

Case study: The George Institute SMART $health$ initiative

This case study is an excerpt from [Frugal Innovation in Medical Devices and Technologies: The India Opportunity](#) report [PDF 6.96MB], December 2019. This report was developed by [MTPConnect](#) and [Asialink Business](#).

Excerpt

Australian research institute The George Institute for Global Health (The George Institute) has been active in India for over a decade. It has built expertise in both Australian and Indian primary health care delivery and designed programs that can be rolled out in both countries.

One example of their presence in India is the Systematic Medical Appraisal, Referral and Treatment initiative (SMART $health$). The initiative enables community workers to screen for cardio-vascular disease through an electronic survey, which frees the time of doctors (who are scarce in India). The initiative is an example of Australian technologies enabling frugal innovation of business processes that makes delivery of primary health services more efficient in India.

Identifying common challenges

The George Institute was established in Sydney in 1999 with a mission to improve the health of millions of people worldwide. Key goals of its research program are to transform primary health care to support better health for more people and to find better treatments for the world's biggest health problems. Core to the Institute's values is a humanitarian commitment to tackle the health issues affecting high-risk and disadvantaged people, particularly in low- and middle-income countries.

Early in its existence, The George Institute researchers found that only about half of Australians with cardiovascular disease were receiving all recommended medications. To address this gap, they developed an electronic decision support tool for general practitioners to help detect and manage patients at risk of cardiovascular disease. Around the same time, the Institute was establishing a branch in India. Noticing that India was facing similar challenges at an even larger scale, they began a research project leveraging the expertise of their in-country team to adapt the electronic decision support tool for use in rural communities in India.

“You can't just take an Australian system and put it in India, that's not what it's about. You need to contextualise this” – Dr Ruth Webster, Honorary Professorial Fellow, The George Institute for Global Health

Empowering non-physician health workers

Non-communicable diseases, like cardiovascular disease and diabetes, are increasingly common in India. However, the Indian health-care system often lacks the resources to effectively detect, diagnose, and treat these conditions. Primary health centres (PHCs) provide integrated curative and preventive health care to the rural population and are often staffed by one doctor serving 30,000 people or more. They are supported by 14 paramedical and other staff based at the PHCs. At the village level, front line health care workers called Accredited

Social Health Activists (ASHAs) are available, who serve around 1,000 people each, primarily providing maternity care.

The George Institute recognised the challenge of effectively adapting Australian technologies to India's severely resource-constrained primary healthcare system. They also saw that providing services where health infrastructure was patchy or non-existent created an opportunity to trial new solutions that maximised efficiency. SMART*health* is shifting many of the tasks that medical practitioners undertake in Australia to community workers with appropriate support and training.

"There is great capacity for these populations to leapfrog past some of the processes we have in Australia to come up with a better system" – Dr Ruth Webster, Honorary Professorial Fellow, The George Institute for Global Health

The George Institute anticipated that providing ASHAs with training and tools to identify at-risk patients and refer them to medical professionals had the potential to improve access and quality of healthcare in under-resourced rural communities. In 2013, the Institute began a trial in rural areas of the state of Andhra Pradesh to test the effectiveness of SMART*health*, a tablet-based app built from the electronic decision support technology piloted in Australia. ASHAs could use the app to generate a patient risk profile for cardio-vascular disease based on a series of questions, a glucometer and a Bluetooth-enabled blood pressure reader.

Results of the trial showed that the use of the tablet-based app has been embraced by ASHAs, who have enthusiastically taken on the additional responsibilities the program requires of them. They have successfully screened over 60,000 community members, identifying over 11,000 people at high risk who were then referred to the doctor at the local primary health centre.

From cardio-vascular disease to mental health

Early successes in the cardiovascular disease trial prompted The George Institute to adapt its SMART*health* service model to other chronic conditions. The SMART Mental Health Programme uses the same principles to address significant gaps in mental health treatment in India, where there is approximately one psychologist per two million people. In a trial involving 50,000 people across 40 villages, ASHAs asked their patients a series of questions which they then entered into an app on a mobile device. This app generates advice on the management of common mental disorders, including whether the patient should be referred to a doctor.

From India to the world

Following on the success of the trials in Andhra Pradesh, The George Institute is testing the adaptability of SMART*health* to other parts of the world. The trial of SMART*health* in Kabupaten Malang in Indonesia has showed that empowering community healthcare workers to provide initial diagnoses and healthcare advice can be applied in communities with similar healthcare needs but substantially different healthcare systems. By identifying at-risk patients and referring them on for medical attention, the program has succeeded in raising the rate of people receiving appropriate therapy for prevention of cardiovascular disease from 1 to 16 per cent.

Dr Ruth Webster, who is the clinical lead for scaleup of the SMART*health* app, emphasised that the data collected by the app can also create efficiencies for health organisations across their

operations, noting “just giving them the data gave them the capacity to increase the amount of drugs they bought.” The George Institute is also now investigating using SMART *health* for improving the management of HIV in Myanmar, identifying and managing high risk pregnancies in India, and the management of Diabetes in India and Thailand.