

SINGAPORE | PUBLIC HEALTH PREPAREDNESS CLINICS

Planning for Public Health Crises

Based on lessons learned from the SARS outbreak, Singapore introduced a city-wide network of Public Health Preparedness Clinics that, together with sound urban planning policies, has enabled the city to manage the COVID-19 pandemic effectively.



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Two patients being attended to near the SARS tent at Tan Tock Seng Hospital during the SARS outbreak in 2003.
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The Challenge

In 2003, Singapore experienced an outbreak of Severe Acute Respiratory Syndrome, commonly referred to as SARS. The outbreak posed a significant challenge to the city's public health system and resulted in 238 infections and 33 deaths.

The SARS outbreak highlighted the lack of a community-level early warning system to detect emerging infectious diseases, and frontline support to contain cases of infection in times of public health emergencies.

It also underscored the challenge for public hospitals of mustering adequate facilities, medical supplies and trained manpower to meet a public health crisis, as well as the

risk that public hospitals could themselves become nodes of infection—as happened during the SARS crisis.

The city's health authorities recognised the need for an agile, well-distributed and intelligent system that could screen patients at the community level while adapting to changing needs in the event of a public health emergency.

Given that existing primary healthcare services in Singapore are predominantly anchored by the private sector in terms of overall primary care attendances, this required a system that could leverage existing private primary care infrastructure and manpower.



GP clinics were quickly converted into pandemic-ready clinics and given priority access to masks and Personal Protective Equipment (PPE).
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The Solution

To bridge the gap in frontline infrastructure for support at the primary care level during public health outbreaks, Singapore's Ministry of Health introduced the Public Health Preparedness Clinics (PHPC) Scheme in 2015.

Under this scheme, existing primary care clinics can enroll in the PHPC scheme to take on a public health response role. These clinics would act as coordinated outposts in a national healthcare network that serves as an intermediary between communities and hospitals, with standardised protocols for testing and escalation to hospitals if needed.

During the COVID-19 pandemic, eligible individuals could locate the PHPC closest to their homes on the phpc.gov.sg website in order to obtain subsidised consultation

and treatment for their respiratory infections. The subsidies are also available at 20 polyclinics across the island.

The PHPC network, together with the polyclinics, thus acts as the first line of defence in the event of an infectious outbreak and helps to ensure the appropriate allocation of resources in screening patients with respiratory symptoms. At the same time, PHPCs and polyclinics also provide surveillance and case-finding through the Swab-and-Send-Home (SASH) programme within the community, for individuals presenting with acute respiratory infection symptoms.

The PHPC network is underpinned by urban planning policies that make primary healthcare accessible to most of the population. In planning for public housing

Between 18 February and 17 March 2020, 68.4% of locally transmitted cases had visited a PHPC before being diagnosed.

neighbourhoods, the Housing and Development Board (HDB) makes provisions for the inclusion of commercial facilities such as private primary care clinics. The 2020 Healthcare Masterplan, released in 2012, prioritises access to primary healthcare by ensuring that citizens have primary care facilities close to their homes. There are over 1,150 Community Health Assist Scheme (CHAS) medical clinics islandwide, where eligible individuals can access subsidised primary care services. About 99% of eligible patients have at least one CHAS medical clinic close to their homes, within 400 m or 10 minutes by public transport, and more than 97% have more than one CHAS medical clinic close to their homes.

The Outcome

The PHPC network has been activated several times since the establishment of the scheme, for example during the 2009 H1N1 influenza pandemic and seasonal periods of haze in 2013 and 2015.

It also proved its usefulness during the COVID-19 pandemic beginning in 2020. PHPCs were progressively activated from 18 February 2020, early in Singapore's COVID-19 crisis. By the end of 2020, more than 960 PHPCs had been activated out of over 1,550 GP clinics.

With the support of PHPCs, Singapore was able to screen, detect and contain a significant number of COVID-19 cases within the community. Patients who

had been tested for COVID-19 at PHPCs were legally required to self-isolate at their places of residence or dedicated isolation facilities during the period of their medical certification (MC) or until they receive negative test results, thus reducing possible community transmission.

The PHPC scheme showed good early results in managing the COVID-19 outbreak in Singapore. Statistics suggest that most locally transmitted COVID-19 cases were detected via the PHPC network. For example, in the early weeks between 18 February and 17 March 2020, 108 of the 158 locally transmitted cases (68.4%) had visited a PHPC before being diagnosed.

The COVID-19 pandemic brought renewed focus on the role of primary care physicians as the first contact points between suspected cases of infection and a city's healthcare system. Singapore's integrated approach to planning for public health demonstrates the effectiveness of decentralisation and modularity in urban planning for public healthcare.

As communities around the world strive to create healthy and resilient cities, they could start by examining the intersection between the accessible distribution of primary care and the development of supporting urban planning policies. 