World Health Organization

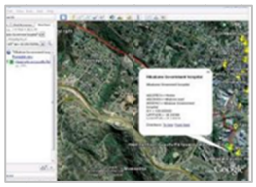
DIGITAL HEALTH IN THE TB RESPONSE

Scaling up the TB response through information and communication technologies

DIGITAL HEALTH FOR TB

- The potential of information and communication technologies to combat TB still remains largely untapped.
- Many countries and partners have embarked on pilot projects to study how eHealth (electronic health) and mHealth (mobile health) can be used in the fight against TB.
- WHO is in the process of collating evidence and aims to eventually develop policies to maximize the impact of these technologies for people with TB.
- Support is needed to scale-up effective eHealth and mHealth approaches after evaluation.
- A framework on the roles of eHealth for the TB response with some country examples is presented below:

A framework on the role of digital health in TB prevention and care

Functions	Possible interventions	Some innovative examples
Patient care & "eDOT"	Drug administration monitoring devices	**Kenya- Cash transfers through mobile banking to MDR-TB patients:** Kenya's extensive mobile communications network and widespread use of cellular phones enable, among other things, cash transfers through mobile banking to MDR-TB patients in support of their treatment. 
	Video (virtual) supported treatment (VOT)	
	SMS communication for treatment & follow ups	
	Telephone-based, web-based interventions, SMS for smoking cessation in TB patients	
	Enablers/incentives for adherence (cash transfers, free airtime)	
Surveillance and Monitoring	Notification of TB episodes to existing electronic surveillance systems	**Swaziland- Matching MDR-TB patients' residence to treatment supporters** : In Swaziland, health managers can see maps of treatment facilities and how they relate to the location of MDR-TB patients and treatment supporters' homes (as captured on GPS-enabled phones). 
	Reporting of drug safety concerns	
	Studies of social determinants	
	Client satisfaction polls	
	Operational research on transactions between community health workers, patients and facilities	
Programmatic management	Stock levels of drugs, medical devices and reagents	**Drug forecasting- Avoiding drug stock outs using software:** To make sure no patient's treatment is interrupted due to lack of medicines, the QuanTB program creates a dashboard for managers to see how long current drug stocks are forecast to last and when new drug orders should be placed. 
	Management and coordination of logistics	
	Drug ordering and management systems	
	Database of patient location, contacts and health care facilities	
	Access to medical files via mobile devices	
	Texting of laboratory results on TB and comorbidities (eg, HIV, diabetes)	
eLearning	Self-teaching utilities	**Health professional education**- Online platforms on clinical and public health topics including TB. 
	Online courses and information on healthy lifestyles (eg, smoking cessation, diabetes control)	
	Applications proposing content, such as guidelines and diagnostic aids	
	Social networking tools, news forums	

KEY DEFINITIONS

eHealth *(electronic health) is the cost-effective and secure use of information and communication technologies (ICTs) for health and health-related fields.*

mHealth *is a component of ehealth, and involves the provision of health services and information via mobile technologies such as mobile phones and Personal Digital Assistants (PDAs).*

WHO RESPONSE

HARNESSING THE POTENTIAL OF DIGITAL HEALTH FOR TB

The WHO Global TB Programme is engaged in pursuing the potential of innovative information and communication technologies to improve TB patient outcomes, and aims to undertake several actions:

Expanded evidence on impact of digital health in the fight against TB

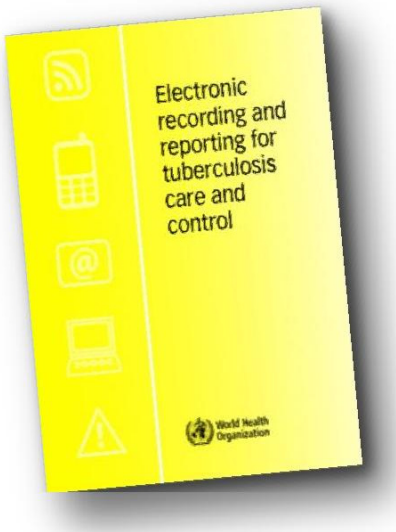
- Produce an overview of available evidence through systematic reviews and bringing together experts who combine knowledge of TB care and surveillance with information and communication technology.
- Compile an inventory of digital health interventions in TB prevention and care, highlighting lessons learnt, assessments and recommendations, best practices, and cost-effectiveness evaluations.
- Provide support for some studies which look at scalability.

Improved technical assistance to countries

- Provide guidance to countries on channeling the necessary resources into eHealth interventions based on best practices proven to be effective.

Policy development

- Develop key policy recommendations on digital health for TB care, prevention and surveillance for countries.



WHO HANDBOOK ON ELECTRONIC RECORDING AND REPORTING FOR TB CARE AND CONTROL

WHO has developed a handbook that helps countries to plan and introduce an electronic system or to enhance an existing system. The handbook helps to:

- Identify general requirements of organization and scope.
- Identify detailed requirements of capabilities, resources, and infrastructure.
- Select an electronic solution.
- Implement an electronic recording and reporting system.

http://www.who.int/tb/publications/electronic_recording_reporting/

TB QUICK FACTS

Tuberculosis (TB) is **contagious** and **airborne.** It ranks as the **second leading cause of death from a single infectious agent**, after the human immunodeficiency virus (HIV).

In 2013, **9 million** people **fell ill with TB** and **1.5 million people died from it.**

The WHO Global TB Programme aims to advance universal access to TB prevention, care and control, guide the global response to threats, and promote innovation. More information: www.who.int/tb