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Singapore beefing up defences in preparation for Disease X

Deeper tie-ups needed between R&D ecosystem and private firms: DPM

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Singapore is continuing to strengthen its defences against future infectious diseases, even as the national Covid-19 vaccination drive continues.

The strong partnership between researchers at the Agency for Science, Technology and Research (A*Star), the broader research and development ecosystem and private companies has been vital for Singapore's collective response to the pandemic, said Deputy Prime Minister Heng Swee Keat yesterday.

"It is important that we continue to strengthen and deepen the collaborations. In this way, we will be better prepared for future pandemics, including Disease X," he said in a Facebook post, following his visit on Monday to the Stronghold Diagnostics Lab – a Covid-19 testing facility located at Biopolis, Singapore's biomedical hub in Buona Vista.

The laboratory was set up to



TESTING STILL NEEDED

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Deputy Prime Minister Heng Swee Keat (far left) visiting Stronghold Diagnostics Lab on Monday. The laboratory, a Covid-19 testing facility at Biopolis in Buona Vista, was set up to boost national polymerase chain reaction (PCR) testing capabilities, and has been operational since the middle of last year. PHOTO: A*STAR

boost national polymerase chain reaction (PCR) testing capabilities and has been operational since the middle of last year.

It was established by A*Star and the National University Health System (NUHS), with Temasek Foundation as an industry partner.

Professor Patrick Tan, founding programme director of Stronghold and executive director of A*Star's Genome Institute of Singapore, said the lab processes tests from a

wide variety of sources and formats, including from the local community, dormitories and stay-home notice hotels.

"We coordinate closely with the Health Ministry to respond and process samples based on current needs," he added.

Testing for Covid-19 remains an important pillar of Singapore's strategy to control the coronavirus outbreak by preventing the seeding of new clusters.

This is crucial, since people who have been vaccinated against or infected with the virus before can get Covid-19 again.

In February, Singapore's first case of likely Covid-19 reinfection was detected. And on Sunday, a migrant worker who had been vaccinated against Covid-19 was found to have been infected with the coronavirus.

Singapore said last year that it aimed to conduct about 40,000

Covid-19 tests a day, and the latest figures from the Ministry of Health's website showed that as at April 5, the rate stands at about 34,800 tests a day.

"While Singapore's population is increasingly being vaccinated, the need for Covid-19 testing will still continue for the foreseeable future as Singapore further reopens and resumes activities," Prof Tan said.

The lab is manned by more than 150 staff, including volunteer scien-

tists from A*Star and universities, and medical staff from NUHS, as well as fresh graduates and professionals with relevant experience and qualifications.

Prof Tan said: "Besides providing jobs for Singaporeans, Stronghold Diagnostics Lab has also trained many staff in clinical diagnostics, increasing the local pool of skilled qualified staff for future pandemic contingencies. The lab's platforms are adaptable and can be deployed to other screening efforts in the future, including for other infectious diseases."

Mr Philip Lim, programme director of Stronghold and A*Star's chief risk officer, said the need for scale requires the use of automation.

This includes the use of laboratory automation systems such as the Bio Rapid Automated Valence Engine – an A*Star initiative.

The system includes barcode scanning for identification of samples, and custom-made robotic and automation systems for handling of test samples, including capping and uncapping of test tubes, and pipetting and movement of liquids.

A*Star said this helps to minimise human errors and reduce contamination and infection risks for laboratory staff, resulting in accurate, reliable and high-throughput testing processes within a safer environment.

Mr Lim said local small and medium-sized enterprises were involved in the assembly and roll-out of these automation solutions, which have also been delivered to other commercial labs in Singapore.

Yesterday, Mr Heng thanked Singapore's scientific and research community for their efforts, calling them "silent heroes" in the nation's battle against the coronavirus. He said: "They have made a real difference to our pandemic response."

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