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Govlab Singapore

Disruptive innovation for distinction

Transforming the healthcare landscape in Singapore

No matter how abundant, healthcare as a resource is inherently scarce. Consumers, healthcare providers and policymakers alike find themselves constantly having to make tradeoffs between affordability, access, quality and sustainability. These are not easy decisions. But perhaps, with the help of disruptive innovation, some of them may become easier.

This brochure presents four recent disruptive innovations that are reshaping tradeoff decisions and the resulting healthcare landscapes in different parts of the world. Take, for an instance, a patient facing the decision between going to a public hospital with lower prices but longer wait times, or going to a private healthcare provider with shorter wait times but higher prices. Which should he or she choose? As you will see later, this decision might soon become a thing of the past, with the introduction of a solution that offers both lower prices and shorter wait times.

In essence, that is how disruptive innovation has the potential to transform Singapore's healthcare landscape: it offers a way to achieve the elusive goal of getting more for less. At a time with skyrocketing healthcare costs and bottlenecks in healthcare delivery systems, these innovations may just be the panacea we need.

Disruptive innovation for healthcare

Singapore's healthcare sector has been undisputedly successful. But many more challenges abound. These include, but are not limited to, an ageing population, rising incidences of chronic diseases, information asymmetry, and capacity constraints. While Singapore has already embarked on initiatives to expand beyond existing care delivery processes, there remains the continual need to identify additional areas for improvements as patient needs grow.

With one of the most developed telecommunications networks in the world, Singapore is ripe for a number of disruptive innovations that leverage technology to do more with less. Here, we explore four such innovations – with proven success records in other markets – that have the potential to mitigate some of Singapore's most pressing healthcare issues.

Ultimately, as existing cultural and social mores form the cornerstone of any innovation model, there needs to be a thorough understanding of the beliefs and attitudes of the various stakeholders in order for the schemes to be fit-for-purpose and appropriate for Singapore's local context. The success of the healthcare sector will depend on the engagement and collaboration between the stakeholders in the ecosystem, including governmental agencies, medical device companies, primary care providers and the individual healthcare consumer.

Disruptive models for Singapore

Timebanking

The promising concept of time-banking – a social care scheme that leverages behavioural economics to incentivise participants to volunteer their time – may have the potential to ensure the supply of care for ageing populations and, in particular, for elderly who are unable to afford costly forms of eldercare such as nursing homes and day care centres.

Could you spare a few time-dollars?
Time-banking has already been implemented in Japan as Fureai Kippu. As part of the scheme, volunteers are encouraged to provide care for the elderly in exchange for time credit tickets which are "paid" through a computerised savings account, where the base currency unit is an hour of service. The tickets earned by volunteers can then be saved for personal use in the future, or transferred to family members who require similar forms of help.

Gamification

With the early detection of disease, the efficacy of treatments can be improved and the risk of future health complications can be lowered. Nevertheless, it has been observed that traditional corporate wellness programmes focusing on physical health do not typically experience high employee take-up rates. On the other hand, those that include financial benefits are far more likely to be adopted. Indeed, it does appear that people respond better to financial health levers than to physical health levers, at least to a certain extent.

Let's play a game
Launched in 2000 by the South African life insurer Discovery, Discovery Vitality is an incentive-based wellness rewards programme that leverages game mechanics and consumer psychology to enable its insurance policyholders to earn discounts on items such as groceries based on their Vitality status. An insurance member can increase his or her Vitality status by, for example, completing health assessments and engaging in other healthy behaviours, with greater financial rewards for higher wellness participation. In addition, participants can also enjoy insurance premium discounts ranging from 15% to 18%, depending on their Vitality status.

Health information platforms

Often, consumers and patients do not have a view as to how drug prices differ along the care continuum. There is a similar lack of visibility for private healthcare providers – in particular, GPs – on the various drug prices offered by different drug suppliers and distributors. As prices often play a major role in the search and decision process, the access to information will enable buyers to make educated decisions and gravitate towards suppliers with lower costs, reducing healthcare expenditure over time

Information is power
By leveraging the power of crowdsourcing, two players – GoodRx and Trxade – have emerged in the US to allow consumers to compare drug price information across pharmacies, and to enable independent pharmacies to compare drug price information across pharmacies and drug suppliers, respectively.

GoodRx is a website and mobile application that enables consumers and patients to compare the prices of branded and generic drugs across virtually every pharmacy in the US. Prices are usually displayed based on the location and different payment options. This information is supplied by drug manufacturers, pharmacies and other sources, including the public.

Trxade is the only web-based market trading platform that brings pharmaceutical buyers and sellers together. It offers subscription-based trading and price comparison services for independent and community pharmacies, aiming to tackle pharmaceutical supply and distribution challenges. With three distinct platforms – supplier-to-pharmacy, pharmacy-to-pharmacy and supplier-to-supplier – Trxade enables greater purchasing power, pricing transparency and means of product sourcing to meet their users' desired needs.

Simplified diagnostics

While demand for healthcare is increasing, the supply side is facing difficulties in keeping up despite efforts to expand facilities and clinical manpower. The consequence of this is long wait times, especially within the public healthcare system. Long wait times are associated with deferred treatments and care delays – risk factors which may lead to increased admissions, longer lengths of stay and, ultimately, higher healthcare costs. The elderly demographic, in particular, is also less tolerant of long wait times.

Thinking out of the hospital
Until recently, a number of medical diagnostic tests were only available at clinics or hospitals, performed under the supervision of doctors or experienced nurses. One major drawback has been that supply is sometimes unable to keep up with demand, resulting in clogs in the system, longer wait times for the results and patients' reluctance to testing.

As a result, Theranos and Cue have been developed in the US to enable consumers to experience simple and convenient health monitoring – the former provides lab test results in as little as four hours, while the latter is handheld device that provides five lab tests that can be done at home, also known as "lab-in-a-box". Cue's technology is based on the enzyme-linked immunosorbent assay diagnostic test, which changes in colour to indicate the presence and levels of hormones and other human molecules. It also uses sensors to measure electrical signals generated by enzymes attached to antibodies.