Implementation research in TB diagnostics

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Fuzzy terminology, but we all get the idea…

- Implementation science
- Implementation research
- Operational research
- Health systems research
- Health services research
- Programmatic research
- Knowledge translation research
- Dissemination research

Improving TB diagnosis: difference between knowing the path and walking the path

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"As Morpheus tells Neo in the cult science fiction movie *The Matrix*: "there's a difference between knowing the path and walking the path." Development of new tools is "knowing the path" ... "Walking the path" is a longer process that involves translation of technologies and policies into impact."

Growing recognition that products and tools are not sufficient… they need to be implemented and scaled-up to have any impact

"Implementation science research builds a body of evidence that can inform the design of appropriate health interventions and programs by identifying determinants of success and failure according to context. By integrating research with implementation, the resulting knowledge can spur dynamic and continuous improvement of public health programs and strategies for achievement of global health."

Operational research in low-income countries: what, why, and how?

Rony Zachariah, Anthony D Harries, Nobukatsu Ishikawa, Hans L Rieder, Karen Bissell, Kayla Laserson, Moses Massaquoi, Micheal Van Herp, Tony Reid

"Operational research is the search for knowledge on interventions, strategies, or tools that can enhance the quality, effectiveness, or coverage of programmes in which the research is being done."

Making innovations accessible to the poor through implementation research

S. B. Squire,* A. R. C. Ramsay,† S. van den Hof,‡§ K. A. Millington,* I. Langley,* G. Bello,¶ A. Kritski,# A. Detjen,** R. Thomson,* F. Cobelens,§ G. H. Mann*

"In a new era of innovations for TB diagnosis and treatment, it is increasingly important not only to be sure that these innovations *can* work in terms of accuracy and efficacy, but also that they *will* work, especially for the poor."

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STATE OF THE ART

STATE OF THE ART SERIES
Operational Research, *Edited by* Donald A. Enarson
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The Union and Médecins Sans Frontières approach to operational research

A. D. Harries,*† I. D. Rusen,* T. Reid,‡ A. K. Detjen,* S. D. Berger,* K. Bissell,* S. G. Hinderaker,*§
M. Edginton,* M. Fussell,* P. I. Fujiwara,* R. Zachariah‡

Operational research for improved tuberculosis control: the scope, the needs and the way forward

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OR in TB control is aimed at

1) improving programme performance;
2) assessing the feasibility, effectiveness and impact of new strategies or interventions on TB control;

3) collecting evidence to guide policy recommendations on specific interventions.

Gaps in the pipeline and unmet needs

Key messages:

- The highest priorities questions are:
  (i) the identification of bacterial and/or host molecules that differentiate between persons in different stages of the disease spectrum,
  and
  (ii) the simplification and validation of novel tools for diagnosis at point of care level.

- Of high priority is the need to study *how to combine existing and new diagnostics to optimize the detection of the various forms of TB (including drug-sensitive TB, drug-resistant TB and latent TB infection) in various population settings and at all health care levels.*

- Particular reference was made to the *need to identify combinations of methods to gather useful specimens in children.*

- Of high importance also is the definition and evaluation of performance of new *diagnostic tests* in terms of feasibility, cost-effectiveness, reduction in diagnostic delay, and impact on clinical decision-making and patient benefit.

- Another high priority is the development of a systemic marker of *bacterial load* in TB through various samples and methods;

- The automated NAAT technology is a "game-changer" for TB control, but needs to be decentralized to the point-of-treatment and implementation scaled up rapidly to achieve a population level impact, particularly in resource-limited settings.

Biomarker and basic research

"Post-efficacy, post-policy pathway"