

# New AI tool could end era of tackling pandemics in the dark

Platform being developed to detect and respond to emerging disease threats earlier

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An artificial intelligence-powered outbreak intelligence tool that promises to boost Asia's ability to detect and respond to emerging threats was unveiled to the public on Dec 1.

By integrating and analysing pathogen genetic data and other data sources such as clinical information, mobility patterns of humans and animals, and climate data, the platform could detect emerging disease threats earlier than traditional surveillance methods.

Known as PathGen, it is being developed by the Duke-NUS Centre for Outbreak Preparedness, with support from Temasek Foundation, the Gates Foundation and the Philanthropy Asia Alliance.

PathGen will be co-created with partners from six South-east Asian

countries – Indonesia, Malaysia, Philippines, Thailand, Vietnam and Singapore, said Mr Ng Boon Heong, executive director and chief executive of Temasek Foundation, during the preview held at Temasek Shophouse.

The platform is expected to progress from proof-of-concept to a launch-ready platform over the next 18 months, with pilots from early 2026 and a phased roll-out through 2027.

Speaking at the PathGen preview, Minister for Health Ong Ye Kung said there is a one-in-three chance of another pandemic like Covid-19 occurring in the next two decades, even as memories of the pandemic have started to fade and governments have shifted priorities.

Singapore must continue to prepare for the next pandemic and be able to anticipate and work on problems before they explode, said Mr Ong, who is also Coordinating



Minister for Social Policies.

Pandemic preparedness boils down to taking early action to anticipate and plan how to keep the

infection, severity and fatality rates low during a pandemic, he added.

Over the past few years, Singa-

pore has undertaken many pandemic preparedness initiatives in anticipation of these challenges and has built a valuable partner-

ship with the private sector in this aspect.

PathGen could estimate incubation periods, reproduction numbers, mobility rates, transmission modes and vulnerable population segments, and predict outbreak trajectories.

These are basic parameters that Singapore had no clue about when Covid-19 came, said Mr Ong.

For instance, it took a while for Singapore to understand that Covid-19 affects old people more than young people, which led to the decision to keep schools open, Mr Ong said.

"So all these basic parameters need to be decided as accurately as possible at the outset, and I hope PathGen can do that," he added.

Four development partners – Amazon Web Services, IXO, Sequentia Biotech, and Sydney Infectious Diseases Institute at the University of Sydney – are contributing core technologies and expertise to bring PathGen from concept to practice.

PathGen is housed within the Asia Pathogen Genomics Initiative (Asia PGI), a coordination and capacity development hub that advances pathogen genomics sequencing for early detection, control and elimination of infectious diseases in the region. The initiative is led by the Duke-NUS Centre for Outbreak Preparedness.

Asia PGI brings together more than 50 government and academic partners across 15 countries, with Singapore as its nerve centre.

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Speaking at the preview of the PathGen platform on Dec 1, Health Minister Ong Ye Kung said there is a one-in-three chance of another pandemic like Covid-19 occurring in the next two decades, and Singapore must continue to prepare for the next pandemic and be able to anticipate and work on problems before they explode. ST PHOTO: LIM YAOHUI