>Underutilisation And Undervaluation Of Diagnostics</b> .....	<b>11</b>
<i>Why Diagnostics Are Undervalued</i> .....	12
<i>How Undervaluation Drives Underutilisation</i> .....	12
<i>Addressing Undervaluation And Underutilisation</i> .....	13
<b>Towards a roadmap for greater use of diagnostics</b> .....	<b>15</b>
<i>Prioritised Actions To Address Undervaluation</i> .....	15
<i>Prioritised Actions To Address Underutilisation</i> .....	16
<i>Broader Framing for Action</i> .....	16
<b>Ideal End States</b> .....	<b>17</b>
<b>Short-To-Medium Term Milestones</b> .....	<b>17</b>
<b>Conclusion</b> .....	<b>19</b>
<b>Supporting Materials</b> .....	<b>21</b>
<i>Annex A: Actions to Improve Utilisation and Valuation</i> .....	21
<i>Annex B: Case Studies</i> .....	24



**“AMR IS THE GREATEST PUBLIC HEALTH THREAT OF OUR TIME AND DEEPLY PERSONAL – IT TOUCHES FRIENDS, FAMILY AND COLLEAGUES.”**

*Symposium Participants Discuss Action Plan  
Photo Credit: Angie Dunn*

## EXECUTIVE SUMMARY

At the symposium, ‘Rising to the Challenge: Utilising Diagnostics to Combat Infectious Diseases and AMR’, held at Les Pensières Centre for Global Health, participants explored how better utilisation and valuation of diagnostics could overcome barriers which currently prevent the integration of diagnostics into strategies to improve patient outcomes and strengthen the mitigation of AMR.

Forty-five participants representing sixteen countries and thirty-nine organisations—including policymakers, clinicians, regulators, researchers, and private-sector leaders—explored barriers to the utilisation and valuation of diagnostics across diverse healthcare settings in high-income countries (HICs), middle income countries (MICs) and low-income countries (LICs).

Through a collaborative process, participants developed a shared understanding of how diagnostic valuation and utilisation can help address AMR. They prioritised and co-defined collective and individual actions that might serve to strengthen the contribution that diagnostics could make to enhanced public health outcomes.

Through discussions, participants collectively identified the key value dimensions of diagnostics as being individual, collective, clinical, economic and societal. It was further agreed that elements of each value dimension need to be defined to achieve optimal utilisation of diagnostics.

Participants **prioritised the key areas for action to address undervaluation and underutilisation of diagnostics** as:

- Understanding why diagnostics are underutilised, along with understanding the value of diagnostics and defining value elements.
- Advocating value.
- Piloting and implementing value frameworks.

**Cross cutting enablers** to support such actions included:

- Placing the value of diagnostics to health systems and patient outcomes at the heart of decision making.
- Data generation to create evidence for policy change.
- Investment to support infrastructure and increase skilled human capital to ensure diagnostics capacity across the care pathway.

This document provides a summary report, detailing why the symposium was held and its overarching objectives; the methodology for arriving at outcomes; a summary of prioritised themes identified to take forward a roadmap for action, key enablers for the areas of action; a summary of what causes diagnostics to be both underutilised and undervalued; emerging actions to address these challenges; ideal ‘end states’

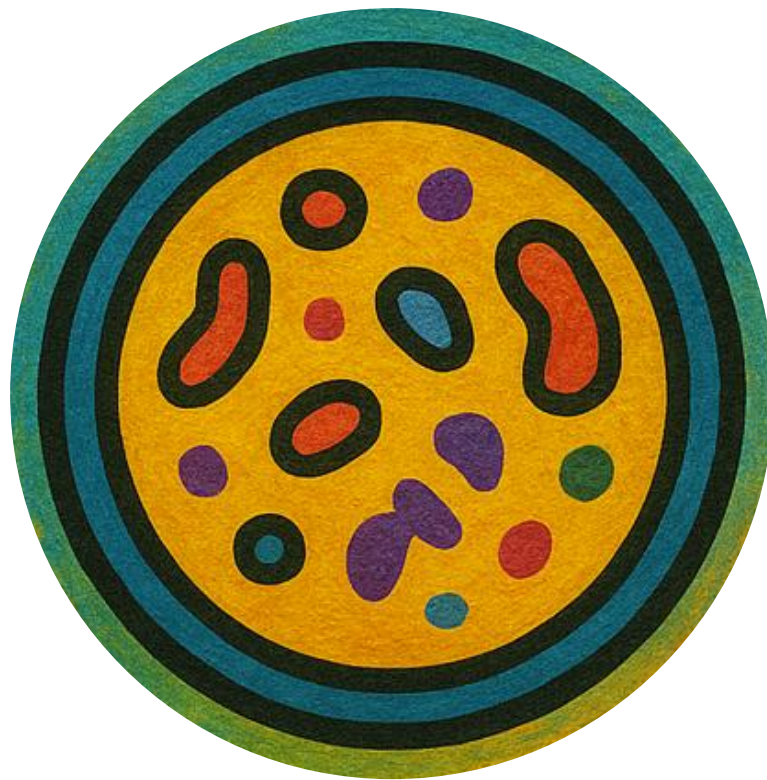
for what will change if diagnostics are optimally utilised and valued; and the key milestones and actions required to achieve such 'end states.'<sup>1</sup>

**Annex A** sets out specific actions that participants committed to take forward to achieve the desired 'end states.'

---

*“AMR is the greatest public health threat of our time and deeply personal- it touches friends, family and colleagues.”*

---



---

<sup>1</sup> This report is not meant to necessarily represent the full consensus of all attendees but rather to represent areas where there was broad agreement on the way forward.

# THE CHALLENGE



## THE CHALLENGE

Antimicrobial resistance (AMR) is a growing threat in HICs and LMICs, with LMICs bearing a disproportionate burden in terms of lives and livelihoods. By 2050, associated AMR deaths are forecast to reach over 8.2 million annually, with a majority occurring in LMICs particularly Sub-Saharan African and South Asia.<sup>2</sup> Globally, stewardship of antimicrobials to reduce AMR depends on reducing inappropriate antibiotic use and ensuring targeted treatment.

Participants agreed that the use of diagnostics to improve optimal antibiotic use is a challenge worldwide. Reliable diagnostic data are essential to assess and monitor antibiotic utilisation patterns. Studies show that antibiotics are inappropriately used or misused in low, middle- and high-income countries by somewhere between 29.5%-36.5%. In high income countries, inappropriate antibiotic use remains substantial even with greater access to antibiotics and availability of diagnostics.<sup>3</sup>

Participants noted that despite health facilities in high income settings having access to diagnostics, those tests are underutilised, contributing to inappropriate prescribing. They suggested that some of the reasons behind this are misplaced or lack of behavioural and monetary incentives and lack of clinician understanding of positive and negative predictive values respectively.

In LMICs, fewer than half of the population have access to diagnostics. The diagnostics gap is particularly severe for the timely detection of infectious diseases and AMR in low income and under resourced settings.<sup>4</sup> Across Africa, only 1.3% of biology laboratories can perform tests to detect resistant pathogens with fourteen countries reporting drug resistance indices exceeding 50%.<sup>5</sup>

Increasing the availability and utilisation of diagnostics requires the establishment of the true value of diagnostics in the reduction of societal and economic burdens and the improvement of current and future health outcomes.

The undervaluation and underutilisation of diagnostics everywhere discourage advances in research and innovative development, prevent targeted therapy, hinder infection control and monitoring, uphold monetary disincentives and thwart the implementation of policies to ensure effective antimicrobial stewardship. All of these outcomes are interconnected and systemic issues that require a coordinated solution.

---

<sup>2</sup> Global burden of bacterial antimicrobial resistance 1990–2021: a systematic analysis with forecasts to 2050 Naghavi, Mohsen et al., *The Lancet*, Volume 404, Issue 10459, 1199 – 1226

<sup>3</sup> Mulchandani R, Tiseo K, Nandi A, et al. Global trends in inappropriate use of antibiotics, 2000-2021: scoping review and prevalence estimates. *BMJ Public Health*. 2025;3(1):e002411. Published 2025 May 27. doi:10.1136/bmjph-2024-002411

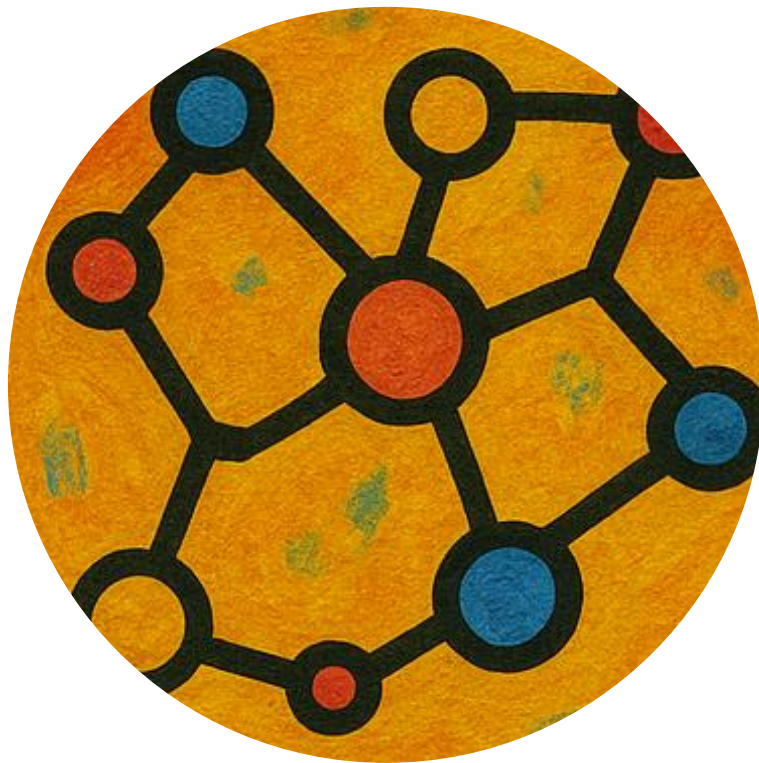
<sup>4</sup> Fleming KA, Horton S, Wilson ML, et al. The Lancet Commission on diagnostics: transforming access to diagnostics. *Lancet*. 2021;398(10315):1997-2050. doi:10.1016/S0140-6736(21)00673-5

<sup>5</sup> <https://africacdc.org/news-item/new-study-reveals-widespread-drug-resistance-across-14-african-countries/>

---

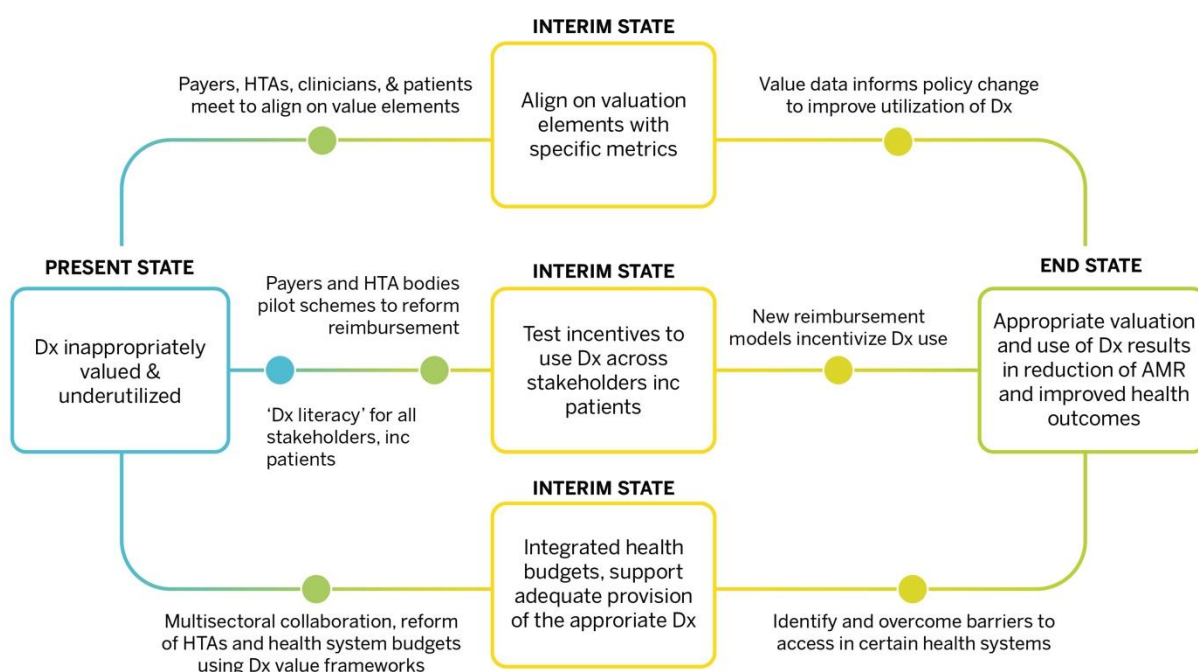
*“How do we make antibiotics the cornerstone of stewardship? Because every new antibiotic we discover will be worthless if [antimicrobial] resistance continues unchecked.”*

---



# METHODOLOGY

Participants engaged in a structured and facilitated workshop process designed to encourage participants to actively own the developmental stages of the workshop rather than passively absorb briefings from each other. Small groups worked together to formulate challenge statements on diagnostic *utilisation* and *valuation*. Short interventions were provided from different participants to challenge thinking and perspectives, including four case studies (see Annex B) which provided in-depth examples of valuation studies, initiatives and frameworks for the valuation of diagnostics. Challenge statements were refined, prioritised, and integrated into broader action plans. These action plans outlined ideal end states, interim milestones, enabling resources, indicators of success, and stakeholder linkages. From this process different action plans were produced and three broad areas for action emerged which were supported by key cross-cutting enablers.



Cross Cutting Enablers: Generating context specific data on behavior & health; investment; overcoming budget silos; embedding patients & communities in decision making

Figure 1: Action plan map outline based on workshop.

## PRIORITISED AREAS FOR ACTION

- **Understanding value:** Participants agreed on the need for developing a common understanding and nomenclature for the individual, collective, clinical, economic, and societal elements of value dimensions of diagnostics more holistically. Further collection of data is required to inform wider understanding of the value elements of diagnostics, especially their contribution to health outcomes at population and health systems level.
- **Agreeing and advocating value elements:** Building on evidence from value data, cross-sectoral stakeholders must first align to the value elements, agree how these are evaluated, gather value data and use this data to advocate for policies that enable appropriate, timely, and equitable diagnostic use. Improved valuation data with clear value metrics are essential to achieve policy changes that strengthen stewardship and optimise diagnostics use for infectious disease management. For example, policy reform for reimbursement models and both monetary and behavioural incentives throughout the care pathway for diagnostics use are needed. A clear next step would be the convening of payers, Health Technology Assessment (HTA) bodies, providers, patients and companies to align to the value elements.
- **Piloting and implementing value frameworks:** Participants proposed that payers and HTA bodies pilot schemes to inform reimbursement reform, so that the siloed nature of lab budgets can be overcome. At present, budget silos distort value, so downstream patient and population gains are not accounted for, limiting utilisation considerably. Data from such pilots can also inform future alignment of value elements with payment mechanisms and inform policy. Valuation frameworks such as the STRIDES<sup>6</sup> framework developed by the Office of Health Economics (OHE) (See Annex B) is useful to inform value elements related to population and societal benefits.

---

<sup>6</sup> Fong H., Bray G., Hampson G., Steuten L., *Taking STRIDES: The value of diagnostics against AMR* (2025). Contract Research. Available from <https://www.ohe.org/publications/taking-strides-the-value-of-diagnostics-against-amr/>

## CROSSCUTTING ENABLERS

In discussing action plans, the following crosscutting enablers emerged as being essential to ensure that actions to ensure diagnostics are utilised and valued can be achieved. They further ensure diagnostic solutions are not only available but also accessible, trusted, and impactful. These enablers support integration across health systems, empower communities, and foster resilience in the face of evolving public health challenges.

- **Embedding patients and communities in decision-making:** solutions must place patients, health workers and communities at the heart of decision-making and be context specific.
- **Generating high-quality data to understand behaviours and health outcomes:** data is critical to inform policy change and to generate the evidence required to better understand both the challenges and the solutions for optimal utilisation of diagnostics.
- **Investing in infrastructure and human capital to ensure diagnostic capacity and autonomy at all care levels:** appropriate infrastructure and skilled human capital are critical enablers to achieve desired end states.
- **Breaking down siloed health system budgets:** enables consideration of diagnostics' population-wide and systemic benefits, rather than viewing them solely as costs. Positive value can then be mapped across the valuation frameworks established.

## UNDERUTILISATION AND UNDERVALUATION OF DIAGNOSTICS

Diagnostics are frequently both underused and undervalued, but for distinct reasons that reinforce one another and depress their impact on care quality, patient outcomes and antimicrobial resistance (AMR) stewardship.

Underutilisation refers to gaps in how often and how appropriately diagnostics are requested, performed, and acted upon in routine care, while undervaluation refers to how systems value, budget for, and strategically prioritise diagnostics relative to their benefits and impact; when diagnostics are undervalued by payers and policymakers, clinicians face hurdles that drive underuse at the point of care, creating a feedback loop that sustains both problems.

Much of the discussion at the Symposium on use or underutilisation of diagnostics was interlinked to the question of value and how undervaluation is driving underutilisation. Participants broadly agreed that undervaluation of diagnostics is driving underutilisation and therefore an improved value framework for diagnostics will lead to increased provision of tests as well as behaviour change around use

because the value of information provided by tests is important to patients and clinicians. The challenge lies in aligning and implementing a value framework.

## Why Diagnostics Are Undervalued

Diagnostics are undervalued due to the following:

- Limited recognition of diagnostics' contribution to improved health systems and patient outcomes along with contributions to AMR stewardship, leads governments and payers to treat diagnostics as costly commodities rather than strategic enablers, disincentivising utilisation, investment and dedicated budget lines.
- Siloed budgets and fragmented decision making emphasise near term unit costs over systems level benefits, so procurement and reimbursement do not reflect stewardship or downstream savings in patient care and throughout the health system.
- HTAs often omit broader societal gains such as improved antibiotic targeting and reduced resistance externalities, reinforcing perceptions of diagnostics as cost centres and weakening incentives for adoption and innovation.
- Evidence indicates that testing before prescribing antibiotics lowers costs and improves outcomes, and broader diagnostic uptake can reduce antibiotic use by up to 20%,<sup>7</sup> yet these benefits are not consistently captured in pricing and coverage decisions.

---

*“Valuation is the lifeline of innovation, whose mission is to make global impact.”*

---

## How Undervaluation Drives Underutilisation

Undervaluation of diagnostics drives underutilisation in the following scenarios:

- When budgets are siloed and reimbursement is inconsistent across public and private payers, healthcare providers face out-of-pocket or administrative hurdles that discourage ordering appropriate diagnostics at the point of care.

---

<sup>7</sup> Pierre\_Dubois, and Gokce Gokkoca, “Antibiotic Demand in the Presence of Antimicrobial Resistance”, TSE Working Paper, n. 23-1457, July 2023, revised January 2025.

- Misaligned incentives across clinicians, administrators, and patients emphasise throughput and drug costs over diagnostic confirmation, steering behaviour toward empirical treatment and away from diagnostic utilisation.
- Weak governance and regulatory pathways delay market entry and the scaleup of new diagnostics, narrowing availability and confidence in utility at the front line. This is further weakened by the disconnect between lab professionals and clinicians.
- Lack of trust in tools and lab outputs, limited data sharing, and perceptions of time and cost burden further suppress appropriate use of diagnostics even when diagnostics exist. This situation is exacerbated if diagnostics are not available or are costly or take time to use and receive results.

## Addressing Undervaluation and Underutilisation

The drivers of undervaluation and underutilisation can be described as follows:

- Undervaluation is primarily a policy and financing problem: it manifests in Health Technology Assessment (HTA) scope, budget architecture, procurement, and reimbursement models that fail to price in clinical and societal value, including AMR stewardship.
- Underutilisation is primarily a delivery and behaviour problem: it emerges in clinical workflows, information systems, and day-to-day incentives that make the use of diagnostics harder or less attractive than empirical prescribing.
- The mutually reinforcing nature of the two: correcting undervaluation through value reflective HTAs, integrated budgets, and aligned incentives reduces barriers that cause underuse; improving utilisation through trust, data flow, and greater awareness of value generates real world evidence that supports higher valuation.

# PLANNING FOR ACTION



# TOWARDS A ROADMAP FOR GREATER USE OF DIAGNOSTICS

Participants identified several prioritized thematic areas for action that can be incorporated into a framework for a roadmap aimed at increasing the use of diagnostics to improve health outcomes, including reducing antimicrobial resistance (AMR). Further discussions and collaborative engagement are needed to clarify details to take actions forward and stakeholder roles in advancing these actions. An initial approach for allocating preliminary actions among stakeholders is outlined in Annex A.

## Prioritised Actions to Address Undervaluation

Participants prioritised a set of actions to address undervaluation which included the following:

- Introduce value-based payment approaches linking diagnostics to their role in optimising antibiotic use.
- Pilot and operationalise frameworks (such as STRIDES) across a diverse set of healthcare and resource settings, engaging with appropriate HTA's to assess and align on different core value elements of diagnostics to inform policy.
- Launch 'diagnostics literacy'<sup>8</sup> initiatives for health care professionals and the public to increase understanding of the value of diagnostics across clinicians, health administrators, decision makers and patients. Such an initiative could highlight the need for context-specific approaches and the different incentives across reimbursement models for public and private payers.
- Quantify and articulate the economic contribution of diagnostics in reducing AMR, including population-level and long-term health systems benefits.
- Hold governments accountable for ensuring diagnostic access and procurement.

---

*“From a strategic point of view: underspending incentivises [antimicrobial] resistance.”*

---

---

<sup>8</sup> 'Diagnostics literacy' refers to awareness raising across all stakeholders from patients, healthcare workers, payers, hospital administrators and policy makers as the benefits of diagnostics the health system and to individuals.

## Prioritised Actions to Address Underutilisation

Participants prioritised a set of actions to address underutilisation which included the following:

- Support innovation of rapid, point of care diagnostics.
- Ensure equitable access to diagnostics.
- Overcome the misperception that diagnostics are an unnecessary cost while failing to consider the added benefits, through use of robust clinical data demonstrating how use of diagnostics improve outcomes and misdiagnosis, resulting in economic efficiencies and reduced burden on the health system.
- Support clinicians, laboratory staff and patients to rebuild trust through sharing information and timely and accurate test results. To achieve this requires optimised logistics and quality reagents and skilled personnel.
- Develop diagnostics-inclusive treatment guidelines that ensure antibiotics are only prescribed upon the outcome of a diagnostic test or require diagnostics and therapeutics to be bundled together.
- Strengthen cross-disciplinary capacity and coordination between laboratories and prescribers to ensure prompt interpretation of results and actionable decisions at point of care.
- Implement incentive models and targeted awareness campaigns to stimulate a paradigm shift and encourage clinicians to use a diagnostic and patients to demand a diagnostic before prescribing.

---

*“We value diagnostics as commodities rather than like strategic assets...”*

---

## Broader Framing for Action

In discussions, participants considered infectious diseases and AMR as existential societal risks, noting that more widely, the perception of infectious diseases as an existential threat in the magnitude of climate change or a biological threat might harm societies and economies is also important. Consideration was given to what context-specific strategies have strategically integrated economic and clinical value for health care professionals and payers. In future discussions, further consideration could be given as to what lessons might be extrapolated from the mitigation of other

existential threats and what value might be attributed to the mitigating actions and interventions.

## IDEAL END STATES

In refining challenge statements addressing the barriers to utilisation and valuation of diagnostics for AMR, a set of 'end states' emerged which describe the ideal situation that might emerge if diagnostics are appropriately utilised and valued:

- Rational diagnostic use reduces antimicrobial consumption and improves health outcomes.
- Clinicians have the autonomy, skills and diagnostic tools to ensure antibiotics are prescribed to the right patient, in the right place, at the right time.
- Diagnostics are affordable, accessible, and available for all infectious diseases.
- A common valuation framework for diagnostics underpins policymaking and investment.
- System wide change, driven by context specific, evidence-based protocols and comprehensive economic and clinical data drive results in diagnostics being appropriately valued and optimally utilised.

## SHORT-TO-MEDIUM TERM MILESTONES

Short to medium-term milestones along the journey towards ideal end states for which participants can take some ownership:

- **Convene** industry, payers (including health insurance companies), and policymakers to align on valuation metrics and 'core value' elements using a value assessment framework such as STRIDES.
- **Gather** clinicians, providers, policy makers and patient advocates from diverse resource settings in a non-attributable meeting space, to better understand behaviours around the utilisation of diagnostics and gain consensus on the end points for diagnostic use.
- **Advocate and articulate** what is required of World Health Organisation Member States and the Quadripartite Joint Secretariat on AMR to foster diagnostics use including guidelines which require Member States to finance AMR commodities.
- **Feed into** the establishment of the Independent Panel on AMR, thereby providing an opportunity for utilisation of diagnostics to be brought to the fore.

- **Strengthen clinician trust** and competence in laboratory results, utilise IT systems to enable timely sharing and analysis of lab results.
- **Establish data-sharing platforms:** Data is needed to effectively demonstrate value. Data sharing across and within health systems is needed not only to break down budgetary silos but also to inform alignment of value elements for diagnostics. For example, establishing networks to capture data at different levels of decision making across a health system to inspire financial action to improve the use of diagnostics based on system-wide benefits and diagnostic valuation networks.
- **Develop policy roadmaps** to clarify policy pathways, inflection points, policy levers and specific requests of policy makers so that policy change can support the desired 'end state' through changes to reimbursement models, system-wide incentives and improve guidelines for utilisation.
- **Landscape mapping of target audiences and opportunities for messaging** on the value of diagnostics specifically in terms of surveillance and stewardship needs to be done at fora such as the upcoming G20, G7, WHS, WHO Regional Meetings and the 5<sup>th</sup> AMR Global High Level Ministerial. This landscape mapping could be carried out by the UN Foundation and the Global AMR R&D Hub.
- **Engage with clinicians** to bridge the gap between guideline requirements and the realities of clinical practice in different resource and health system settings to understand gaps in alignment.
- **Run pilot studies** to assess the use and valuation of diagnostics in key syndromic areas to better understand drivers and barriers including payment and reimbursement models for utilisation of diagnostics. Pilots and implementation studies allow interrogation of different value profiles in different settings, provide greater understanding of the value of a single diagnostic verses diagnostics more broadly and can help to calculate the value of a system shift. For example, a systems shift could be based on archetypes of diagnostics and therapies.
- **Develop new valuation and reimbursement frameworks** at country level with HTA bodies in major health systems.

## CONCLUSION

Enhancing the valuation and strategic use of diagnostics plays a crucial role in reducing the burden of AMR and improving public health outcomes. Valuation frameworks such as STRIDES coupled with patient-centred solutions, multi-sectoral stakeholder awareness and commitment to collective action, offer promising pathways for developing and implementing effective and sustainable solutions. Now is the time to 'make the invisible, visible' and rise to the challenge of improving utilisation of diagnostics to tackle infectious disease and AMR for healthier outcomes for all.

Participants widely felt that there is value in convening a broader set of stakeholders together especially payers, patients and policy makers, using a novel and innovative approach to address the challenges to underutilisation and undervaluation of diagnostics to progress actions towards prioritised 'end states' and to achieve the policy changes needed for optional use and valuation of diagnostics for infectious diseases and AMR.

# SUPPORTING MATERIALS



# SUPPORTING MATERIALS

## Annex A: Actions to Improve Utilisation and Valuation

UNDERSTAND		
ACTIONS	WHO/STAKEHOLDERS	WHEN/MILESTONES
Convene workshop with Health Technology Assessment authorities from different regions, payers, and professional societies to align on what constitutes core value elements for diagnostics, so that value frameworks can start to be implemented.	Meeting co-hosts	Within next 12 months
Convene clinicians, providers, policy makers and patient advocates from diverse resource settings in non-attributable gathering, to better understand behaviours around the utilisation of diagnostics and gain consensus on the end points for diagnostic use.	Meeting co-hosts	Within next 12 months
Engage patients in discussions to raise their awareness and ensure that patient voice is at the heart of diagnostic design.	Clinicians, patient groups, learned societies.	On-going: further feedback in 12 months' time.
Continue studies related to use of diagnostics, providing data on impact on reducing AMR, patient outcomes and clinician behaviour and culture.	Academics including Oxford University, and institutions across Mexico and France.	On-going: opportunity for check in and progress reports in 12 months' time.
ADVOCATE		
ACTIONS	WHO/STAKEHOLDERS	WHEN/MILESTONES
Develop a 'diagnostic literacy' programme to engage clinicians, researchers, health administrators, policy makers and the public to better understand the value of diagnostics utilisation for infectious disease and AMR.	Participants from Les Pensières symposium.	Participants to self-organize a small group to author a paper published in next 12 months.

Continue to engage with philanthropic foundations and other stakeholders who might support research or health systems to better enable utilisation and improved valuation of diagnostics for ID and AMR.	Participants from Les Pensières symposium, cross- sectoral stakeholders such as Beam Alliance.	On-going, with feedback to this group of stakeholders in 12 months
Engage health workers to raise awareness and understand their perspectives in challenges faced in utilisation and valuation.	British Society for Antimicrobial Chemotherapy and other professional bodies and academic societies.	Within the next 12 months
Call for diagnostics to be included in WHO Global Action Plan (GAP) 2.0 and in the AWARE playbook. Inclusion of diagnostics in the GAP will be translated into National Action Plans.	WHO & WHO Member States via scientific societies, AMR Industry Alliance, NGOs represented at the symposium through the AMR MSPP.	Now: Stakeholders to contribute feedback to Quadripartite as part of current review
Feed into the establishment of the Independent Panel on AMR by the end of 2025 thereby providing an opportunity for utilisation of diagnostics to be brought to the fore.	WHO & WHO Member States via scientific societies, AMR Industry Alliance, NGOs such as AMR MSPP.	Now to end of 2025.
Establish a working group under the ESCMID AMR Action Sub-Committee. focusing on innovation and diagnostics and their impact on infectious disease and AMR taking a social sciences and economics perspectives	ESCMID	To provide update on progress in 12 months
Develop plans to mobilise political capital to achieve policy change and foster utilisation and optimal valuation of diagnostics for ID and AMR. This can start with engaging with France as upcoming G7 Presidency to prioritise diagnostics for AMR as area of health policy focus and include AMR and diagnostics in the COP30 Agenda.	CARB-X, AMR Action Fund, BEAM, IFPMA, AMR Industry Alliance and other cross- sectoral stakeholders, Special Envoy on AMR for Brazil	Within next 6 months; touch points within next 12 months and at AMR Ministerial, June 2026.
Develop policy roadmaps that align with the plans above to mobilise political capital which identifying policy pathways, inflection points and specific asks of policy makers for policy change to achieve desired endpoints. For example, change reimbursement models and system-wide incentives, improve guidelines for utilisation.	ESCMID, BEAM and AMR Action Fund	To provide update on progress in 12 months

Landscape mapping of target audiences and opportunities for messaging on the value of diagnostics specifically in terms of surveillance and stewardship needs to be done. For example, upcoming G20, G7, WHS, WHO Regional Meetings and the 5th AMR Global High Level Ministerial.	Landscape mapping could be carried out by the UN Foundation and the Global AMR R & D Hub.	Update on progress in 6 months
Further articulate what is required of WHO Member States and the Quadripartite to foster diagnostics use for AMR, including guidelines which require Member States to finance AMR commodities.	Workshop participants coordinated by meeting co-hosts.	Within next 12 months.
<b>PILOT/IMPLEMENT</b>		
<b>ACTIONS</b>	<b>WHO/STAKEHOLDERS</b>	<b>WHEN/MILESTONES</b>
Convene industry, professional societies and payers (including health insurance companies) with the intention of reaching a consensus on how to calculate the 'value' of diagnostics and 'core value elements' of a value assessment framework such as STRIDES.	Meeting co-hosts and researchers in health economics such as the Toulouse School of Economics, Boston University, OHE and LSE	Within the next 12 months
Undertake case studies to collect outcome data in order to quantify different value elements and evaluate the scale of utility a framework such as STRIDES can offer.	OHE working with stakeholders	Within next 12 months
Undertake case studies and analyse data such as that being undertaken on sepsis in neonates to make valuation of diagnostics relevant to policy makers.	Centre for Global Development	Work to continue and report to participants of this symposium in 12 months
Multistakeholder discussions will be initiated to develop strategies for improved embedding of diagnostics into clinical guidelines and to explore ways to strengthen adherence to existing guidelines.	ESCMID and Other Stakeholders	Within next 12 months

## Annex B: Case Studies

The following case studies were presented to participants to provide specific examples of actions that have been taken to better understand, implement and improve utilisation and valuation of diagnostics for AMR and infectious disease.

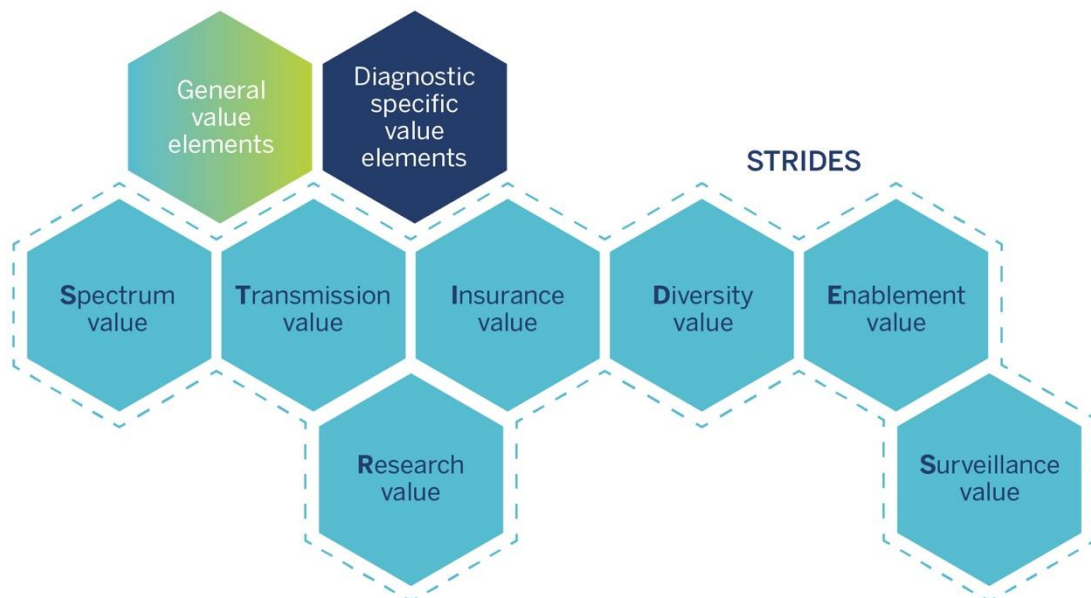
### DIAGNOSTIC CONCEPTUAL FRAMEWORK

#### The Strides Framework

The UK's Office of Health and Economics discussed the STRIDES framework with participants. STRIDES is a diagnostic specific conceptual framework designed to systematically value diagnostics for AMR at both patient and population levels.

The framework captures broader population and long-term health systems benefits including Spectrum, Transmission, Research, Insurance, Diversity, Enablement and Surveillance value. STRIDES is country agnostic and a helpful tool for structuring conversations around the value of diagnostics for AMR with policy makers.

Participants agree that the framework could be applied across different resource settings to support valuation discussions. The next steps for implementation of the framework are to quantify the different value elements, evaluate the scale of utility the STRIDES framework offers, and produce a pragmatic toolkit to enable STRIDES to be considered routinely in decision making. OHE will seek to engage different stakeholders to support this work.



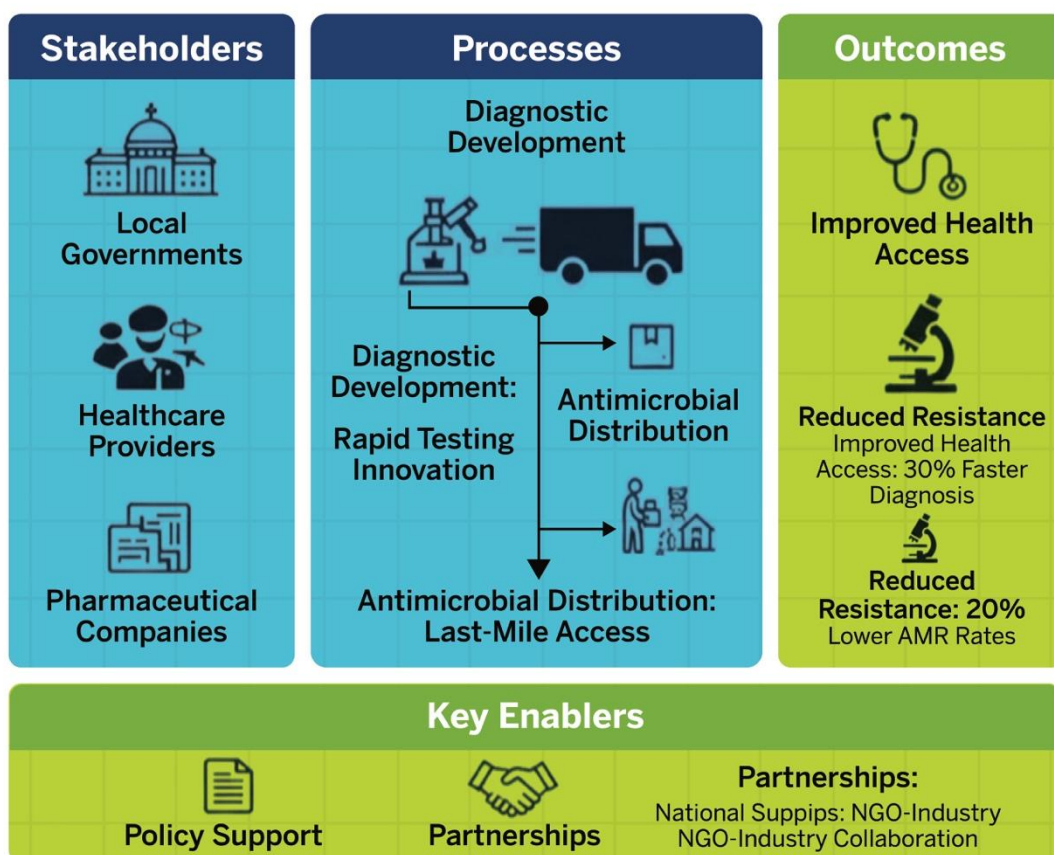
**Figure 2: Value Framework for AMR Diagnostics**

Fig 1. Fong H., Bray G., Hampson G., Steuten L., 2025. Taking STRIDES: The Value of Diagnostics Against AMR: A conceptual Framework. OHE Contract Research Report, London: Office of Health Economics.

## VALUE CREATION MODEL FOR DIAGNOSTICS

### Aranda

Aranda works collaboratively with countries to build sustainable markets for new and existing diagnostics, guided by public health needs and stewardship objectives to ensure appropriate utilisation and health outcomes. Aranda's subscription model derisks investment, thereby enabling countries to purchase both diagnostics and antibiotics with budgets normally limited to antibiotics. Aranda's experience of understanding systems challenges including supply chain and pricing issues, stock outs and workforce capacity highlights the need to engage Ministers of Health and Finance to secure sustainable funding for antimicrobials and diagnostics.



**Figure 3: Aranda's Model for Value Creation in Diagnostics and Antimicrobials in African Countries**

## ASSESSING THE VALUE OF DIAGNOSTICS

### French Studies

Two studies undertaken in France to assess the value of diagnostics in relation to AMR and susceptibility were presented. One ex ante study based on forecast and one post ante analysis based on actuals considered physician behaviour in relation to resistance patterns and the impact of reimbursement models respectively.

The first study uses French outpatient data (2002 – 2019) to quantify how antimicrobial resistance (AMR) affects physician prescribing behaviour and to estimate the value of diagnostics and stewardship interventions<sup>9</sup>. The findings demonstrate that AMR significantly distorts antibiotic demand, and accurate diagnostic information restores efficiency in treatment decisions. The research provides a quantifiable framework for evaluating the economic and clinical benefits of rapid diagnostics, antibiotic stewardship, and policies that reduce resistance stemming from both human and animal antibiotic consumption. A positive diagnosis, both reduces prescribing and therefore reduces resistance and improves health outcomes. The second study evaluated the practice of reimbursement of French pharmacists for performing rapid diagnostic tests for strep throat and urinary tract infections following a 2024 regulatory reform. Pharmacists now receive €10 per test without drug dispensation and €15 per test with immediate medication dispensing. This model explicitly links payment to clinical outcomes and service integration — incentivizing appropriate antibiotic use while reducing unnecessary prescriptions and physician visits.

The study reveals critical insights into how reimbursement models shape the perceived and actual value of diagnostic tests in healthcare systems. The evaluations indicate that community-based point-of-care testing (POCT) achieves measurable healthcare savings by: reducing GP consultation for minor infections, lowering inappropriate antibiotic prescribing, thus addressing antimicrobial resistance and shortening patient pathways to effective care through pharmacist-led intervention.

---

<sup>9</sup> Pierre Dubois and Gökçe Gökkoça, "Antibiotic Demand in the Presence of Antimicrobial Resistance", *Review of Economics and Statistics*, 2025, doi: <https://doi.org/10.1162/rest.a.272>

## IMPROVING DIAGNOSTIC CAPACITY IN LMICS

### Nigeria

Two case studies conducted across secondary<sup>10</sup> and tertiary<sup>11</sup> hospitals across Nigeria and Ghana showed that access to diagnostics and health systems to support the use of diagnostics are poor, especially in low-income settings.

Systemic challenges in health systems and inequities across Nigeria mean that many people do not have access to health services, diagnostics or medicines. Populations living in remote areas with deep inequities across communities mean that many people do not earn enough money to access health services including diagnostics.

In order to improve AMR stewardship and reduce AMR, a patient-centred core package of interventions was applied across the health system, supported by grant funding. Through increasing access to diagnostic tools through subsidising costs, along with improving bacteriology and microbiology capacity in key health centres, the cost of using diagnostics across the care pathway was reduced from 32 USD to 4 USD. Given the monthly income of a minimum wage Nigerian is 70,000 (approximately \$47 USD) and many people are on minimum wages or below or informal workers, a significant number of Nigerians fail to afford diagnostics. The reduction in cost is critical to patient uptake of diagnostics.

The results of the studies show diagnostics directly improve antibiotic targeting, with hospitals that had access to good quality laboratory systems achieved more appropriate antibiotic use, shorter hospital stays and fewer treatment failures. Improved health outcomes all translate into lower health system costs

AMR surveillance data in Nigeria showed that introducing diagnostics into routine sepsis care cut mortality rates by up to 30%.

Policy conclusions to be drawn include the need to treat diagnostics as cost-saving investments, not expenses by integrating them into universal health packages. Sustainable funding for diagnostic infrastructure should be included in national AMR budgets and should show lifetime benefits across the health system. Economic modelling should be included in pilot diagnostic projects to support building national cases for reimbursement inclusion to be part of AMR National Action Plans.

---

<sup>10</sup> Egwuenu A, Ejikeme A, Tomczyk S, et al. Baseline study for improving diagnostic stewardship at secondary health care facilities in Nigeria. *Antimicrob Resist Infect Control*. 2022;11(1):65. Published 2022 May 3. doi:10.1186/s13756-022-01080-4

<sup>11</sup> Akinlawon D, Osaigbovo I, Yahaya M, Makanjuola O, Udoh UA, Nwajiobi-Princewill P, Nwafia I, Peter J, Asamoah I, Peters F, Okafor O, Okwor T, Osibogun A, Ogunsola F, Jordan A, Chiller T and Oladele R (2024) Diagnostic Capacity for Fungal Infections in Tertiary Hospitals in Nigeria and Ghana - An Onsite Baseline Audit of 9 Sites. *Int J Public Health* 69:1607731. doi: 10.3389/ijph.2024.1607731



Presentation from Nigeria Centre for Disease Control and Prevention

**Figure 4: The people-centred core package of AMR interventions**