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Singapore

Stretched but coping: How Singapore's healthcare system has cranked up efforts to deal with COVID-19



A ward for COVID-19 patients at Ng Teng Fong General Hospital. (Photo: NTFGH)



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SINGAPORE: In the initial weeks of the COVID-19 pandemic, Singapore seemed well placed to handle the situation.

Measures to limit the number of cases were seen as generally effective and the healthcare system could cope easily with the number of patients with capacity to spare.



A man wearing a face mask walks in the Raffles Place financial business district in Singapore, Apr 14, 2020. (File photo: AFP/Roslan Rahman)

Following a huge spike in the number of cases – 16,169 cases at the end of April compared to 926 cases at the end of March, the country’s healthcare system has been pushed hard to ensure that capacity can keep up with demand.

At first, the number of infections remained low and maintained a steady pace. Until the beginning of April, new daily cases peaked at 73.

This landed Singapore international acclaim for keeping a seemingly uncontrollable virus in check. The Government repeated its warnings that numbers could rise.

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Then, on Apr 5, shortly after the Government announced “circuit breaker” measures to stem the number of cases that had crept up to hit the 1,000 mark, the daily number almost doubled to 120. Clusters began to surface among foreign workers housed in cramped dormitories.

Prof Hsu said: "It is clear on hindsight that we were unprepared despite some early warnings and caught on the back foot. However, we have since stepped up on measures to regain control of the situation."

READ: 'I think about my family, not about me': A foreign worker stricken with COVID-19 has concerns far away

From an average of about 520 cases a day in the third week of April, the average increased to about 950 per day in the fourth week of April. Last week, there was a slight dip in the average number of cases to just under 700.

MAKING SPACE

The surge in cases meant that quick action was needed to expand bed capacity to deal with the number of people who had already been infected, as well as those expected in the future.

As of 2019, Singapore's private and public hospitals had 11,321 acute care beds. On Apr 25, MOH data showed that half of the eight public hospitals were at least 75 per cent full – this included COVID-19 patients. Details released by MOH on the same day showed that of the more than 12,000 cases (as of Apr 25), just under 10 per cent of COVID-19 patients were in hospital. More than 10,000 were isolated at community facilities.

By then, wheels were in motion to ensure that there was sufficient capacity to deal with thousands of patients with mild symptoms as well as the fewer numbers who might need more intensive treatment and care.

READ: Life at the Singapore Expo: A COVID-19 patient shares his experience in a community isolation facility

Community facilities have played a key role in shifting the load away from hospitals, with more than 80 per cent of all patients currently located at these facilities (as of May 2). These facilities, in places like Singapore Expo, Changi Exhibition Centre and D'Resort in Pasir Ris, are for COVID-19 patients with mild symptoms and lower risk factors.



Nurses pushing additional beds into wards converted for COVID-19 patients at Alexandra Hospital. (Photo: Alexandra Hospital)

During a multi-ministry task force briefing and press conference last Tuesday (Apr 28), the authorities said there are currently 18,000 bed spaces for “isolation and care needs” available, with another 23,000 in the pipeline.

READ: COVID-19: More than 18,000 bed spaces for isolation and care needs, with 23,000 more in pipeline

This includes a doubling of the number of spaces at community care facilities to 20,000 by end-June, increasing the spaces at community recovery facilities at Singapore Armed Forces camps within the same time frame as well as increasing bed spaces in swab isolation facilities.

Community recovery facilities are for COVID-19 patients who remain well at day 14, and do not require further medical care. These recovering patients will be isolated at these facilities before being assessed for discharge. There are about 2,000 spaces, with plans to increase this to more than 10,000 by end-June, the authorities said.

Patients waiting for results of swab tests are housed in what are known as swab isolation facilities. There are more than 4,000 bed spaces in such facilities – including hotels and hostels – that have rooms with en-suite toilets. More than 3,000 beds are in the pipeline.

“We have been building up the healthcare capacity over the last two months to cope with the rise in COVID-19 infected cases,” said an MOH spokesperson, in response to queries from CNA.

may also be cared for at the community isolation facilities.”



A community isolation facility for COVID-19 patients at Singapore EXPO.

The public healthcare system is also making space.

As of the afternoon of May 3, Ng Teng Fong General Hospital had cared for 1,247 COVID-19 cases. Of them, 1,146 are foreign workers who mainly live in dormitories.

“As a number of these dormitories are in the western part of Singapore, we also saw a spike in cases presented at the emergency department of the hospital,” the hospital’s chief executive Foo Hee Jug said.

He added that he and his colleagues had to move fast to re-purpose various areas in the past week, and sometimes overnight, to meet the increasing load.

The hospital made room for 18 trolley beds and 96 chairs in the emergency department to accommodate these additional patients, he said. Part of Jurong Community Hospital nearby was also converted into a waiting area for those who have undergone testing.

diseases at the hospital.

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Alexandra Hospital similarly received a majority of migrant workers among its COVID-19 cases. As of May 2, the hospital had cared for 327 COVID-19 patients since the start of the outbreak, a spokesperson said. Of these, 287 were migrant workers.

The hospital has taken several steps to ramp up capacity, such as increasing bed capacity by more than 30 per cent. About 100 beds have been set aside for COVID-19 patients.

Two empty wards were turned into isolation wards with negative pressure rooms, where air is allowed to flow into the room, but not escape, as part of isolation protocols. Two general wards were converted into space for patients who are positive and symptomatic, but do not require oxygen supplement.

The hospital also increased its capacity to provide intensive care from four beds to 11 beds. It is now targeting to have 20 ICU beds by this month.

SingHealth's deputy group chief executive Fong Kok Yong said that 14 wards across four of its hospitals – Singapore General Hospital, Changi General Hospital, KK Women's and Children's

“This enabled us to make critical and timely decisions to reconfigure or convert wards to accommodate more patients with acute respiratory symptoms.”

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Six general wards and two ICU wards at Tan Tock Seng Hospital have also been converted in order to care for COVID-19 patients, said a hospital spokesperson.

National University Hospital has been creating surge capacity to be able to manage COVID-19 patients since January, said Associate Professor Sophia Archuleta, head and senior consultant at the division of infectious diseases. This is in line with “national directives”, she noted.

“This includes decreasing elective workloads in order to be able to free up hospital isolation facilities and manpower to look after COVID-19 cases, as well as reconfiguring those facilities to serve the needs of our COVID-19 patients better,” Prof Archuleta said. “For example, we have created family-friendly areas where parents and children with COVID-19 can be cared for together by our adult and paediatric inpatient teams.”

The hospital also monitors its number of suspected or confirmed COVID-19 patients to activate additional manpower or surge capacity as needed, she added.

The MOH spokesperson said the ministry had been “progressively expanding healthcare capacity” to cater for COVID-19 patients, in addition to other conditions which require hospitalisation.

“This includes capacity in the wards, as well as equipment and manpower. We have sufficient supply of medical equipment for the current and projected demand of COVID-19 patients,” said the spokesperson.

MANPOWER NEEDS

critical care setting,” the spokesperson said.



Assistant director of nursing Doreen Heng at Alexandra Hospital (back facing camera) incorporates mental strength training into her ICU crash course. (Photo: Alexandra Hospital)

In addition, MOH set up the SG Healthcare Corps earlier this month. About 3,000 healthcare professionals with previous experience in the industry have signed up to join the fight against COVID-19.

This includes retired medical professionals and medical staff from the private sector.

The ministry anticipates more healthcare professionals stepping up as well as some without formal training and expertise, said MOH director of medical services Associate Professor Kenneth Mak at a press conference on Apr 28.

The authorities said training packages have been prepared to make sure that they are able to fulfil their roles, which may include swab-testing.

Hospitals have sprung into action to equip nurses with the skills needed in the current situation. At Alexandra Hospital, Ms Doreen Heng, who is assistant director of nursing at the

classroom teaching.

Because ICU skills training needs to be conducted on-site, she and her colleagues have been holding smaller and more frequent three-hour sessions without simulated or classroom learning.

They are assessed, and then immediately deployed to wards for on-the-job training.

To date, there are close to 30 nurses who have been assessed to be deployable in Alexandra Hospital's ICU.

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There is not just a need to impart skills but to also train the ICU nurses in mental strength.

"It is important to not buckle under the pressures of the mental and physical challenge in care delivery, but rather, to remain focused and concentrate on the task of for example on hand, and not how sick the patient was, but on the workflow instead," Ms Heng added.



Nurse educators teach in much smaller groups, and the duration of classroom training has been condensed from six to three weeks, before trainees "graduate" to the wards.

Since early April, Ng Teng Fong's clinicians, nurses, allied health professionals, administrative and ancillary staff have moved into the dormitories, as part of a national effort to care for foreign workers and provide medical support and swabbing.

THE DENGUE THREAT

While COVID-19 has dominated the headlines, Singapore is facing a more silent, but similarly tough challenge – the traditional dengue peak season from May to September.

In late-April, the National Environment Agency (NEA) sounded the alarm on the disease, calling for Singaporeans to take immediate action.

READ: Dengue cases expected to exceed 16,000 cases unless immediate action taken: NEA

This came on the back of bleak numbers. As of mid-April, almost 5,800 dengue cases had been reported, more than double that over the same period in 2019. NEA warned that the number for the year could surpass the 16,000 in 2019, unless immediate measures are taken to suppress the Aedes mosquito population.

The weekly figure of around 300 to 400 cases continues to be a "public health concern", it added.

However, MOH is confident that the twin threats can be handled by the system.

"Most cases of dengue can be managed well in the primary care setting. For cases that require hospital care, there is currently sufficient capacity to manage these patients," a spokesperson said.



A banner at a dengue cluster in Jurong West St 91. (Photo: Hanidah Amin)

Assistant Professor Ashley St John from the emerging infectious diseases programme at Duke-NUS Medical School said in the same vein that dengue is generally self-limiting. Only a few patients will need hospitalisation, “so Singapore should be prepared for this”, she added.

“Dengue is spread by mosquitoes so we need to remain vigilant about vector control in our communities, especially when we are staying home during the circuit breaker period,” she said.

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Prof St John also cautioned that the high number of dengue cases this year “emphasises” the need to not forget about dengue in spite of the new threat of COVID-19.

Prof Hsu noted that a significant proportion of local hospitals’ capacities have been deployed for managing COVID-19 cases, more so perhaps than any other disease condition at present.

“That the healthcare system is stretched by COVID-19 now is very clear. We are also seeing a rise in dengue cases, with over twice the number seen to date this year compared to 2019,” said Prof Hsu.

However, he noted that the “silver lining” currently is that the bulk of the country’s COVID-19 cases are young, healthy men who do not require hospitalisation, but just isolation.

“Overall our mortality rate is among the lowest. This is a testament to our robust surveillance, contact tracing and quarantine measures, infrastructure built up over years and expertise,” said Dr Kurup.

To date, Singapore has reported 18 COVID-19-related deaths.

“There is no doubt that some people with medical conditions will find their care delayed compared to pre-COVID-19 days, but it is unlikely that our healthcare system will break down or be completely overwhelmed in the near future,” added Prof Hsu.

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