

Infectious disease agency is a natural next step

It will be Singapore's spearhead in fighting future pandemics at home and abroad

Khoo Yoong Khean

Singapore's newly announced Communicable Diseases Agency (CDA) may have had some people scratching their heads in puzzlement. What about the existing National Centre for Infectious Diseases (NCID) and all the other public health facilities that can be mobilised?

The new government agency under the Ministry of Health (MOH) was unveiled recently during the parliamentary debate on the Covid-19 White Paper, in which Health Minister Ong Ye Kung announced a host of post-pandemic organisational changes to Singapore's healthcare system.

The CDA will house overall efforts in disease preparedness, prevention and control, surveillance, risk assessment and response. It will amalgamate public health functions of the MOH, NCID and the Health Promotion Board, and will house the National Public Health Laboratory and maintain oversight of the NCID clinical facilities.

There may be some confusion over the formation of such an agency but this under-one-roof approach is just the spearhead against pandemics at home and abroad that Singapore needs.

BEYOND STRONG CLINICAL FACILITIES

Built in 2019, the NCID was a state-of-the-art facility and was a direct response to the 2003 Sars outbreak. It was a technological marvel, built to treat high-risk pathogens like Ebola and Marburg viruses in its high-level isolation units.

Sars-CoV-2 was a different beast altogether, spreading like wildfire across the world due to high levels of person-to-person transmission. Though our healthcare facilities were stretched, they were ultimately able to cope due to effective public health interventions.

This highlighted the need for public health strategies to extend beyond strong clinical facilities towards more system-wide responses to emerging threats, and this is also where the CDA comes in.

An agency like the CDA can

serve the country as a source of public health expertise, provide expert advice and implementation of public health programmes, conduct cutting-edge research, devise disease surveillance strategies and facilitate outreach for health promotion and education. This typically includes immunisation programmes, tracking population health data and statistics to inform public health decisions and training a public health workforce for the future.

In the longer term, these public health activities under the CDA can inform health policy development and implementation. Most of these similar public health agencies or institutions are supported by a national budget, which ensures both stability and sustainability.

Together with a thriving biotechnology sector, a dedicated public health agency can assemble a critical mass of expertise and experience under one roof to ensure that the implementation of outbreak response and preparedness will be rapid and seamless.

A REGIONAL IMPACT

While Singapore is an island, it is located in the very heart of South-east Asia – an area at the

highest risk for infectious disease outbreaks, either from a novel or known pathogen. This is due to factors such as urbanisation, agriculture, deforestation, the increasingly narrowing space between the human and animal interface, and wider factors such as climate change.

However, its unique geographical location also presents unique opportunities. The Singapore CDA will be well positioned to be more involved in regional public health initiatives and programmes.

In other parts of the world, many public health agencies have collaborative relationships with one another as well as with multilateral organisations such as the World Health Organisation (WHO) or Asean, non-governmental organisations and academic partners. These partnerships can help deepen the capabilities of the CDA by sharing resources, expertise, and cross-country capacity building.

Agencies like the US Centres for Disease Control and Prevention (US CDC) or the UK Health Security Agency (UKHSA) have similar broad functions. They fall in line with the revised International Health Regulations (IHR 2005), a legally binding agreement for WHO member states to build and strengthen

national alert and response systems.

The IHR (2005) expands its scope of internationally reportable diseases and events, provides criteria for identifying novel epidemic events and outlines the conditions of global community involvement in outbreak responses.

Across the Indian Ocean, the Africa Centres for Disease Control and Prevention, under the banner of the African Union, is a continent-wide agency. It has a central coordinating centre with collaborating centres across the African continent. The Africa CDC was instrumental in the continent's Covid-19 pandemic response.

In this region, Asean member states have agreed on setting up the Asean Centre For Public Health Emergencies and Emerging Diseases (ACPHEED), announced during the 15th Asean Health Ministers Meeting in 2022. By leveraging each country's unique capabilities and resources, the CDA can play a role in strengthening regional health security.

As then WHO director-general Margaret Chan said in 2007: "When the world is collectively at risk, defence becomes a shared responsibility of all nations."

NATURAL NEXT STEP

Disease outbreaks are costly events. Singapore spent over \$72 billion fighting the Covid-19 pandemic from 2020-2022. The long-term financial costs and health impacts are immeasurably greater.

Therefore, it is vital that we improve our local and regional healthcare systems to effectively detect, investigate and respond to public health threats. As Singapore continues to juggle the various health threats emerging in an increasingly globalised world, the CDA has the potential to spearhead local public health capabilities and contribute to a broader regional impact in improving health security.

A centralised public health agency is a natural next step in our evolution of public health responses. In the wake of three paralysing years of the Covid-19 pandemic, we have learnt that modern health security challenges require novel approaches due to the scale, complexity and unique dimensions of emerging threats.

It is said that we are in the era of pandemics, but with advanced public health tools like disease modelling, public health genomics and the development of promising new vaccine technologies, it can be argued that we are instead in the golden age of public health.

• Dr Khoo Yoong Khean is a scientific officer at Duke-NUS Medical School's Centre for Outbreak Preparedness.