Incentivizing AMR Stewardship in LMICs Through Outcomes Based Financing

Background

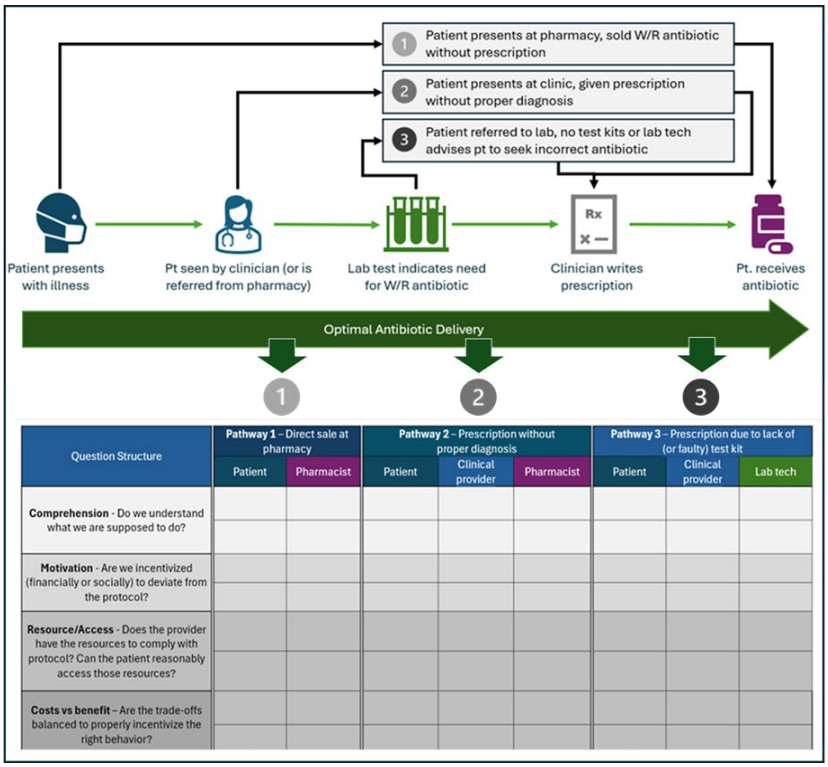
Antimicrobial resistance (AMR), caused by overuse or inappropriate use of antibiotic drugs, has emerged as one of the leading public health threats of the twenty-first century. Annually, AMR claims 1.3 million lives, with projections soaring to 10 million by 2050[1]. One solution to combating AMR is to implement AMR stewardship programs as outlined by the WHO[2] and national AMR action plans. Though normative guidance exists, they do not address the market forces and behavior factors driving antibiotic misuse. While incentive structures to reduce AMR have been explored in high-income countries, limited research has been conducted in LMICs, where the burden of AMR is the greatest. Global partnerships and sustained financial support are vital for effective AMR management in LMICs.

Objective of initiative

PATH aims to co-create and pilot an outcomes-based financing (OBF) mechanism to augment antimicrobial stewardship (AMS) efforts specifically in LMICs. This financing mechanism will aim to address the underlying infrastructure and health systems gaps necessary for a comprehensive stewardship approach and motivate health provider networks in LMICs to test new business models and service delivery approaches that reduce the misuse of antibiotics.

With funding from Pfizer and in partnership with the Bay Area Global Health Alliance, Healthy Brains Global Initiative, the governments of Senegal and Tanzania, and several country and community stakeholders, PATH is conducting two research studies in Tanzania and Senegal to identify and characterize when and where economic and social forces may be influencing antibiotic prescription, sale, or consumption. See Figure 1 Patient Pathways Framework. The research is focused on interviews and observations of public health hospitals, public and private clinics, laboratories, community pharmacies, dispensaries, and drug outlets.

Figure 1. Illustrative Conceptual Patient Pathways Framework



Question Structure	Pathway 1 – Direct sale at pharmacy		Pathway 2 – Prescription without proper diagnosis			Pathway 3 – Prescription due to lack of (or faulty) test kit		
	Patient	Pharmacist	Patient	Clinical provider	Pharmacist	Patient	Clinical provider	Lab tech
Comprehension - Do we understand what we are supposed to do?								
Motivation - Are we incentivized (financially or socially) to deviate from the protocol?								
Resource/Access - Does the provider have the resources to comply with protocol? Can the patient reasonably access those resources?								
Costs vs benefit – Are the trade-offs balanced to properly incentivize the right behavior?								

The research will conclude late 2024. Based on the findings from the research, a financial model will be developed to articulate and quantify the individual and cumulative economic drivers along the patient care continuum. The financial model will capture quantitative data with direct and indirect costs, opportunity-cost, and revenues associated with current state antibiotic use in the selected catchment areas.

[1] Antimicrobial Resistance Collaborators. Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis. *The Lancet*. 2022 Feb 12;399(10325):629–655. https://doi.org/10.1016/s0140-6736(21)02724-0

[2] World Health Organization (WHO). *Monitoring and Evaluation of the Global Action Plan on Antimicrobial Resistance*. Geneva: WHO; 2019. https://www.who.int/publications/i/item/monitoring-and-evaluation-of the-global-action-plan-on-antimicrobial-resistance

Design OBF instrument with key stakeholders

In early 2025, PATH will host co-creation workshops with country stakeholders and interested funders to refine and validate the instrument design. To arrive at each design element, PATH and partners will undertake a rigorous analysis to determine the optimal deliverables, evidence, verification, and payment terms. See Figure 2 and 3. The design will also be accompanied by a detailed risk assessment around all design decisions. Mitigation measures will be detailed for all risks, perverse incentives, and unintended consequences.

Figure 2. OBF design elements

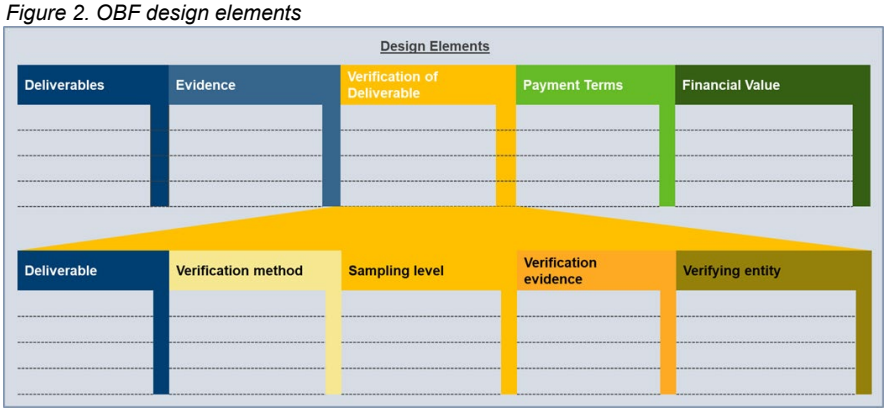
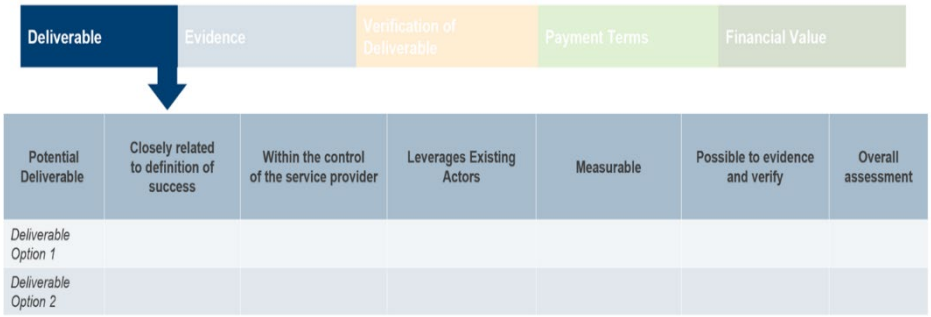


Figure 3. OBF design analysis



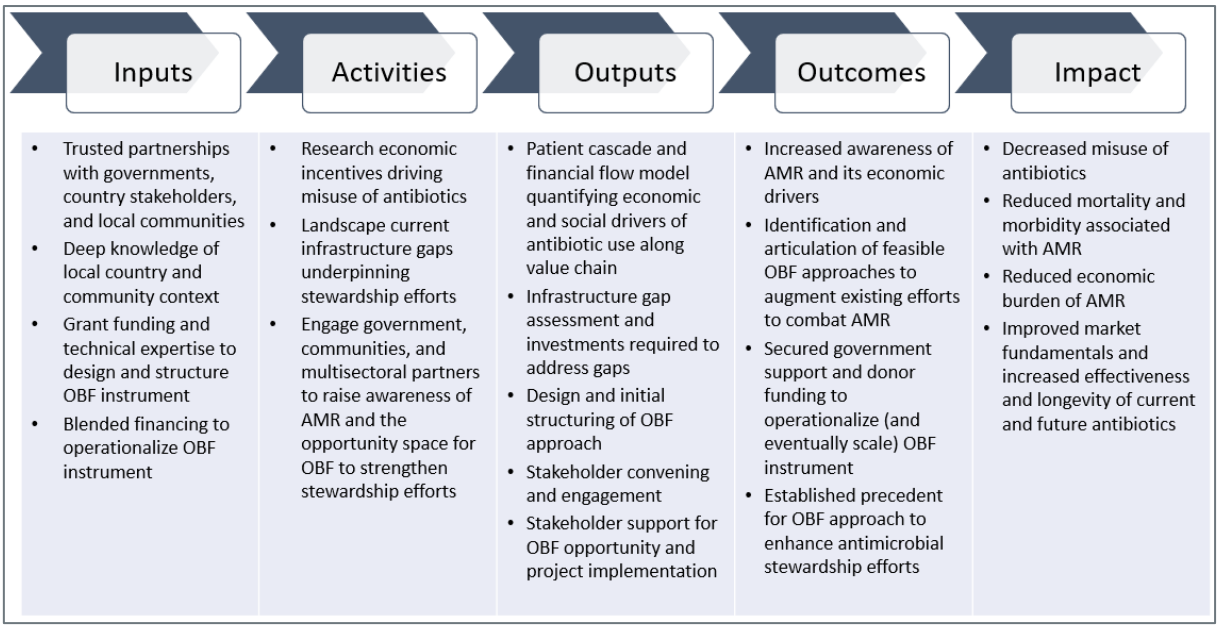
Pilot Implementation

The design will be considered locked once country MOH approval and commitment from a funder to pilot the vehicle in one or more geographies is obtained. At this stage, PATH will begin pilot implementation in select countries.

Call to Action

A collaborative effort is needed to fight against Antimicrobial Resistance. By supporting innovative solutions and interventions, such as OBF, we can develop effective strategies to manage and reduce the impact of AMR globally. Together, we can make a significant difference!

Theory of change for AMR OBF Initiative



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PATH is a global nonprofit dedicated to achieving health equity. With more than 40 years of experience forging multisector partnerships, and with expertise in science, economics, technology, advocacy, and dozens of other specialties, PATH develops and scales up innovative solutions to the world's most pressing health challenges.

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