World Health Organization

mHealth: use of mobile wireless technologies for public health

Report by the Secretariat

1.   Mobile technologies are becoming an important resource for health services delivery and public health due to their ease of use, broad reach and wide acceptance. According to a report prepared by ITU in 2015, there are more than 7 billion mobile telephone subscriptions across the world, over 70% of which are in low- or middle- income countries. In many places, people are more likely to have access to a mobile telephone than to clean water, a bank account or electricity.[1]

2.   Mobile technologies have the potential to revolutionize how populations interact with national health services. Mobile wireless technologies for public health, referred to as "mHealth", have been shown to increase access to health information, services and skills, as well as promote positive changes in health behaviours to prevent the onset of acute and chronic diseases. In order to realize these gains, Member States are seeking to identify standardized approaches for applying mHealth in health systems and services.

3.   An increasing proportion of the population is accessing health information and services through mobile telephones, and a vast array of mobile-based solutions – from SMS to complex "smartphone" applications – have been developed to improve health access, knowledge and behaviours across a range of contexts and target groups.[2]

4.   In spite of the potentially wide applicability of mHealth strategies and solutions to address the diversity of patients' and, populations' needs, however, Governments have found it challenging to assess, scale up, and integrate mHealth solutions. There are a number of contributing factors, including:

- Multiplicity of pilot projects with no clear plan or process for scale;

- Lack of interconnectedness between individual applications and of integration with existing national eHealth strategies and health information architectures;

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[1] The World Bank's publication, Information and communications for development: maximizing mobile, is available at: http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOL OGIES/0,,contentMDK:23242711~pagePK:210058~piPK:210062~theSitePK:282823,00.html (accessed 20 May 2016).

[2] The Economist article, "Things are looking app", 12 March 2016, see http://www.economist.com/news/business/ 21694523-mobile-health-apps-are-becoming-more-capable-and-potentially-rather-useful-things-are-looking (accessed 11 May 2016).

- Absence of standards and tools for the comparative assessment of functionality, scalability and comparative value of mHealth solutions, resulting in a lack of evidence to articulate normative guidance;

- Lack of a multisectoral approach within government – especially engagement between ministries of health and ministries of information and communication technologies and recommended rules of engagement with the private sector.

5.   In the 2030 Agenda for Sustainable Development, it is recognized that there is a need to significantly increase access to information and communication technologies. Such technologies have the potential to play a major role in catalysing and measuring progress towards a number of the Sustainable Development Goals.

6.   The spread of information and communication technologies and global interconnectedness has a significant potential to accelerate Member States progress towards achieving universal health coverage, including ensuring access to quality essential health services. Increasing the capacity of Member States to use information and communication technologies for health (eHealth), and in particular mHealth, could play a major role in realizing that potential, particularly:

(a)   *By increasing access to quality health services.* A key objective to using mHealth is to increase access to health services through the effective and timely sharing of health data, particularly for hard-to-reach populations. The ability to attach specialized devices and sensors combined with the inherent capability of mobile technologies increase their reach and power in disease diagnosis, monitoring, management and research. Moreover, information and communication technologies support critical health system functions by improving the ability to gather, analyse, manage, deliver and exchange information in all areas of health.

(b)   *By increasing access to sexual and reproductive health services; reducing maternal, child and neonatal mortality.* The goal of integrating mHealth across the reproductive, maternal, newborn and child health continuum focuses on strengthening the quality, coverage and affordability of validated health interventions. This includes: electronically registering clients, assessing and monitoring those in need of services, having the necessary human resources and commodities in adequate supply, and ensuring that beneficiary populations are empowered; and that the health workforce is responsive to their needs, tracking and responding to health events in a timely manner, in order to improve outcomes and reduce mortality.

(c)   *By reducing premature mortality from noncommunicable diseases.* Other opportunities for using mobile technologies include improving awareness to bring about change on the key noncommunicable diseases risk factors (including tobacco use, alcohol use, unhealthy diet and lack of physical activity), improving disease diagnosis and tracking, as well as self-care and home care and overall management of chronic conditions (including diabetes, cardiovascular, cancers and respiratory diseases).

(d)   *By increasing global health security.* The limitations of current approaches to disease surveillance and the increase in the public's use of the Internet and mobile telephones have prompted new approaches for obtaining information directly from the public to support disease surveillance. These approaches include, for example, gathering information and data on indicators directly from affected populations or other stakeholders, through approaches such as "crowdsourcing" or community reporting.

7.   For more than a decade, WHO has recognized the value that information and communication technologies bring to health systems and services. Evidence of the priority placed on such technologies is seen in the many resolutions on eHealth adopted by the World Health Assembly and by the Regional Committees.[1]

8.   The WHO Global Observatory for eHealth survey of Member States in 2015 documented the surge in adoption of eHealth in countries. Today there are 121 countries that have national eHealth strategies, representing the beginning of a shift from an unsustainable project-based approach towards a systematic, integrated approach designed for cost-effective investment and alignment of partners.[2] In this context, there is potential for mHealth programmes to become more systematically implemented, with increasing interest in sharing lessons learned and adopting enabling policies.

9.   In collaboration with ITU, the Secretariat is working to raise awareness, record trends, build capacity, establish guidance, and generate and document evidence on eHealth, including mHealth, as a tool to promote person-centred, integrated service delivery.

10.   Significant technical engagement by the Secretariat towards the development and implementation of mHealth programmes, include:

- the joint initiative with ITU "Be He@lthy Be Mobile" for the prevention and management of noncommunicable diseases;

- the development of guidance for mHealth applications in the area of reproductive health through the mHealth Technical and Evidence Review Group for reproductive, maternal and child health;

- building on digital solutions to help tuberculosis patients.

11.   New priorities for WHO in the area of mHealth include:

- to support and strengthen ongoing efforts to build evidence-based guidance on the use of mHealth in order to advance integrated person-centred health services and universal health coverage;

- to provide guidance on mHealth adoption, management and evaluation in order to aid good governance and investment decisions. These could include guidance to inform the development of national programmes and strategies, and the development of standard operating procedures;

- to work with Member States and partners to build platforms for sharing evidence, experience and good practices in mHealth implementation as a way to achieving the Sustainable

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[1] Relevant resolutions include resolution WHA58.28 on eHealth (2005), resolution WHA66.24 on eHealth standardization and interoperability (2013), and various resolutions of the Regional Committees, including resolution EM/RC53/R.10 (2006), resolution AFR/RC56/R8 (2006), resolution AFR/RC60/R3(2010), resolution CD51.R5 (2011), and resolution AFR/RC63/R5 (2013).

[2] For more information, see the Global Observatory for eHealth website, at http://www.who.int/goe/policies/en (accessed 20 May 2016).

Development Goals. These could include building on existing networks to create regional hubs of knowledge and excellence on mHealth;

- to support building capacity and the empowerment of health workers and their beneficiary populations to use information and communication technologies, in order to foster their engagement and accountability, and to catalyse and monitor progress on specific Sustainable Development Goals using mHealth.

ACTION BY THE EXECUTIVE BOARD

12. The Executive Board is invited to take note of the report.

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