Uniting Innovation with Implementation: An Evidence Synthesis of Implementation Strategies to Increase the Uptake and Impact of Molecular WHO-Recommended Rapid TB Diagnostic Tests



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Union NAR conference, February, 2023

Background

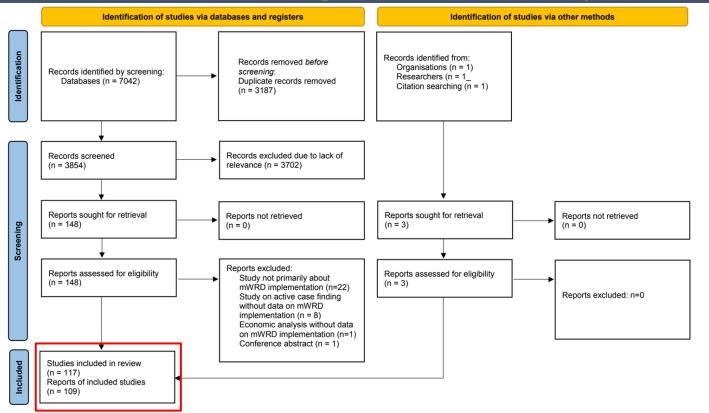


- Molecular WHO-recommended rapid diagnostic tests (mWRDs) for the diagnosis of TB and rifampin resistance were first endorsed in 2011 and are now recommended as the initial test for all persons being evaluated for TB.
- However scale-up and implementation has been limited: in 2021, only 38% of people newly diagnosed with TB received an mWRD as their initial test.
- Aim: we sought to evaluate how implementation strategies successfully addressed barriers to the use or impact of mWRDs

Methods

- Mixed methods systematic review
- Inclusion criteria: studies that used qualitative, quantitative, or mixed methods study designs to assess barriers, enablers, and implementation approaches
- Searched the following databases: MEDLINE, Embase, CINAHL, PsycInfo, Web of Science, WHO-ICTRP. Identified operational reports.
- Studies classified according to thickness (high, medium, or thin based on depth of analysis and insights)
- Quality assessment: adapted tool based on Standards for Reporting Implementation Studies (StaRI)
- All abstracts, full-texts and data extraction undertaken by two review authors

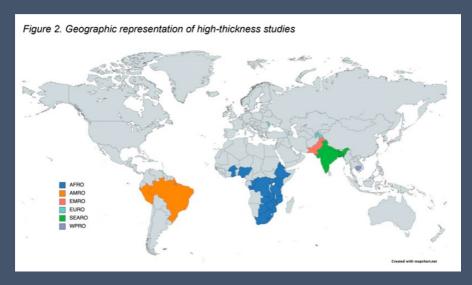
Prisma flow diagram of study selection



109 studies included: 54 high-thickness, 41 medium-thickness, and 14 thin

Included studies





- Here will focus on the 54 high thickness studies
- RCTs, cohort studies, mixed methods, qualitative
- Almost all evaluated Xpert/Ultra aside from Truenat(1), TB-LAMP (1)
- Wide representation across WHO regions: >18 countries, public/private sector settings, key risk populations

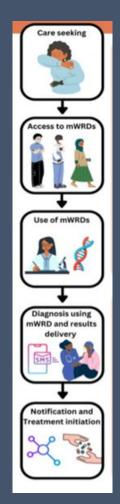
Barriers and enablers: highlights

Patient level: costs, education gaps, health system mistrust, stigma

Provider level: knowledge and training gaps, overwhelm

Health facility level: technical issues, supply chain, infrastructure including equipment and maintenance, specimen transport

Data management and health systems level: medical record system, results delivery, costs, diagnostic network strengthening



mWRD implementation solutions



1. CARE SEEKING

-Active case finding including community screening, may be facilitated by CHWs and mobile platforms -Home-based testing



2. ACCESS TO MWRD

- -Peripheral site testing -Decentralized
- Same day testing
- Multi-disease testing
- Diagnostic network
- improvement - PPM, SBM,
- reverse PPM



3. USE OF MWRD

- Technical, longitudinal **HW** training
- QI approach - Diagnostic
- network improvement -Strengthened
- infrastructure - Sample transport
- Financing



- 4. DIAGNOSIS/ **RESULTS DELIVERY**
- -Multi-level process for re-design - Dedicated
- logistical staff or task shifting
- Performance feedback
- Electronic notification and record systems



5.NOTIFICATION & RX INITIATION

- PPM partnerships and linkage using mHealth - Data
- connectivity software
- Multicomponent strategies
- Performance feedback

ENGAGE CONSUMERS CHANGE INFRASTRUCTURE TRAIN/EDUCATE STAKEHOLDERS SUPPORT CLINICIANS

INTERACTIVE ASSISTANCE

CHANGE INFRASTRUCTURE SUPPORT INTERRELATIONSHIPS **FINANCIAL STRATEGIES**

Key review findings

- Multicomponent strategies should address barriers throughout cascade
- Person-centered approaches needed to reach presumptive TB patients who may or may not be seeking care
- Need to increase and sustain access to mWRDs as near-patient test
- Provider training/engagement to ensure mWRDs used as initial test
- Connectivity solutions including mHealth tools can strengthen linkage between diagnosis using mWRDs, results delivery & treatment initiation
- Diagnostic network improvement as part of health system strengthening

Thank you!

















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