

Coronavirus: South Korea's infection rate falls without citywide lockdowns like China, Italy — Aggressive testing gives clues

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- **South Korea had 7,513 cases as of Monday, with daily infections falling for a fourth consecutive day**
- **Officials attribute the decrease to mass testing, improved public communication and the use of advanced technology**

South Korea has seen a steady decrease in new coronavirus cases for four consecutive days, despite being one of the worst-affected countries outside China, although global attention has shifted towards outbreaks in Italy and Iran.

As of end-Monday, it had 7,513 cases and 54 deaths. The Korea Centres for Disease Control and Prevention (KCDC) said there was an increase of 131 cases from Sunday to Monday.

The country averaged more than 500 new infections a day for the past two weeks, but last Friday, this number dipped to 438, then 367 on Saturday and 248 on Sunday. The daily number of confirmed cases is reported the following day.

South Korean President Moon Jae-in on Monday noted his country's "slowing trend" of new infections but warned: "We should not be complacent at all."

His point was underscored by the KCDC, which said that among the new patients were more than 60 people who were infected while working in close proximity to each other at an insurance company call centre.

"The total number of new confirmed cases is on a downturn but there are concerns over such mass infection cases", said KCDC Deputy Director Kwon Jun-wook.

The steady decrease in cases has been attributed to a variety of factors, including mass testing, improved public communications and the use of technology. Extensive testing of members of the Shincheonji Church of Jesus, which was linked to more than 60 per cent of the country's cases, has been completed.

South Korean officials have shared their experiences in containing the outbreak, saying that citywide lockdowns, as imposed by China in Wuhan, where the outbreak originated, are difficult to enforce in an open society.

China also introduced strict social distancing and extensive monitoring of citizens and ensured their adherence to preventive measures with punishment and rewards, resulting in a significant drop in the number of new cases.

“Without harming the principle of a transparent and open society, we recommend a response system that blends voluntary public participation with creative applications of advanced technology,” South Korea’s Vice Health Minister Kim Gang-lip told journalists.

Conventional and coercive measures such as lockdowns of affected areas have drawbacks, he said, undermining the spirit of democracy and alienating the public who should participate actively in preventive efforts.

“Public participation must be secured through openness and transparency,” he said.

South Korea has been proactive in providing its citizens with information needed to stay safe, including twice daily media briefings and emergency alerts sent by mobile phone to those living or working in districts where new cases have been confirmed.

Details about the travel histories of confirmed patients are also available on municipal websites, sometimes with breakdowns of a patient’s residence or employer, which can make them identifiable individually, leading to concerns about privacy.

The importance of maintaining good hygiene has also been stressed. South Koreans seldom leave their homes without wearing a face mask, with many buildings putting up signs reading “No Masks, No Entry”. Restaurant workers and retail staff wear masks while serving customers.

“I don’t like to wear a mask as I have to smell my own breath. I didn’t bother to wear as usual when I sneezed couple of times in the metro. Then other commuters frowned on me and stepped away from me. At that time, I decided to follow the trend and wear a mask,” said Min Gyeong-wook, a 35-year-old company employee.

South Korea has also come up with creative measures, including about 50 drive-through testing stations across the country, where it takes only 10 minutes to go through the whole procedure. Test results are available within hours.

Covid-19 tests are prohibitively expensive in many countries but in South Korea, all tests are free. The country is also capable of processing up to 15,000 diagnostic tests a day, and the aggregate number of tests has reached almost 200,000.

This testing capability has enabled the country to identify patients early and minimise the harmful effects, health experts say. But this also led to South Korea having the second largest number of confirmed infections in the world after China, although this was superseded by Italy this week.

South Korea has established “special immigration procedures” to monitor arrivals for two weeks without having to ban inbound travellers from entering the country.

There are not many countries in the world like South Korea that have both brains and product facilities needed for coping with virus outbreaks.

Hwang Seung-sik, Seoul National University

Those arriving from China, including Hong Kong and Macau but excluding Taiwan, have their body temperature checked, while their domestic contact information is verified and they are required to fill in a health questionnaire. They are also asked to download a self-diagnosis app on their mobile phones and put under intensive management if they show symptoms.

South Korea is also using its cutting-edge IT technology and its ubiquitous surveillance cameras to track infection sources, identifying the movements of confirmed cases based on their credit card

transactions and mobile phone tracking, and disclosing this information to help trace those who may have come into contact with them.

Those who are at risk are placed in self-isolation and thoroughly managed on an individual basis by health authorities.

To cope with hospital bed shortages, the country has turned many job training centres and other public facilities into “living and treatment centres” where patients showing light symptoms of the coronavirus are placed in quarantine.

Professor Kim Woo-joo at Korea University College of Medicine said the country had gained experience from dealing with previous health emergencies, such as the 2009 H1N1 influenza pandemic, which resulted in about 750,000 cases and 180 deaths in South Korea, and the 2015 Middle East respiratory syndrome (Mers) outbreak, which infected 186 people and resulted in at least 39 deaths in the country.

“South Korea has learned valuable lessons from the outbreaks,” Kim said. “Public awareness of the need for individual hygiene such as washing hands and wearing masks has also been raised greatly, thanks to their experiences in the past outbreaks.”

The country has subsequently trained health workers to cope with pandemic outbreaks, especially testing for infections, tracking and isolating contacts.

“There are not many countries in the world like South Korea that have both brains and product facilities needed for coping with virus outbreaks,” said Hwang Seung-sik, a public health professor at Seoul National University.

Despite these facilities, Kim said it would be difficult for an open society such as South Korea or other OECD countries, to enforce lockdowns as seen in China.

This was highlighted when Hong Ik-pyo was forced to resign as the chief spokesman of the ruling Democratic Party after he came under fire over his remarks that Daegu City, the epicentre of the recent outbreak, should be locked down. The remarks came at a politically sensitive time, with parliamentary elections to be held on April 15.

Kim cautioned against premature optimism, noting that there have been small clusters of infections in some hospitals, apartments, churches and nursing homes in places other than Daegu, including Seoul and nearby Seongnam City.

A look at China's industrial and transport hub Wuhan before and after its coronavirus lockdown

Seoul's Guro district on Monday said at least 46 people were infected at an insurance company call centre, where employees working in closed rooms are not allowed to wear masks so that they can speak clearly on the phone. Four more cases were family members of the employees, and 207 people who work on the same floor were being tested.

“The best scenario is the virus dies away in late March ... The worst scenario is the virus spreads widely in metropolitan Seoul and its surrounding Gyeonggi Province,” Kim said. Almost half of South Korea's 51 million citizens live in this area.

Kim Dong-hyun, president of the Korea Society of Epidemiology, said it is hard to prevent the Covid-19 illness from spreading among community members as viral sharing can occur during asymptomatic periods.

“Countries should take drastic preventive measures, even at the initial stage of the virus outbreak,”

he said.

Park Chan-kyong

Additional reporting by Agence France-Presse

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<https://www.scmp.com/week-asia/health-environment/article/3074469/coronavirus-south-korea-cuts-infection-rate-without>
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Coronavirus: South Korea's aggressive testing gives clues to true fatality rate

- **With 140,000 people tested, the country's mortality rate is just over 0.6 per cent compared to the 3.4 per cent global average reported by the WHO**

- Various factors can influence this percentage, but scientists agree that all things being equal, it is more accurate when more people are tested

Within a month of confirming its first case of Covid-19 on January 20, South Korea had tested nearly 8,000 people suspected of infection with the new coronavirus that causes the disease. A little over a week later, that number had soared to 82,000 as health officials mobilised to carry out as many 10,000 tests each day.

Neighbouring Japan, on the other hand, tested only a fraction of that number, with fewer than 2,000 people checked on any given day since the beginning of its outbreak in late January. So far, more than 6,000 cases have been confirmed in South Korea and over 1,000 in Japan, if you include the Diamond Princess cruise ship that was quarantined in the Port of Yokohama.

In the United States, where the number of confirmed cases has surpassed 100, health authorities had as recently as this week tested fewer than 500 people in total, hindered by legal and technical barriers to mass screening.

Which is where South Korea's massive testing effort can come in, providing a valuable reference point for public health experts around the world who are starved of hard data - offering potentially the most comprehensive picture yet of the threat posed by Covid-19 to the general public.

And while experts caution that it is still too early to draw firm conclusions, the picture emerging in South Korea - which has the most confirmed cases outside China but with a more transparent political environment - suggests the virus could be less lethal than patchier data emerging from elsewhere.

"If we can test more people - whether they have no symptoms, mild or severe disease - the results, including the case fatality rate, are more accurate and representative when the whole disease spectrum is taken into consideration," said David Hui Shu-cheong, an expert in respiratory medicine at the Chinese University of Hong Kong. "Most countries just focus on testing the hospitalised

patients who obviously have more severe disease, and [thus] the fatality rate is high.”

South Korea, which introduced a system to grant the rapid approval of testing kits for viruses after 2015’s outbreak of Middle East Respiratory Syndrome in the country that killed 38 people, has won international plaudits for the scale and speed of its screening regime, which includes drive-through stations that can test members of the public in minutes. This week, President Moon Jae-in went so far as to declare “war” on the virus and as of Thursday, health authorities had tested more than 140,000 people.

One question puzzling disease experts has been Covid-19’s mortality rate, which has seemingly ranged from 2-3 per cent in China up to 10 per cent in Iran, based on official numbers – though given the opaque nature of both countries’ political systems, these figures have been dogged by doubts, with some scientists suggesting that the illness caused by the new coronavirus is actually less deadly than Severe Acute Respiratory Syndrome.

World Health Organisation Director-General Tedros Adhanom Ghebreyesus on Tuesday said the global mortality rate from Covid-19 recorded so far was about 3.4 per cent, higher than previous estimates – though this figure was accompanied by caveats that the rate could be lower when more was known about the disease.

Yet in South Korea, where the country’s Centres for Disease Control and Prevention on Thursday reported 6,088 cases and 40 deaths, the mortality rate appears to be hovering around 0.65 per cent.

While this is still several times more lethal than seasonal influenza, which kills about 0.1 per cent of the people it infects – 30,000-40,000 people in the US alone each year – South Korea’s rate is far lower than that seen elsewhere.

Although various factors can affect mortality rates, including the quality of a country’s health care system and the amount of public and medical knowledge about what to do in an outbreak, the number of people being tested is one of the most influential. All other things being equal, the more people tested, the more accurate the mortality rate will be.

William Schaffner, a professor of preventive medicine and infectious diseases at Vanderbilt University School of Medicine, said South Korea had emerged as a “wonderful laboratory” for studying the virus.

“During the course of subsequent investigations, as we start testing more broadly, we discover, almost always, that there is a broader spectrum of illness,” he said.

“The more you test the more you are likely to complete the picture of the entire pyramid, and so the more you test, it becomes [self-evident] that the perceived fatality rate will diminish.”

The argument that South Korea’s lower death rate may be more representative of the risk posed by the virus has been bolstered by some of the data out of China, where more than 80,000 cases have been reported.

In a study released last month, the Chinese Centre for Disease Control and Prevention said the mortality rate among people whose symptoms started between January 1 and January 10 was 15.6 per cent, compared to just 0.8 per cent among those who showed symptoms between February 1 and February 11 – a possible indication that increased screening as awareness of the virus grew had detected more mild cases of infection. Chinese authorities have reported testing some 320,000 people in Guangdong province, but the total number of people tested across the country remains unclear.

Jeremy Rossman, an honorary senior lecturer in virology at the University of Kent in the UK, said he believed the true fatality rate was significantly lower than observed in China and especially the city of Wuhan – the epicentre of the outbreak – where about 4 per cent of patients are reported to have died.

“It is hard to know exactly which factors are at play in which country,” Rossman said, adding there may have been significant under-reporting of cases in Wuhan. “Regardless, I do think it’s likely that the fatality rate is closer to 0.5 per cent, which is indeed very good news.”

Schaffner, too, said he found a fatality rate of around 0.5 per cent broadly credible.

“It would be a cause for optimism and would stand in contrast with the way the coronavirus has been presented, particularly by television announcers, who almost invariably precede the word ‘coronavirus’ with the word ‘deadly,’” he said.

“Having a much lower fatality rate would put the lie to that, and although it would be indeed higher than influenza, it would be down in the seasonal influenza range and very different than Sars and Mers, the other coronaviruses that we know about that have jumped species.”

Others struck a more cautious note, pointing out the fatality rate in South Korea could rise as newly diagnosed patients begin suffering the worst effects of the virus in the days and weeks ahead.

“Given that cases typically die 1-3 weeks after onset, the case-fatality rate can artificially be reduced with an initial wave of newly diagnosed, new onset cases,” said Michael T. Osterholm, director of the Centre for Infectious Disease Research and Policy at the University of Minnesota. “Only after three weeks to a month can you calculate a reliable case-fatality rate for that group with onset the month before. So I think the case-fatality rate will go up, not down in Korea in the 30 to 60 days ahead.”

There is little disagreement, however, that countries such as the US, which bungled the production of its first diagnostic test kit and initially limited testing to travellers, should be learning from South Korea’s broad-based screening. Amid mounting criticism, the administration of President Donald Trump announced on Tuesday that the US Centres for Disease Control and Prevention would lift all restrictions on testing, paving the way for mass screening by state, local and private laboratories.

“I’ve been yelling and screaming, as have many other people, about the need for testing capacity,” said Marc Lipsitch, a professor of epidemiology at Harvard University’s Harvard T.H Chan School of Public Health.

“The only way to know the severity spectrum is to test large numbers of people, and especially in outbreaks, it’s actually a really good setting to do it.”

John Power

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P.S.

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