

A third of coronavirus cases may be ‘silent carriers’, classified Chinese data suggests

By Josephine Ma · scmp.com · 5 min

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Scientists have been unable to agree on what role asymptomatic transmission plays in spreading Covid-19.

Illustration: Perry Tse

The number of “silent carriers” – people who are infected by the new coronavirus

Chinese government data seen by the *South China Morning Post*.

That could further complicate the strategies being used by countries to contain the virus, which has infected more than 300,000 people and killed more than 14,000 globally

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More than 43,000 people in China had tested positive for Covid-19 by the end of February but had no immediate symptoms, a condition typically known as asymptomatic, according to the data. They were placed in quarantine and monitored but were not included in the official tally of confirmed cases, which stood at about 80,000 at the time.

Scientists have been unable to agree on what role asymptomatic transmission plays in spreading the disease. A patient usually develops symptoms in five days, though the incubation period can be as long as three weeks in some rare cases.



One obstacle is that countries tally their confirmed cases differently.

The World Health Organisation classifies all people who test positive as confirmed cases regardless of whether they experience any symptoms. South Korea also does this. But

symptoms as confirmed cases. The United States, Britain and Italy simply do not test people without symptoms, apart from medical workers who have prolonged exposure to the virus.

The approach taken by China and South Korea of testing anyone who has had close contact with a patient – regardless of whether the person has symptoms – may explain why the two Asian countries seem to have checked the spread of the virus. Hong Kong is extending testing to airport arrivals in the city, even if travellers have no symptoms. Meanwhile in most European countries and the US, where only those with symptoms are tested, the number of infections continues to rapidly rise.

A growing number of studies are now questioning the WHO's earlier statement that asymptomatic transmission was "extremely rare". A report by the WHO's international mission after a trip to China estimated that asymptomatic infections accounted for 1 to 3 per cent of cases, according to a European Union paper.

"The number of novel coronavirus (Covid-19) cases worldwide continues to grow, and the gap between reports from China and statistical estimates of incidence based on cases diagnosed outside China indicates that a substantial number of cases are underdiagnosed," a group of Japanese

Journal of Infectious Diseases in February.

Based on their research, Nishiura put the proportion of asymptomatic Japanese patients evacuated from Wuhan, ground zero of the outbreak in China, at 30.8 per cent – similar to the classified Chinese government data.

But official figures from South Korea – which had carried out nearly 300,000 tests on all close contacts of its confirmed cases as of Wednesday – are the most comparable to China's. More than 20 per cent of the asymptomatic cases reported to the Korea Centres for Disease Control and Prevention remained without symptoms until they were discharged from hospital.

“Korea currently has a significantly higher rate of asymptomatic cases than other countries, perhaps due to our extensive testing,” Jeong Eun-kyeong, director of South Korea's CDC, told a press briefing on March 16.

Another useful point of reference is the data collected from the Diamond Princess cruise ship, which was quarantined for weeks in Yokohama, Japan. All of its passengers and crew were tested, with 712 people testing positive – 334 of whom were asymptomatic, according to official Japanese figures.

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In Hong Kong, 16 of the 138 confirmed cases as of March 14 were asymptomatic or presymptomatic, according to Ho Pak-leung, a professor with the microbiology department of the University of Hong Kong.

All of these numbers point to a significantly higher ratio of asymptomatic cases than indicated by data publicly released by China so far. There were 889 asymptomatic patients among the 44,672 confirmed cases as of February 11, epidemiologists from the Chinese Centre for Disease Control and Prevention wrote in a paper published online in JAMA Network Open on February 24.

The WHO has said the role of asymptomatic transmissions in the spread of the disease was not clear, but carriers without symptoms were unlikely to be a key factor overall.

However, some scientists are asking whether asymptomatic and presymptomatic transmissions have been underestimated.

“These undocumented infections often experience mild, limited, or no symptoms and hence go unrecognised, and, depending on their contagiousness and numbers, can expose a far greater portion of the population to the virus



London, Tsinghua University, and the University of California, Davis wrote in the report.

A separate study by scientists from the University of Texas at Austin estimated that people who had not yet developed symptoms transmitted around 10 per cent of the 450 cases they studied in 93 Chinese cities. Their findings are awaiting publication in the journal *Emerging Infectious Diseases*.

Ho from the University of Hong Kong said some asymptomatic patients had a viral load similar to those with symptoms.

“Of course it is hard to say if they may be less infectious if they don’t cough. But there are also droplets when you speak,” he said, referring to how the respiratory virus is transmitted.

Benjamin Cowling, an epidemiology and biostatistics professor at the University of Hong Kong, said there was “clear evidence that infected persons could transmit infection before symptoms appear”.

“There are many reports of transmission around one to two days before symptom onset,” he said.

A better understanding of asymptomatic cases could lead to adjustments in public health policy, experts said.



Journal of Infectious Diseases. “That would considerably change our scope of the outbreak, and even the optimal interventions can change.”

Additional reporting by Liu Zhen



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