

To fight an enemy,
it was critical to understand it first.

CONFRONT

But in the early days of January 2020,
not much was known about the mysterious virus –

which did not even have an official name then.

THE EMERGENCE OF A NEW VIRUS SPARKED OFF WAVES OF PANIC AND FEAR IN SINGAPORE.
LONG QUEUES FORMED AT MUSTAFA CENTRE ON FEB 8, 2020, AS PEOPLE RUSHED TO STOCK UP ON PROTECTIVE MASKS.

A

NEW

THREAT

EMERGES

AS year-end festivities were in full swing in Singapore and around the world in December 2019, patients with a strange and severe pneumonia started showing up in hospitals in Wuhan, China.

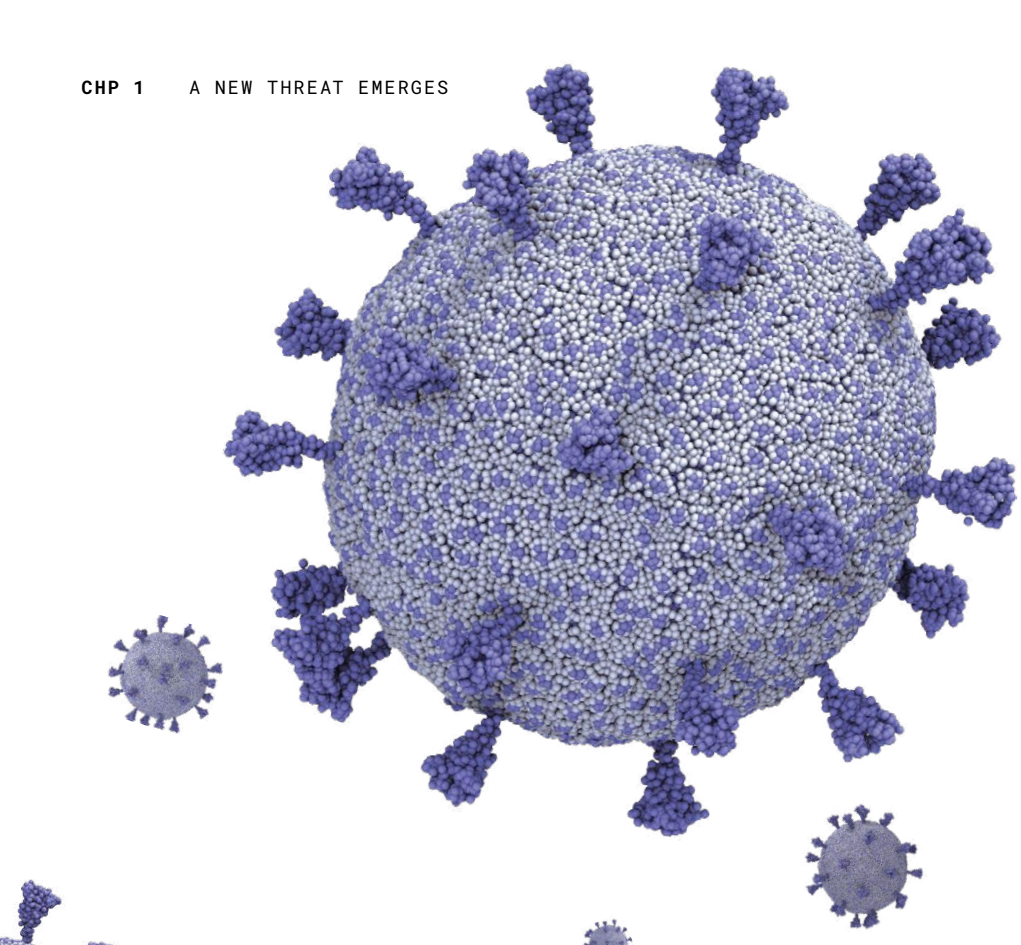
Doctors who first encountered such cases were stumped as to the cause of the atypical virus. After an alert was issued by local health authorities to all hospitals within Wuhan to be on the lookout for similar cases, news of the outbreak quickly spread overseas.

In Singapore, the Ministry of Health (MOH) was keenly following the developments. Little was known about the virus, other than all the patients had recent contact with the Chinese city's Huanan Seafood Wholesale Market.

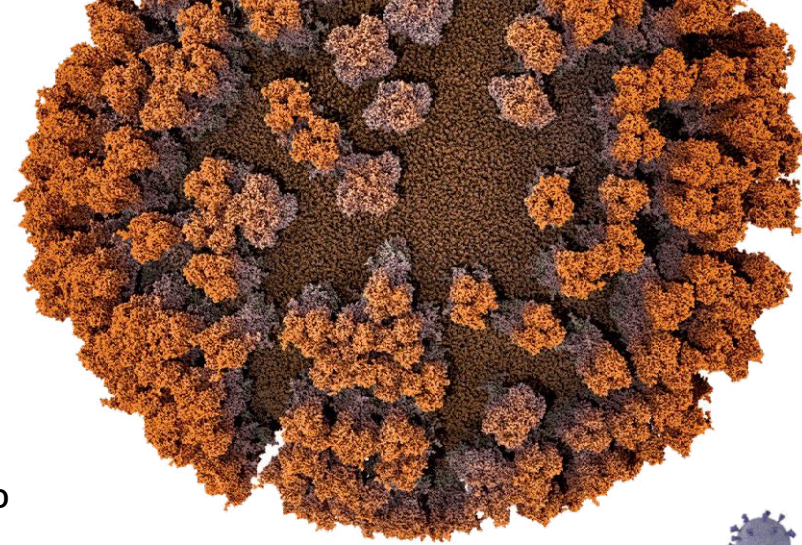
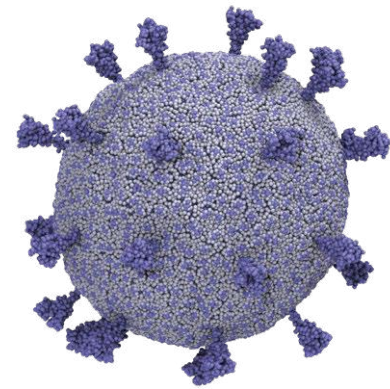
"We started to watch more carefully for further developments, and in countries and regions around China to see whether they were reading the tea leaves, or interpreting the information that was surfacing like what we were doing," said Professor Kenneth Mak, then-incoming Director of Medical Services at MOH*.

Soon, Hong Kong started border surveillance in late December. It was clear that this was no ordinary outbreak, and MOH sprang into action. When Wuhan authorities shut down the wet market on January 1, 2020, Singapore's Health Ministry had already prepared a report on the outbreak and disseminated it internally.

* WITH EFFECT FROM MAY 1, 2023, THE DIRECTOR OF MEDICAL SERVICES WAS RE-DESIGNATED AS THE DIRECTOR-GENERAL OF HEALTH.



BUT, AS MORE INFORMATION EMERGED FROM CHINA, THE SITUATION SEEMED WORSE THAN SARS.



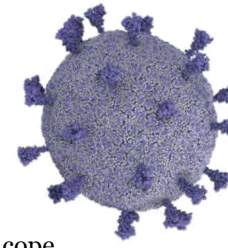
“IT WAS 10 TIMES MORE DEADLY THAN THAT OF NORMAL INFLUENZA.”

— MR NG HOW YUE, PERMANENT SECRETARY FOR HEALTH DEVELOPMENT

“We were ramping up for a short, sharp war and we were quietly confident that we had the processes and the people in place,” explained Mr Chan.

He was referring to the processes of “test, trace and isolate” to stop the spread

of the virus, strategies adopted during SARS. New facilities have also since been built to better cope with a health emergency. But a team to lead the charge had to be assembled quickly.



It was hardly a happy new year for MOH officials who were reading the grim report. The next day, on January 2, a meeting was convened to discuss Singapore’s strategy to combat the growing health crisis that would spark global panic and a pandemic that the world had never witnessed before.

PREPARING FOR A SHORT, SHARP WAR

While the Ministry prepared for the worst in the early days, Permanent Secretary for Health Mr Chan Yeng Kit was still hoping for the best. “At that point in time, we were hoping that it would not be very severe,

like another H1N1 or bird flu that became a non-event,” he shared. “In the worst case, maybe another SARS.”

The Severe Acute Respiratory Syndrome, or SARS, struck Singapore in 2003 – infecting 238 people and killing 33. Like SARS, this new virus was also a coronavirus, with a technical name of SARS-CoV-2, and viewed as the second-generation SARS virus.

But, as more information emerged from China, the situation seemed worse than SARS. “We started getting an inkling that this was actually going to be quite serious as

the virus had the preconditions to cause a pandemic,” noted Permanent Secretary for Health Development Mr Ng How Yue.

“It was quite infectious and in the initial days, the death rates were very high. It was 10 times more deadly than that of normal influenza.”

Among the MOH leadership, the thinking was to prepare for a brutal but quick fight against the virus – similar to how SARS was swiftly eradicated from Singapore within three months. No one could have imagined that it would turn out to be a prolonged war over three years – and counting.



INFECTIOUS DISEASES IN THE LAST TWENTY YEARS

A look at the major infectious diseases that Singapore battled in the last two decades

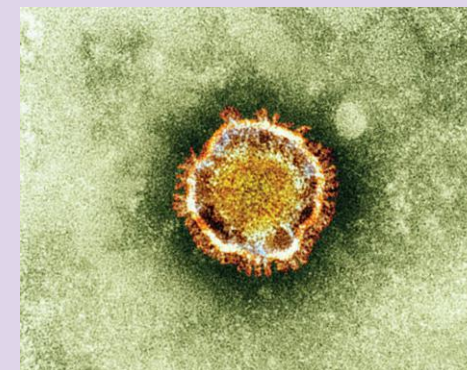


PHOTO: ALAMY STOCK PHOTO/ SCIENCE PHOTO LIBRARY

SARS
SARS-CoV Virus

MAR 2003 ▶ MAY 2003

238

INFECTED CASES

33

DEATHS REPORTED

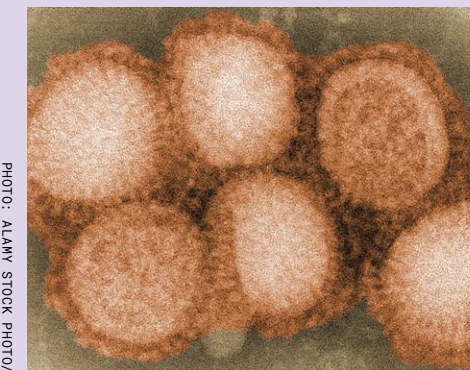


PHOTO: CYBERCORP AT ENGLISH WIKIPEDIA LICENSED UNDER CC-BY-SA-3.0

SWINE FLU
A/H1N1pdm09 Virus

MAY 2009 ▶ FEB 2010

415,000

INFECTED CASES

18

DEATHS REPORTED

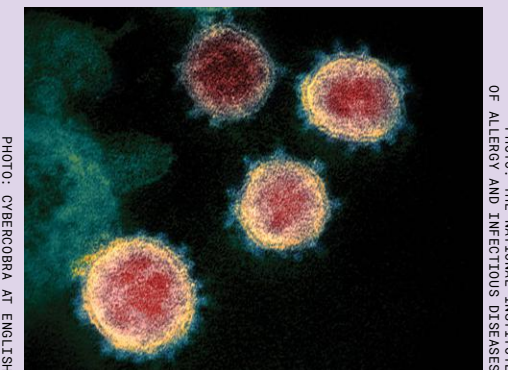


PHOTO: THE NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES

COVID-19
SARS-CoV-2 Virus

JAN 2020 ▶ DEC 2022

2,204,214

INFECTED CASES

1,711

DEATHS REPORTED

Professor Kenneth Mak had planned to ease into his new role as Director of Medical Services. But when COVID-19 hit, he found himself thrust into the hot seat, having to advise the Government on Singapore's strategy to fight the pandemic. He quickly became a familiar face to Singaporeans, appearing alongside ministers at news conferences helmed by the Multi-Ministry Taskforce.



PUTTING TOGETHER A TOP FIGHT SQUAD

For Prof Mak, the speed of this escalating health threat dramatically altered his plan to gradually ease into his new position as Director of Medical Services in the new year. With his predecessor, Professor Benjamin Ong, on leave at the time, he was prematurely pushed into the hot seat of leading Singapore's medical response to the virus.

"Stepping up into a role that I had not been officially appointed to did give rise to some level of anxiety on my part. There's a little bit of beginner's nerves, so to speak," shared the liver and trauma surgeon who received the top national award in 2022 for his COVID-19 contributions.

But he quickly steadied himself. Given how porous international borders had become, and the amount of travel between China and Singapore, he knew that it was only a matter of time before the virus reached the city-state.

Singapore was planning a few steps ahead. At that very first meeting on January 2, 2020, the Homefront Crisis

Executive Group (HCEG) was activated – essentially triggering a whole-of-government response.

The HCEG comprised principal representatives from all ministries and agencies, and was led by Mr Pang Kin Keong, the Permanent Secretary for the Ministry of Home Affairs. Convening the HCEG signalled the seriousness of the issue, as the norm would have been to

establish the Contingency Taskforce that would confine the effort within MOH.

But even the HCEG was not sufficient. Concurrently, the Multi-Ministry Taskforce (MTF) was also set up, bringing together ministers from key agencies to direct the national response to the outbreak and work with the international community to deal with the global health crisis.

Next was planning the counterstrategies.

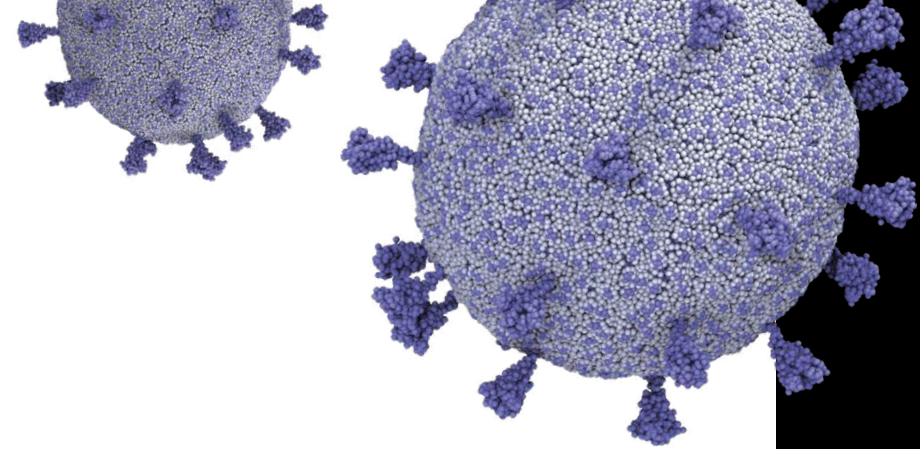
GIVEN HOW POROUS INTERNATIONAL BORDERS HAD BECOME, PROF MAK KNEW THAT IT WAS ONLY A MATTER OF TIME BEFORE THE VIRUS REACHED THE CITY-STATE.



PHOTO: MINISTRY OF COMMUNICATIONS AND INFORMATION

A Multi-Ministry Taskforce, comprising ministers from diverse ministries, was set up on Jan 22, 2020, to coordinate Singapore's whole-of-government response to the COVID-19 outbreak. The Taskforce, co-chaired by then-Minister for Health **Mr Gan Kim Yong** (third from right) and then-Minister for National Development **Mr Lawrence Wong** (second from right), held its first press conference on Jan 27, 2020.

Among its members were **Mr S Iswaran**, then-Minister for Communications and Information (first from left); **Mr Chan Chun Sing**, then-Minister for Trade and Industry (second from left); and **Mr Ong Ye Kung**, then-Minister for Education (first from right).



KNOWING THE ENEMY



To fight an enemy, it was critical to understand it first. But in the early days of January 2020, not much was known about the mysterious virus – which did not even have an official name then.

At the forefront of unravelling the science of the virus was Professor Tan Chorh Chuan, Chief Health Scientist at MOH. After reading about the outbreak of unusual pneumonia in Wuhan, he quickly contacted his counterparts overseas. His top concern: has there been sustained human-to-human transmission?

The initial evidence had pointed only to animal-to-human transmission, which suggested it would die down quickly. But as the speed of spread in Wuhan became more rapid, he knew that it was wishful thinking. His worst fears of human-to-human transmission were confirmed by China on January 20, 2020.

“I thought what a terrible way to start a new year,” said Prof Tan, who saw the urgent need to uncover the characteristics of the virus that would answer key questions such as the incubation period, how it is transmitted, how fast it spreads, and the infection mortality rate.

“Those were the things that you can only ascertain by studying the

epidemiology of transmission from actual cases. And that required us to follow the literature very closely, and to also speak to our colleagues overseas who were starting to see more cases.”

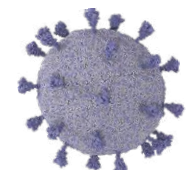
His other priority was to get good diagnostic tests ready, be it searching for options from overseas or supporting the rapid development of new tests locally.

Fortunately, the National Public Health Laboratory had already developed a test kit for the novel coronavirus before it infiltrated Singapore’s borders, after Chinese scientists published the genome sequence of the virus on an open-access site in mid-January 2020.

When Singapore diagnosed its first case of the novel coronavirus virus on January 23, 2020 – the same day that the entire city of Wuhan was locked down – the nation was ready to deal with more cases.



PROF TAN’S WORST FEARS OF HUMAN-TO-HUMAN TRANSMISSION



WERE CONFIRMED ON JANUARY 20, 2020.



The top question on **Professor Tan Chorh Chuan’s** mind when he heard about the strange pneumonia outbreak in China was whether there had been evidence of sustained human-to-human

transmission. The Chief Health Scientist at MOH wasted no time connecting with his counterparts overseas to find out more about the virus and its epidemiology and transmission dynamics.

DEFENDING OUR BORDERS

The next day was Chinese New Year eve. On January 24, 2020, families were gathered for reunion lunches and dinners across Singapore, but there was no sign of festivities across the island's 20 land and sea checkpoints. Everyone was on high alert.

The virus had reached Singapore's shores. It was now time to put in place not just plans and protocols from recent meetings but also from years of preparation for a health emergency that dated back to SARS.

Learning from the battle against SARS, a crucial factor in fighting the virus was detection. This came in the form of temperature screening of travellers entering Singapore, as the assumption was that this novel coronavirus had similar traits to SARS – with infected persons having symptoms such as fever.

A large brigade of healthcare professionals and civil servants were deployed for temperature screening at

the borders, including those from the private sector such as Dr Noel Yeo, then-Chief Operating Officer of IHH Healthcare Singapore. He had received a call from MOH just the day before to lead the screening operations at 10 of the checkpoints.

He had to find hundreds of people to man three shifts – a tall order made even more challenging as it was a long public holiday weekend. Most of his Malaysian staff had gone home for the Chinese New Year holidays.

In between dusting off temperature screening equipment and recalibrating thermometers, he and the other business and function heads had to recall staff from clinics closed for the holidays as well as non-clinical staff. “We said to them that everyone has to hunker down, let's get to the task. We have a mission to fulfil,” recalled Dr Yeo.

Many answered the call, joining Dr Yeo on the ground. Donning a reflective

safety vest and face mask, his shirt soaking in perspiration, he walked from car to car in front of Woodlands Checkpoint. With an infrared thermometer in one hand, he gestured for drivers to wind down their windows. “Do you have a fever?” he would ask, before scanning their foreheads.

Each shift lasted 12 hours, during which he was mostly on his feet save for two short breaks. If the humid and hot Singapore weather was not energy-sapping enough, the lack of ventilation and the constant smell of vehicle exhaust fumes were sure to give a headache, even to the fittest of people. “If you asked me overall how it felt, I would say it was tougher than being in the outfield,” he remarked.

At Singapore's Changi Airport, flights coming from China were being screened too, with “spotters” straining their eyes in search of any red that might appear on their thermal scanners, and “interceptors” keeping an eye out for passengers who might be wearing anything that could affect the scanner's accuracy.

**LEARNING FROM THE
BATTLE AGAINST SARS,**

**A CRUCIAL FACTOR
IN FIGHTING THE VIRUS
WAS DETECTION.**

WHILE TEMPERATURE SCREENING WAS ONGOING, THE VIRUS WAS STILL NOT ON THE MINDS OF MOST –

AND EVEN SEEN AS A DISTANT PROBLEM FOR ANOTHER COUNTRY TO DEAL WITH.

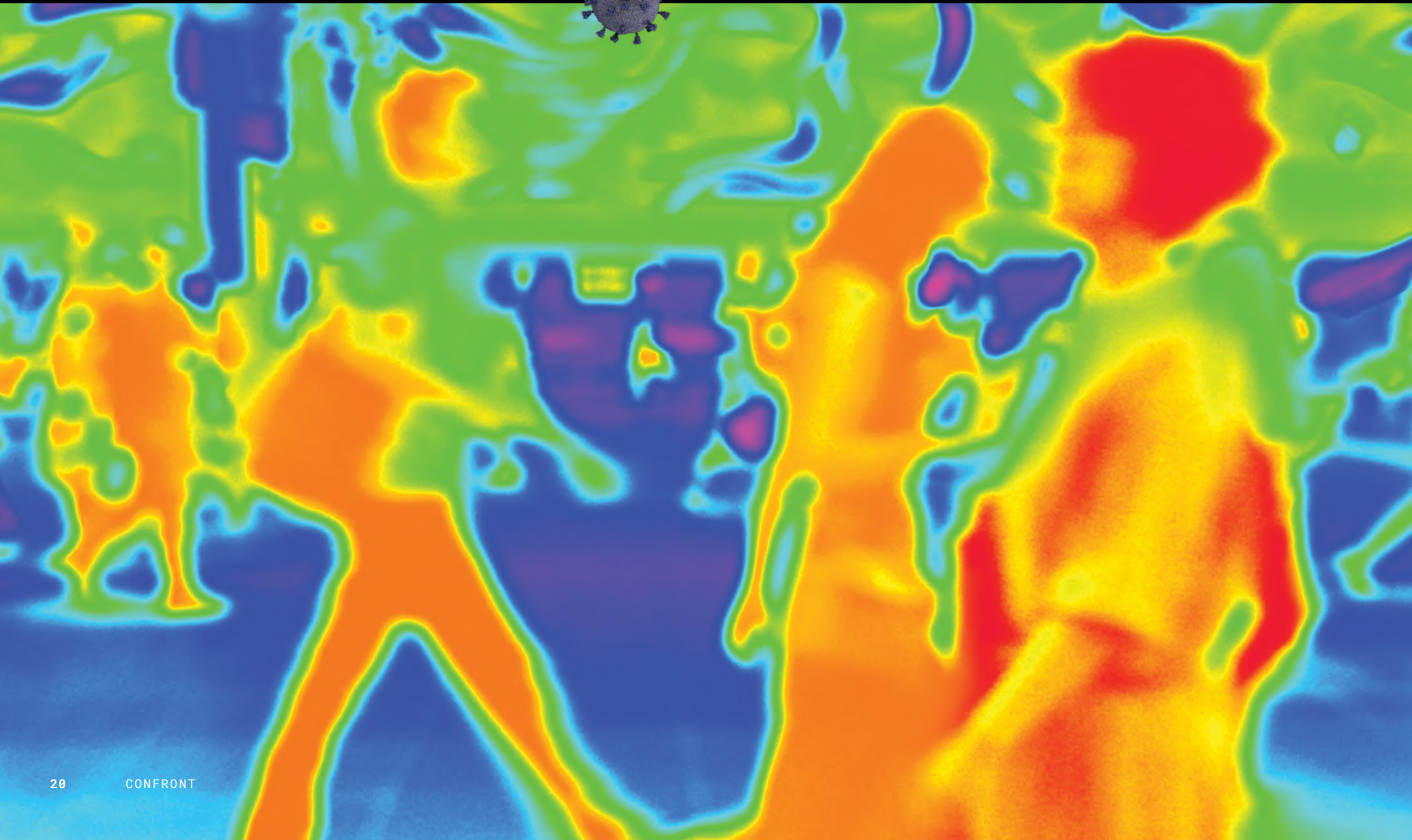
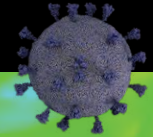
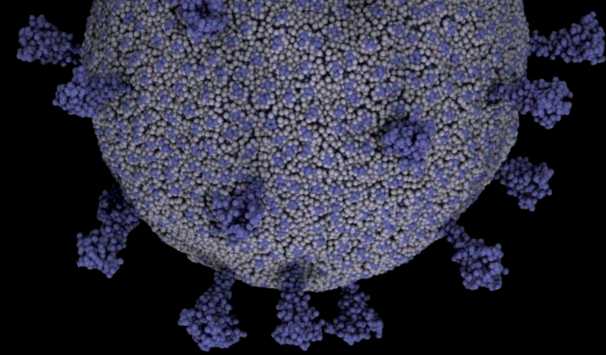


PHOTO: STOCK.ADOBE.COM/MODERNGOL.F1984

GOING ON THE OFFENSIVE

While temperature screening was ongoing, the virus was still not on the minds of most – and even seen as a distant problem for another country to deal with. People were still travelling widely, and making plans for future trips.

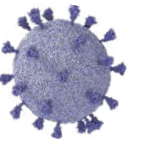
But earlier health crises had taught the Ministry that it was always better to be overprepared, said Ms Ngiam Siew Ying, former Deputy Secretary for Policy at MOH.

“To overreact rather than to be caught off guard – the thinking on our minds was that it’s better to get prepared earlier. And

if the virus turned out to be something normal and easy to control, then we could just stand things down,” said Ms Ngiam.

But even as the Ministry organised its resources, there were still many unknowns. It was unclear if the virus was airborne or mainly spread through droplets on surfaces. And there were also conflicting reports on the need for masks to prevent spread of the disease.

There was, however, no time to wait. Calculated assumptions, based on past experience with SARS, had to be made to defend Singapore.



Detection formed a key part of Singapore’s pandemic response in the early days of COVID-19. In Jan 2020, healthcare workers and civil servants were deployed to Singapore’s land, sea and air checkpoints to conduct temperature and health screenings, just as the first case of the novel coronavirus was detected in the city-state.



PHOTO: THE STRAITS TIMES © SPH MEDIA LIMITED

CARING FOR PATIENT NO. 1

DR BENJY SOH was just about to knock off from a hectic day at the emergency department when he was called over by a nurse. Two new patients had just walked in and the medical officer covering the next shift had not yet arrived.

Re-wearing his N95 mask, a new precaution since news broke of the virus spreading in China, he quickly walked over to meet the new patients.

“The virus was at the back of my mind. It wasn’t here yet and we were still hoping it wouldn’t hit,” recalled Dr Soh, a Medical Officer at the Singapore General Hospital.

It was only when the first patient told him that he had a fever and was a tourist from China that alarm bells started to ring. Pressed further, the patient revealed an even more worrying detail – that he was specifically from the city of Wuhan.

“I thought *siao liao* (this is bad),” he added candidly.

The isolation protocols quickly kicked in. A blood test was taken and the patient was sent for an x-ray and a swab. The Ministry of Health was notified and the infectious disease department called up. Thankfully the second patient, also from China, had no travel history to Wuhan.

Once settled, Dr Soh headed home for a late dinner with his pregnant wife, who was also an emergency department doctor but at Changi General Hospital. Hearing about his day, she lamented that he was very “*suay*” (unlucky). But the drama was just starting.

The next day, January 23, 2020, he was awoken by a string of messages from his department head and colleagues. The patient from Wuhan, later identified as 66-year-old Mr Wang, had tested positive for the novel coronavirus. Dr Soh was asked a multitude of questions, including if he was running a fever or had any flu symptoms.

Over at Ward 68, an isolation ward with 51 beds and negative pressure rooms that prevent contaminated air from escaping, nurses had already been caring for Mr Wang, who had been admitted as a suspect case.

The ward’s 80 to 90 nurses, now split into two teams after the hospital confirmed its first case, were all well trained in handling infectious disease patients. They were also kept updated on the international and local virus situation.

Senior Staff Nurse Nur Syaheda Binte

Abdul Aziz, who was on duty that day, was not anxious despite the seriousness of the situation. Patient No. 1 was generally recovering well, though his family, especially his son, was extremely worried for his well-being, she recalled.

“We had to allay his fears by assuring him that his father was doing okay. We told him not to worry too much and that we would take good care of him,” she said. Mr Wang’s son was eventually infected too, becoming “Case 3”.

For the senior Mr Wang, his symptoms remained mild. He ran a fever for the first three days and subsequently only had throat discomfort. He was isolated in hospital for 28 days as per the prevailing healthcare protocols.

As for Dr Soh, he was isolated for 14 days in total at the hospital as a precaution and at home when his tests came back negative.

Meanwhile, healthcare workers started to take extra precautions to keep their families safe. Ms Syaheda made the decision to live apart from her young daughters, then aged three and four, for a month, in order to protect them from getting infected.

“THE VIRUS WAS AT THE BACK OF MY MIND. IT WASN’T HERE YET AND WE WERE STILL HOPING IT WOULDN’T HIT.”

– DR BENJY SOH,
MEDICAL OFFICER AT THE
SINGAPORE GENERAL HOSPITAL



Medical staff in full protective gear transferring a suspected COVID-19 patient from the Singapore General Hospital (SGH) to the National Heart Centre for an emergency scan.

The hospital treated the country’s first confirmed COVID-19 patient on Jan 20, 2020. Since then, frontline staff have been hard at work treating patients with respiratory infections.

PHOTO: THE STRAITS TIMES © SPH MEDIA LIMITED

“I OFTEN
WONDER
WHETHER
I’M A JINX”

Mr Chan Yeng Kit, Permanent Secretary for Health, joined the Ministry of Health on Dec 2, 2019 – just weeks before the first COVID-19 case was discovered in Singapore.

JUST BEFORE he was posted to the Ministry of Health (MOH), Permanent Secretary for Health Mr Chan Yeng Kit had a meeting with then-Minister for Health Mr Gan Kim Yong, which foreshadowed the battle that he would come to lead.

“He was telling me to expect that I would have to handle, from time to time, viruses, germs, diseases, etc. But never did I imagine that we would encounter what the Prime Minister called the crisis of our generation,” said Mr Chan.

His first day at MOH, on December 2, 2019, was actually his birthday – but his present was far from pleasant. He would run right smack into the COVID-19 pandemic.

It was his 12th posting in the civil service and the veteran leader was familiar with having to learn the ropes again. He was starting to learn technical healthcare terms, acronyms of the different health policies and initiatives, and getting to know the different teams when news reports of a novel coronavirus in Wuhan, China, began to circulate at the end of the month.

“I often wonder whether I’m a jinx or I brought the jinx over here,” said Mr Chan, with a weary laugh.

At his previous posting at MINDEF, he had to deal with multiple training deaths, the seizure of nine Terrex armoured vehicles by Hong Kong customs, and a territorial spat with Malaysia over the waters off Tuas. Some of

his friends even asked him if he was unlucky.

“But I’ve told my colleagues and MOH staff at town halls that as a public officer, you would want to be where the crisis is, at least once in your lifetime, and play a part in it,” he said. “So, in a way, I guess I have had the privilege of being in the centre of the storm.”

This viral storm, however, seemed never-ending – causing many to lose confidence, especially those on the healthcare frontlines. Seeing this long COVID-19 journey as similar to route marches that National Service recruits do, Mr Chan said: “You really don’t know where the end point is. You just keep walking and walking.”

What kept many of the soldiers going was to scan the horizon for possible milestones to reach – a hill, an empty field or a building. “At least you know that you have moved forward, and are not moving backwards,” he shared. “The most worrying thing is that people lose not just confidence and trust, but hope.”

But it did not happen. “I’m very appreciative that we didn’t have people quitting on us in droves. Our doctors and nurses did not abandon the hospitals, our healthcare leadership and those involved in planning and coordination also never gave up. We even had a lot of volunteers from other ministries who came to help,” he said.

PHOTO: NATIONAL CENTRE FOR INFECTIOUS DISEASES



Following the Severe Acute Respiratory Syndrome (SARS) in Singapore, plans were made to set up a specialised infectious diseases facility to strengthen the country’s ability to manage future pandemics.

The National Centre for Infectious Diseases officially opened on Sep 7, 2019, just months before COVID-19 engulfed the world.

A PANDEMIC PLAYBOOK – 17 YEARS IN THE MAKING

THE COVID-19 BATTLE may have begun in 2020, but Singapore started preparing for it 17 years ago when another coronavirus wreaked havoc here – the Severe Acute Respiratory Syndrome, better known as SARS.

In 2003, SARS brought three months of fear when it struck, shutting schools, closing one of Singapore’s busiest hospitals, Tan Tock Seng Hospital (TTSH), costing the economy close to \$1 billion, and killing 33 people here.

Even after the World Health Organization declared the country SARS-free, the Ministry of Health was acutely aware of

the vulnerabilities in its system that the virus had exposed, and knew that it had to plug the gaps before the next pandemic occurred.

Plans were made to upgrade the Communicable Disease Centre at TTSH into the National Centre for Infectious Diseases (NCID) that officially opened on September 7, 2019.

The 330-bed purpose-built facility would have new functional units including the National Public Health and Epidemiology Unit, the National Public Health Laboratory, the Infectious Disease Research and Training Office, the

Antimicrobial Resistance Coordinating Office, and the National Public Health programmes for HIV and Tuberculosis.

Table-top exercises were regularly held following SARS, where healthcare organisations discussed their roles and responsibilities should a health crisis happen again. A response system was also developed, which when activated during a pandemic, would set off a chain of command.

When the COVID-19 pandemic struck, it was these years of training, knowledge building and preparation that allowed Singapore to spring into action early.