



Digital innovations, TB and implementation research

Background

The potential for an intervention to bear benefit at large scale is influenced by the context in which it is implemented. The performance shown by a product or a policy under trial conditions is often difficult to reproduce or improve upon in routine practice in the field. This is a challenging task on which translation science has struggled to make an impact, particularly for activities for which the evidence is limited and the effects are eminently influenced by the circumstances in the setting (e.g. change in user behaviour).

Implementation research is one accessory to these efforts. It represents an important interface between the availability of tools, strategies and interventions and their use within a health system. This is relevant for digital health interventions in tuberculosis programmes where the type of evidence differs. The products and applications are very heterogenous, varying from tools to help patient care, surveillance, programme logistics, and education of health care staff and patients(1). Whereas randomised controlled trials have been mounted in different settings to study how tools can support medication adherence for other areas such as electronic notification and elearning the evidence of effect remains undefined. Going digital with programmatic and patient clinical data and creating mobile device apps to train health care staff are often urged on by a desire to replace paper with computerised methods and take advantage of all that is online. Several digital products in use in TB care today – such as connected diagnostics and text messaging – had no natural precursor before they emerged in the wake of the digital revolution. They would be inconceivable had mobile hardware and internet been less pervasive. Regardless, the underlying assumption when such novelties are implemented is that they will always benefit programme performance and patients, by increasing effectiveness, quality or efficiency of health care delivery.

WHO has, for several years, promoted implementation research, as part of the methods to study and improve health care (2),(3). Intensified research and innovation is one of the three pillars of WHO's post-2015 End TB Strategy(4). This encompasses both discovery & development of new tools as well as how to adapt new technologies to optimize their impact when rolling them out at scale. The application of implementation research to tuberculosis interventions has been reviewed in recent years(5),(6). Now that a variety of digital technologies are being applied to support the End TB strategy it is timely to broaden the discussion of demand-driven, implementation research to include also technologies used not only for medication adherence but also for other purposes, such as eLearning, logistics management and patient monitoring.

Since 2014 the Global TB Programme of the World Health Organization (WHO/GTB) has collaborated with the European Respiratory Society (ERS) to improve the uptake and evidence base for digital innovations in support of efforts to prevent and treat TB. As a result of this work a WHO/ERS digital health agenda for the End TB Strategy was launched in 2015(7). Since 2017, WHO released evidence-based recommendations and implementation guidance on the use of mainstay digital technologies for TB treatment adherence(7),(8). Apart from TB medication adherence, WHO/GTB has also been supporting other digital technologies, particularly for TB electronic recording and reporting(9).





Meeting objectives

In continuation of the joint collaborative efforts of WHO and ERS, a meeting on the theme of "*Digital innovations, TB and implementation research*" is being held in Geneva, Switzerland on 11-12 December 2018. The aim of the meeting is to produce by March 2019 a document to help countries design and seek funding for implementation research projects to improve digital technologies for TB control.

In pursuit of this aim, the agenda of the meeting will cover the following points:

- the main challenges to implement various digital innovations to improve TB patient care, surveillance, programme management and eLearning in Brazil, China, India, the Russian Federation and South Africa (BRICS countries) in recent years;
- translating research findings to the local context when implementing digital technologies for TB in the public and private sectors; and
- the drafting of an outline of the "how-to" document to help countries itemise, describe and cost the implementation research of digital technologies for public health interventions in resource-limited settings.

Ahead of the meeting countries will be encouraged to prepare posters to summarize their experiences and plans. A description of the opportunities that countries availed of when undertaking implementation research or translating study findings to their context will be particularly interesting.

Key references

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World Council of Churches, Geneva, Switzerland - 11-12 December 2018

Provisional Agenda

Day 1 (Chairs: Dennis FALZON, Kevin SCHWARTZMAN)

Time	Торіс	
14:00 - 14:30	WHO/ERS welcome message & Introductions	Director GTB, President ERS
14:30 - 14:45	Background of work in recent years and meeting objectives	Dennis FALZON
14:45 - 15:15	Why Implementation research? Concept note on digital innovations, TB and implementation research	Katherine FARR
15:15 - 15:45	Break	
15:45 - 16:15	Country presentation (1) – implementation research to translate RCT findings on medication monitors into improved programmatic TB medication adherence	Country 1
16:15 – 16:45	Country presentations (2) – implementation research for connected TB diagnostics in high HIV-burden setting	Country 2
16:45 - 17:00	Conclusions; plan for Day 2	Chairs

Day 2 (Chairs: Zelalem TEMESGEN, Kristian VAN KALMTHOUT)

Time	Торіс	
08:45 - 09:00	Plan for the day and objectives	Zelalem TEMESGEN
09:00 - 09:30	Country presentations (3) – implementation research on eLearning interventions in order to enhance their effectiveness	Country 3
09:30 - 10:10	Country presentations (4) – implementation research on the overall performance multiple, ICT-based interventions can improve TB patient centered care in both the public and private sectors	Country 4
10:10 - 10:30	Country presentations (5) – implementation research to improve TB surveillance using electronic recording and reporting	Country 5
10:30 - 10:45	Break	
10:45 - 11:15	Converting the concept note into a useful guide to help countries undertake implementation research	Katherine FARR
11:15 - 12:30	Developing a framework for implementation research under the four functions of digital health: patient care, surveillance, programme monitoring and eLearning (1)	working groups
12:30 - 13:30	Lunch	
13:30 - 14:30	Developing a framework for implementation research under the four functions of digital health: patient care, surveillance, programme monitoring and eLearning (2)	working groups
14:30 - 15:15	10-minute presentations of key findings from each group in plenary	Chairs
15:15 - 15:45	Break	
15:45 - 16:45	Discussion on the content, main features of the document and leads for the different sections	Chairs
16:45 - 17:00	Close & next steps	Director, GTB