



Evaluating Business Criteria for Scaling Stock of Malaria Rapid Diagnostic Tests

Background

The World Health Organization estimates that nearly half of the world's population is at risk for malaria, a life-threatening, but ultimately curable and preventable disease spread by mosquitos.

Malaria rapid diagnostic tests are an important part of the fight against the disease, but according to new research from MIT, supply chain challenges keep these tests from making it onto clinic shelves, putting patients at risk of misdiagnosis, which over time can lead to antibiotic resistance.

Approach

In 2015, MIT researchers evaluated malaria rapid diagnostic supply chains in Uganda where misdiagnosis is common and where many patients turn to the private sector for malaria treatment and care.

MIT researchers worked closely with the Malaria Consortium, a nonprofit organization that established a pilot program to increase availability of malaria rapid diagnostics in Uganda's private sector, where they had observed stocks were limited or non-existent.

Researchers conducted interviews and focus groups with key supply chain actors involved in the Malaria Consortium's pilot program — first-line buyers, distributors, and retailers — to understand the criteria that influence their willingness to stock.



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Key Findings

Researchers identified 17 criteria that supply chain actors consider when making decisions about stocking malaria rapid diagnostics to better understand which criteria were most important to decision-making. Below, CITE's key findings are organized by stakeholder.



Retailers

- Retailers identified **time per sale** and **training** as the most important criteria in their decision to stock.
- Retailer satisfaction with stocking the technology dropped significantly when time per sale was longer than 10 minutes.
- The highest weighted criterion for retailers was training since they are responsible for administration of the test and interpretation of results.

Recommendation: Malaria rapid diagnostics should be framed as a service, not a product.



Distributors

- Distributors identified **expiration date** and **sales volume** as the most important criteria in their decision to stock.
- Because the shelf life of malaria rapid diagnostics could be just a matter of months, distributors bear most of the expiration risk, while retailers were able to buy small amounts of stock at a time.



First Line Buyers

- First line buyers' **preferences varied** due to different business strategies.
- One buyer valued NGO relationships yet was unwilling to invest more than 10 hours per week in managing diagnostics, while the other was more willing to invest time in achieving the financial results they valued most.

Recommendation: Business objectives and risks vary across the supply chain. Design business models and risk sharing contracts that are better aligned with incentives.

About CITE

CITE is a pioneering program dedicated to developing methods for product evaluation in global development. CITE's work is led by an interdisciplinary team at the Massachusetts Institute of Technology and is made possible through the support of the U.S. Global Development Lab at the US Agency for International Development. [Read the full evaluation report at cite.mit.edu.](http://cite.mit.edu)

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