



Australia-India: Leveraging digital technologies for health outcomes



BACKGROUND

Over the past few decades, India has seen a remarkable improvement in various health indicators such as life expectancy and mortality. Successful eradication of once prevalent diseases, small pox and polio, is a case in point. However, the basic principles of accessibility, quality and affordability are still the biggest issues faced by Indian policy makers.

While India's healthcare industry has seen upward growth with the rapid increase of private health infrastructure, catering essentially to the urban middle-class, there has been an inconsistent distribution of such successes throughout the country. Lack of doctors (skilled workforce), basic medical facilities and medicines and the growing burden of non-communicable diseases are some of the key issues facing the rural population. This becomes more worrisome as the majority of the Indian population, approximately 70%, resides in rural areas and are heavily dependent on public facilities due to the high out of pocket expenditure (OOP) on healthcare in private set ups.

This demand and supply mismatch has made the policy makers recognize the substantial role that technology can play in reducing such chasms. India, by virtue of being the world's fastest emerging economy has seen a rapid transition towards the adoption of technology in all spheres of life. For instance, in 2015, India had the world's second largest subscriber base of active smartphone users globally. Consequently, the Indian government recognized information and communication technologies (ICT) as the precursor for the development of a modern health system.

Australia, once facing similar issues, is one of the finest examples of amalgamation of technology with health services for equitable output. In 2008, Australia adopted a National eHealth Strategy that acts as an overarching framework that ensures informed policy decisions.

India-Australia Memorandum of Understanding on Health and Medicine

With an aim to further India and Australia's long standing partnerships the two countries recently signed a Memorandum of Understanding (MoU) envisioning greater cooperation and collaboration on health, including on science & technology to improve health outcomes. Under the framework of the MoU, the George Institute

for Global Health India hosted a Digital Health Industry Roundtable on 30th May 2017. Key stakeholders from the Governments of India and Australia along with representatives from the Industry to discussed the key areas where digital technology investments can make the biggest impact for health outcomes in India.

The below recommendations emanate from the Roundtable and could be considered by the Joint Working Group of Senior Officials on Health.

The following IMMEDIATE OPPORTUNITIES were recognized

- Early alert and pre-hospital notification systems for emergency response – particularly for managing trauma, and electronic dashboards to monitor quality of trauma response.
- Clinical outcomes management systems oriented towards the prevention of antimicrobial misuse and prevention of antimicrobial resistance, particularly in infections of public health importance like Tuberculosis
- Strengthening public health delivery systems through technology enabled platforms that enable "task shifting" and risk stratified clinical decision support at the primary care delivery units
- Electronic health records, particularly to ensure that appropriate care is being delivered, both for managing insurance systems as well as for clinical audits for benchmarking.
- Enabling the capturing of clinical notes in real time through voice recognition, leading to better coding of conditions and interventions
- Artificial Intelligence / Augmented Reality technology facilitated real time diagnosis and clinical decision support systems
- Frontline data capture and real time analysis and decision support systems for maternal, newborn and child health, growth & nutrition, to better focus public health interventions

RECOMMENDATIONS

Immediate steps:

- **Association for Digital Health**

As a first step, there is a need to set up a common platform in the form of an association on digital health seeking participation of expert stakeholders from the two countries, including representation from Universities, specialist research entities and market sector players. The association will work in coherence with the relevant government bodies to inform the national IT-Health policy for India, which would provide an overarching framework to the use of ICT in healthcare. Such a policy would bring about an end-to-end integration in all aspects of healthcare including planning, delivery and monitoring.

Medium-term actions:

- **Electronic Health Records**

Akin to Australia's electronic health information network, HealthConnect, there is a need to establish a system that would ensure safe and secure collection, storage, and exchange of summary records between health care service providers across public and private sectors. EHR also mandates putting in place the laws that are currently still evolving in India to ensure data protection and strict privacy safeguards.

- **Setting up robust, privacy safeguarded, epidemiology surveillance system**

- o Surveillance is key to eliminating and preventing infectious diseases. Early detection ensures a rapid response, which prevent treatable illnesses from aggravating to life-threatening conditions. Given the preventable nature of most of the diseases prevalent in India there is a dire need to put in place a robust surveillance system. For instance, in Uganda, the government deployed mTrac, a text message-based platform that allows local health workers to report potential cases of polio and other diseases in real time using their mobile phones.
- o Creation of a web-based, mechanism to ensure daily collection and maintenance of data getting generated across urban and rural health set ups. This is expected to have a two-pronged benefits i.e. manage revenue costs by reducing unnecessary tests and consequent improvement in preventive care based on patient health history. A uniform surveillance mechanism

would ensure effective monitoring and evaluation of the programmes such as NPCDCS.

- o Putting in place a system that would ensure dispensing medicines based on e-prescription based model that directly links urban and district level hospitals and community health centres to pharmacies would prevent leakages in the drug disbursement and supply, and also address antimicrobial misuse.

Expected outcomes

Given the state of the Indian health system today and the size and diversity of the population, the transition towards digital health needs to unfold in parallel tracks. The foremost being creation of a council of experts who would structure the on-going debate on health technology use in India and address the multiple facets by working on a regulatory framework for IT-health policy. This association should work in collaboration with government and non-government stakeholders. Consequently, technology would emerge as a key enabler to bridge the existing mismatch of healthcare facilities and will aid in developing a sustainable, more inclusive and collaborative health ecosystem.

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