FIND

SUPPORTING INNOVATIONS IN AI ENABLED DIAGNOSIS FOR LOW- AND MIDDLE-INCOME COUNTRIES

September 2022

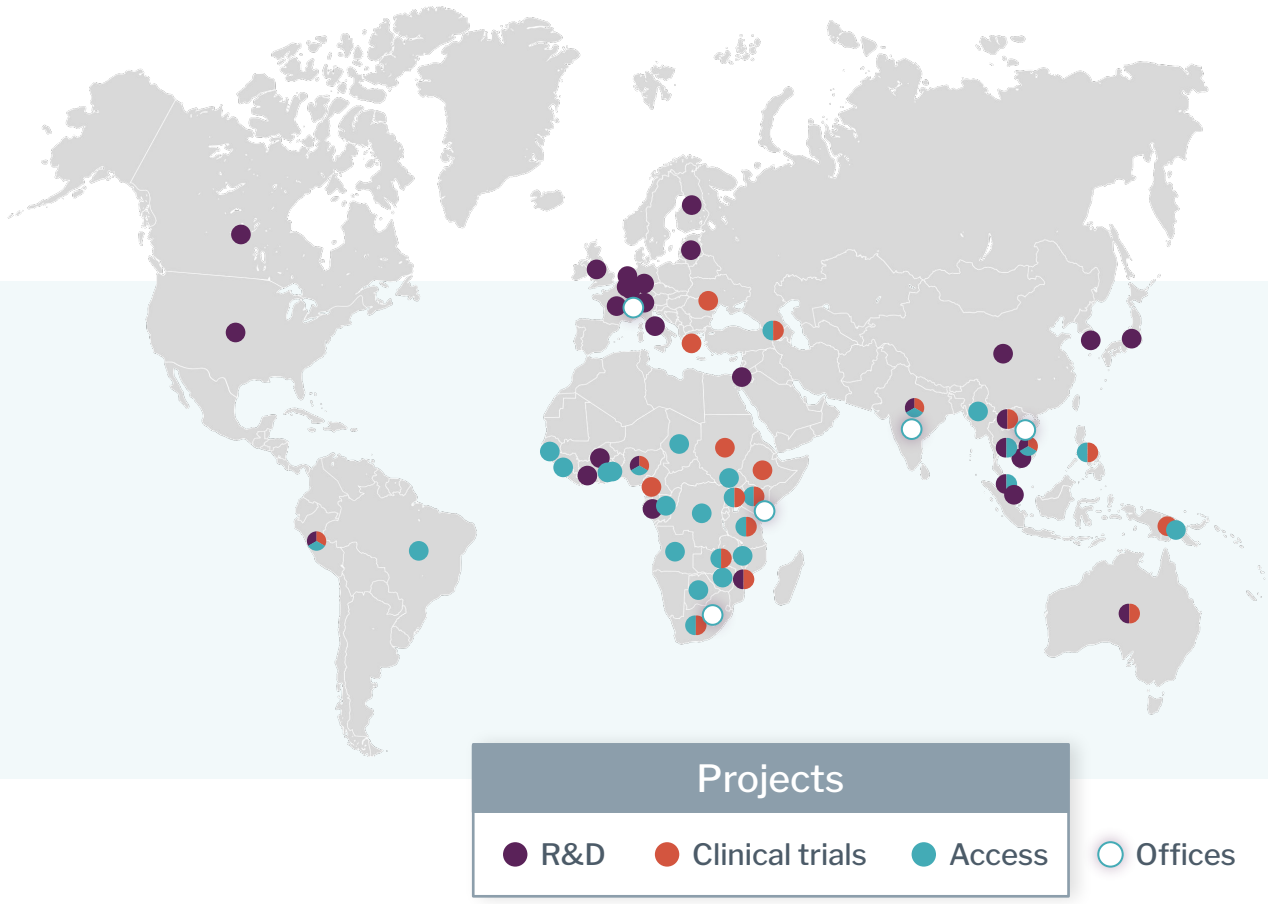
FIND

1 INTRODUCTION

FIND, THE GLOBAL ALLIANCE FOR DIAGNOSTICS

We connect countries and communities, funders, decisionmakers, healthcare providers and developers to spur diagnostic innovation and make testing an integral part of sustainable, resilient health systems

- Established in 2003 as a not-for-profit product development & delivery partnership
- Co-convener of the Access to COVID-19 Tools (ACT) Accelerator Diagnostic Pillar
- WHO Collaborating Centre for Laboratory Strengthening & Diagnostic Technology Evaluation



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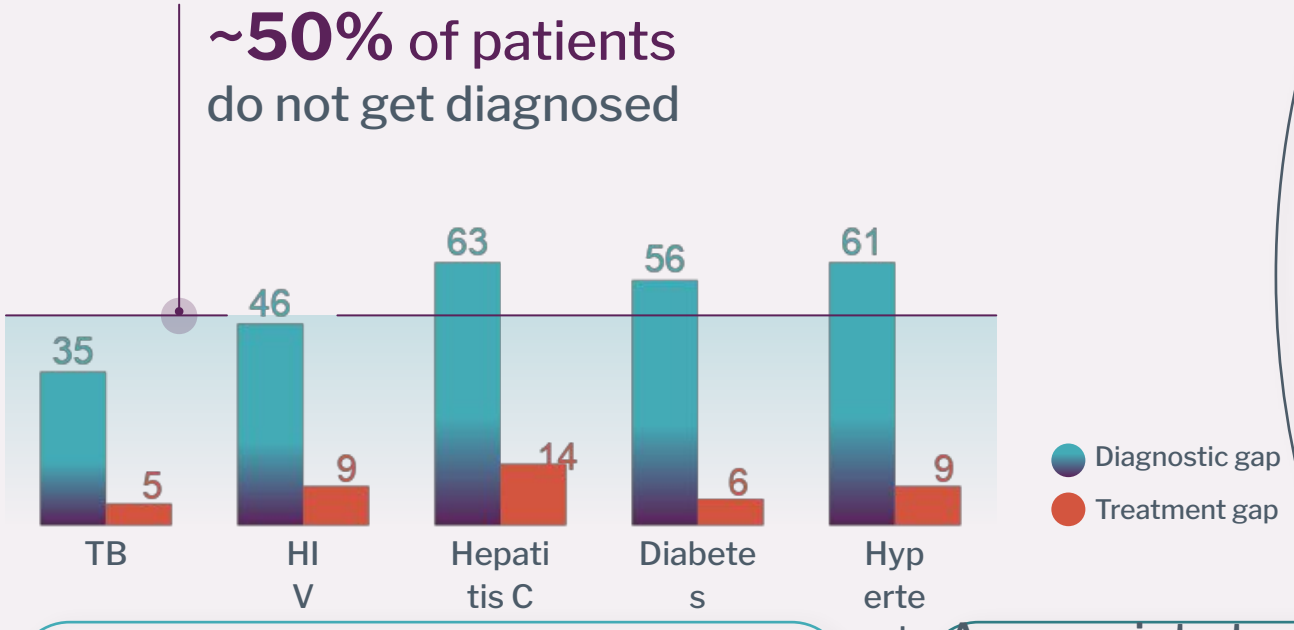
FOCUS ON DIAGNOSIS IN LMICS

UNADDRESSED DIAGNOSTIC GAPS

ARE MASSIVE

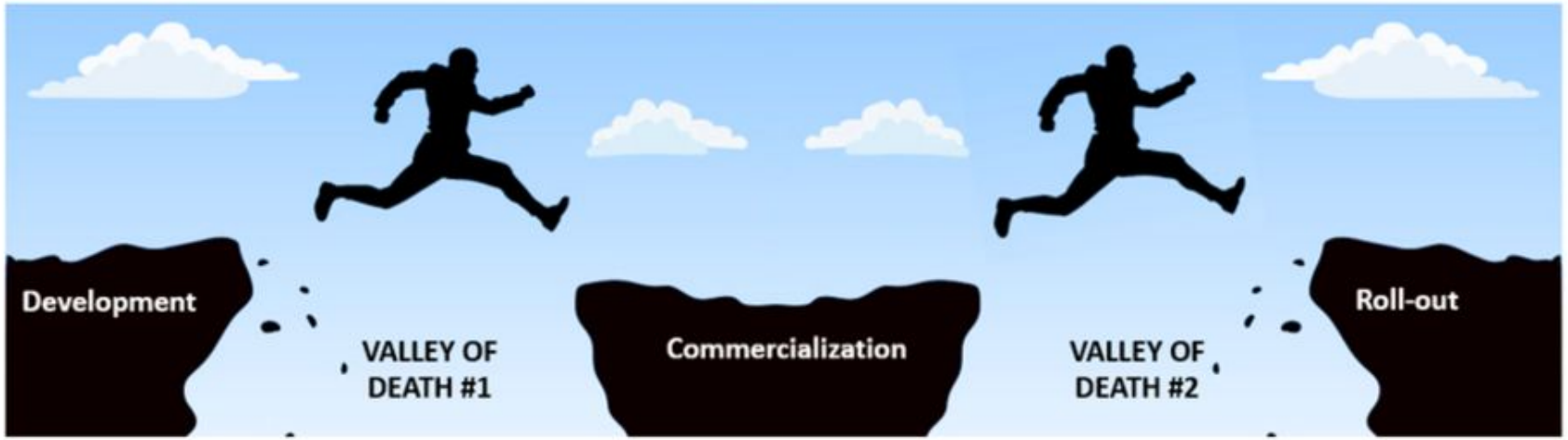


Basic diagnostic capacity is available in only **1%** of primary care clinics and **14%** of hospitals in some LMICs[1]

Appropriate tests do not exist for **60%** of infectious agents with outbreak potential[2] and **50%** of the top 20 diseases responsible for most lives lost[3]

[1] Leslie et al. *Bull World Health Organ* 2017;95:738–748, http://dx.doi.org/10.2471/BLT.17.191916.
[2] Kelly-Cirino et al. *BMJ Glob Health* 2019;4:e001179. doi:10.1136/bmjgh-2018-001179
[3] Pai et al. Analysis from Global Burden of Disease Report 2020

VALLEYS OF DEATH IN DIAGNOSTIC PRODUCT INTRODUCTION



- Need Identification
- Concept and Feasibility
- Development
- Lab & Clinical Validation

- WHO Evaluation
- Country Adoption
- Country Transition to Scale
- Scale-up and Monitoring

Source: https://www.weforum.org/agenda/2018/09/tb-is-the-worlds-deadliest-infectious-disease-we-have-one-shot-to-stop-it

OPERATING MODEL: PARTNERING FROM INNOVATION TO IMPLEMENTATION

CREATING A VIRTUOUS CYCLE FOR (AI-BASED) DIAGNOSTIC SUSTAINABILITY

Technology innovation

Partner with users and buyers to co-create fit-for-purpose tools with policy in place and a path to procurement

Access innovation

Partner with countries to embed testing as an integral part of sustainable, resilient health systems

OBJECTIVES

	Develop transformational diagnostic tools	Generate evidence	Build out local production	Develop marketplace & market interventions	Design new delivery models	Support countries to embed testing & surveillance into health	Strengthen diagnostic capacity	Support advocacy & mutually agreed accountability frameworks
Direct funding	Co-creation of new tools	Trial sites	Tech transfer Manufacturing capacity		Catalytic introduction		Diagnostic capacity Training	
Lead	Shaping R&D agenda Open-access resources	Trial design & coordination	Matchmaking	Market intelligence	Evidence generation for policy		Training material Technical assistance	Advocacy agenda
Coordination /support	R&D portfolio mgt & RFPs (inc multi-source funding)			Market-shaping		Global guidance tailored to local context		M&E

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3 SUPPORTING AI DIAGNOSTIC INNOVATION-EXAMPLE

BARRIERS TO UPTAKE FOR AI-BASED DIAGNOSTICS IN LMICS

Most digital health solutions are currently built and scaled for use in high income countries

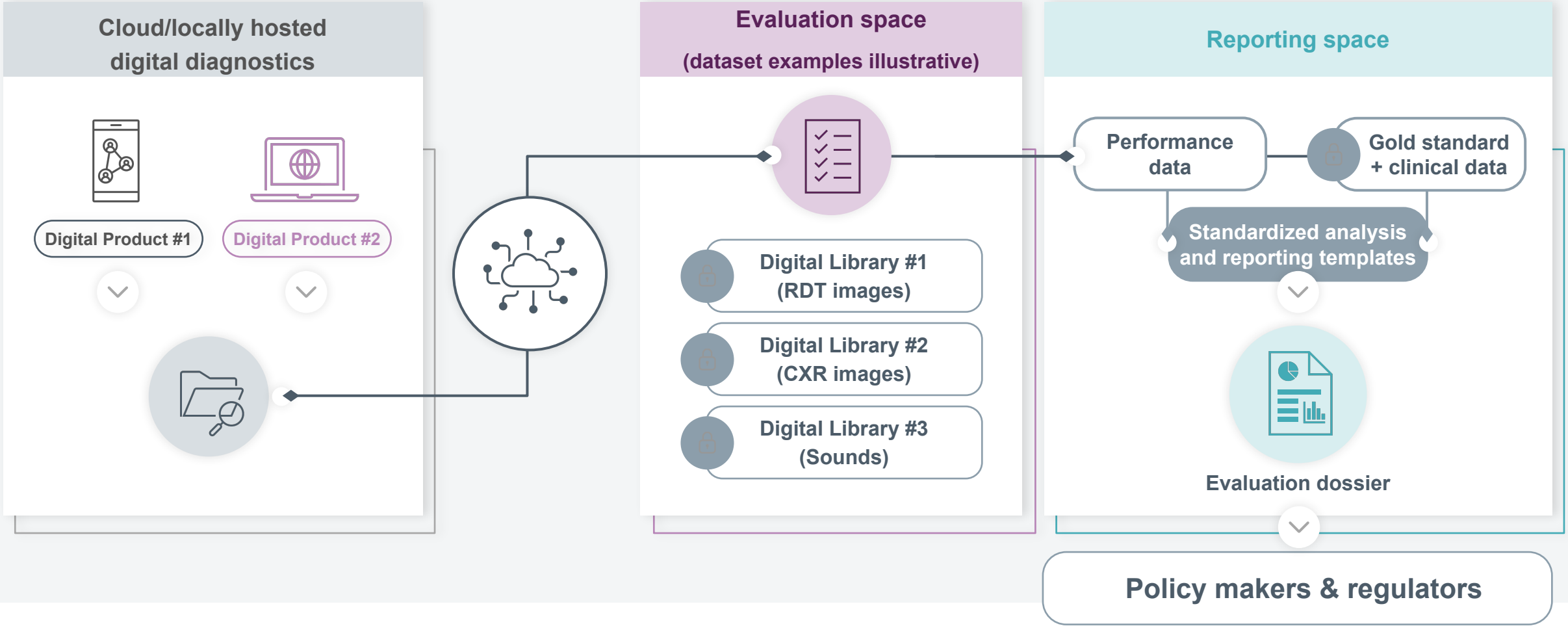
It unclear how and when these solutions will work in LMICs, which in turn impedes global and in-country policy approval and uptake

It is important to create and implement evidence generation frameworks for AI-based diagnostics that tailor to address policy and regulatory barriers at a global and national level to enable uptake

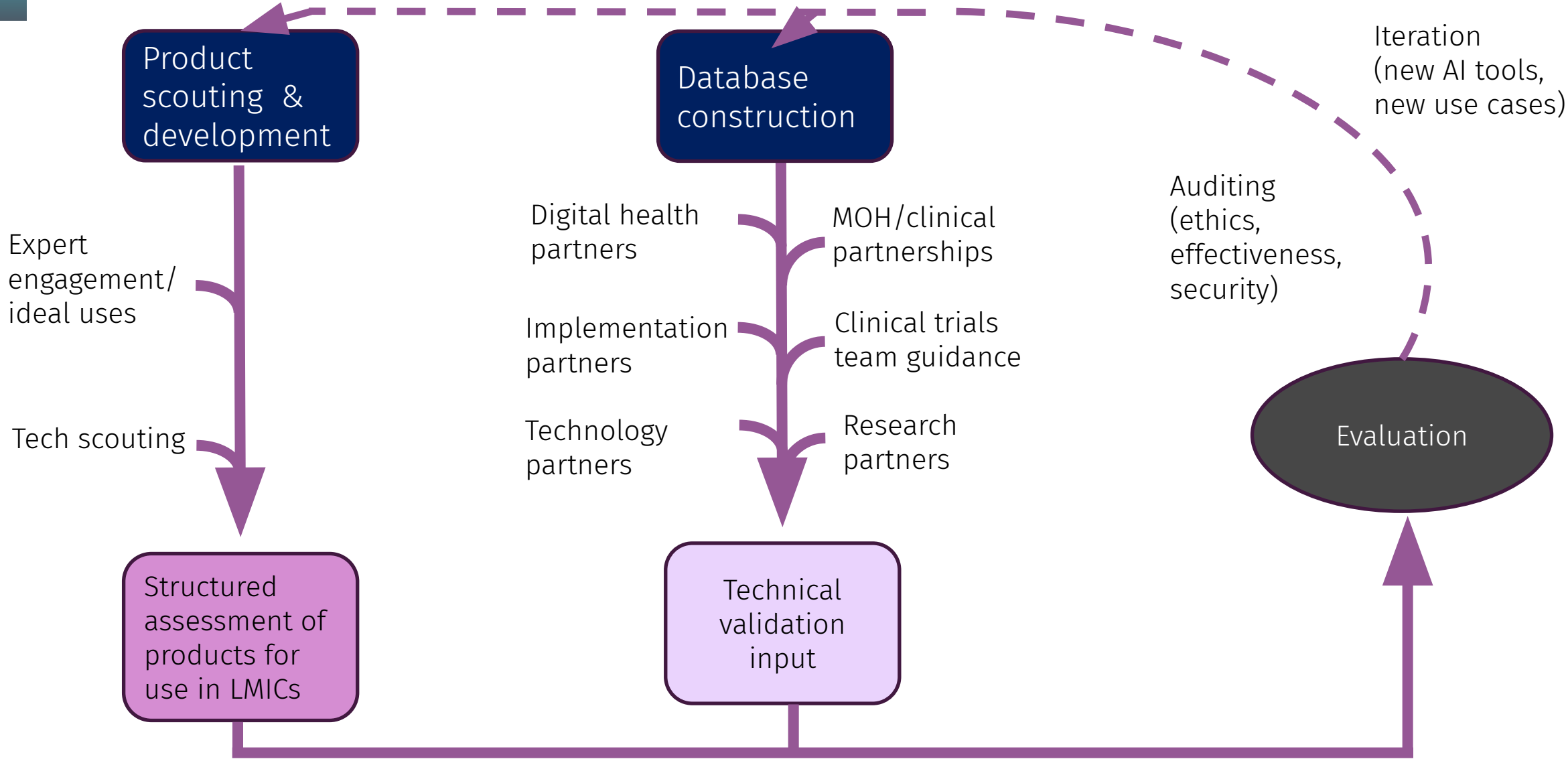
EVALUATION PLATFORM

FOR DIGITAL DIAGNOSTIC TOOLS

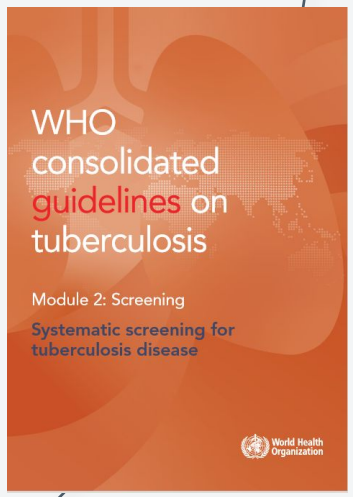
Designed to generate evidence on, and inform adoption of, digital diagnostics in LMICs



EVALUATION APPROACH



CAD AIs FOR TB
A FAST-MOVING FIELD



2017 - 1 PRODUCT

2020 - WHO EVIDENCE REVIEW OF 3 CE MARKED PRODUCTS

2021 - WHO POLICY ISSUED

2022 - >17 PRODUCTS

- FREQUENT VERSION UPGRADES AND NEW FEATURES ADDED
- NEW AREA FOR POLICY MAKERS AND REGULATORS

Stop TB Partnership

AI4HLTH

FIND Diagnosis for all

CADS SYSTEMS EVALUATION

IMPACT OF THE PROJECT

Global CXR archive supports policy development

2500 TB cases

6000 non-TB cases

8 countries (in Africa, Australia, Europe and South-East Asia)

~10,000 Images from >15 academic partners

Enables rapid comparative assessment of CAD technologies in line with product development

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Assessment across different use cases with bias reduced through independent evaluation from test developers

Improve patient care

"CAD may be used as an alternative to human reader interpretation of chest X-ray for pulmonary TB in individuals ≥ 15 y.o"

Updated WHO screening guidelines

Technology landscape supports country implementation

Provides an overview of digital X-ray and CAD technologies for TB diagnosis in the market

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Implementation experience of early adopters in high-TB-burden countries

Ai4hlth resource centre (developed with the Stop TB Partnership) already provides implementation-relevant information for:

17 CAD products

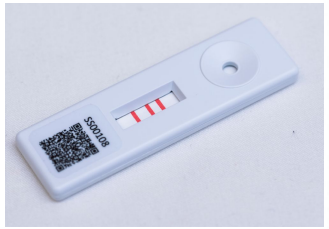
FIND is now expanding the evaluation platform to COVID-19 and other areas

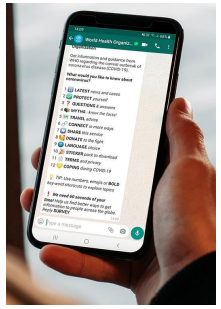
FOCUS AREAS IN AI AND DIGITAL HEALTH

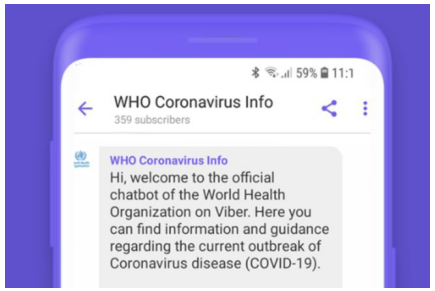
EMERGING TECHNOLOGIES – FOCUS AREAS

Empower patients

Tools that empower patients with health and care knowledge

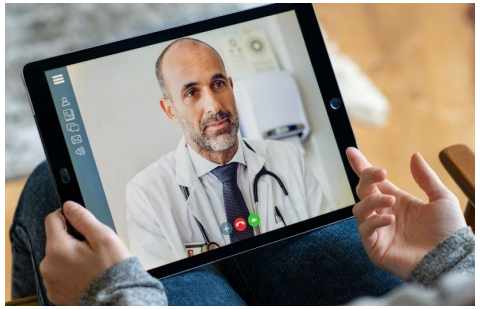


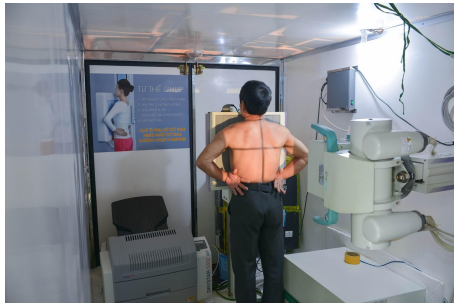




Enable HCWs

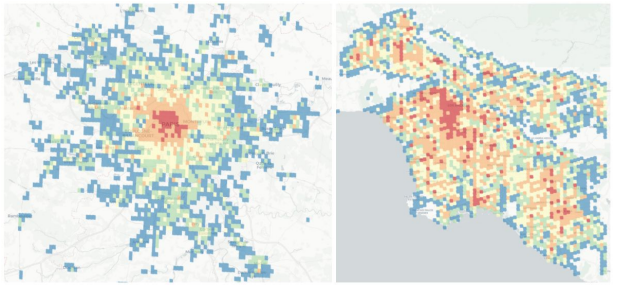
Tools that enable HCWs to provide reliable and timely screening and diagnosis

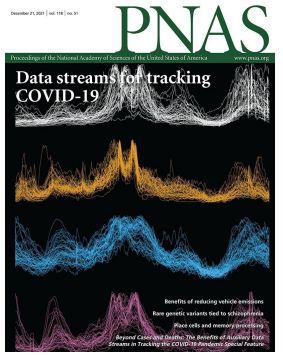




Inform public health response

Tools that enable surveillance and inform public health action





Thank you