

Hong Kong and US scientists believe illness is a coronavirus

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Scientists at the University of Hong Kong's department of microbiology believe they have identified the cause of the outbreak of severe acute respiratory syndrome as a new strain of the coronavirus. The team used polymerase chain reaction technology and an immunofluorescent antibody test to identify the virus, and the scientists suspect that the disease originated from animals.

"It is not a typical coronavirus and further study is needed to find its closest relation," explained Professor Malik Peiris, chief of virology at the university's department of microbiology.

The Hong Kong team's identification of the virus concurs with findings from the US Centers for Disease Control and Prevention (CDC) and other laboratories. "We continue to regard the new coronavirus as the leading hypothesis for the aetiology of this condition. The evidence is mounting from a number of international laboratories," said Dr Julie Gerberding, director of the CDC.

However, the existence of other viruses associated with the disease and the possibility that it is also airborne have not been ruled out. "We believe the major mode of transmission still is through droplet spread, but we are concerned about the possibility of airborne transmission," said Dr Gerberding.

The World Health Organization is "leaning heavily towards the coronavirus" as the cause of the outbreak, according to its spokesman Peter Cordingley. "We think it will be formally identified within the next few days," he added earlier this week. A rapid diagnosis test is expected to be widely available soon.

Meanwhile the Hong Kong team has already provided local hospitals with a test based on

polymerase chain reaction. "However, it is far from perfect and is still under evaluation and improvement," explained Professor Peiris.

By 31 March, the syndrome had infected 1622 people and killed 58 in 14 countries. One of the deaths was Dr Carlo Urbani, a WHO expert on communicable diseases, who was based in Hanoi, Vietnam, and had treated the index case there.

The Chinese authorities first supplied figures on infection and death on 25 March. They said that up to 28 February there had been 806 cases and 34 deaths, but no further updates have been issued despite Beijing's promises to release figures on a daily basis. By 1 April, the WHO team in Beijing was still waiting for permission to visit Guangdong province and investigate the spread of the disease there. "We see it as completely vital to go to Guangdong, speak to doctors, nurses, and patients there, to find out what went on and may still be going on," said Mr Cordingley.

The WHO team has played down China's slowness in giving it access to Guangdong province, but the Chinese authorities have been widely criticised for not providing timely notification of the outbreak or updates of the current situation. This has made it impossible to confirm whether or not the outbreak in Hong Kong is directly linked to that in Guangzhou, in Guangdong province, although the index case for the Hong Kong outbreak was a doctor from Guangzhou's Zhongshan Hospital.

In Hong Kong the outbreak is spreading and the number of cases reported each day is rising steadily. Sixteen people had died in Hong Kong by 1 April. There had been 685 confirmed cases, 277 of which were from one housing estate, Amoy Gardens,



A man wears a protective mask as he carries a bouquet of flowers at Women's College Hospital in Toronto, Canada. By 31 March, 44 people had developed the syndrome in Canada, and four had died

raising fears that the disease is in fact airborne. "We are very concerned about what is happening in Hong Kong. The jump in numbers makes us very worried about how this is being spread," said Mr Cordingley. "We have moved from not ruling out airborne transmission to taking it seriously," he added.

The outbreak has caused widespread disruption to daily life in Hong Kong. Most people on the streets are wearing surgical masks, schools have been closed, and there is a rising sense of panic as the government struggles to get the outbreak under control. Measures include quarantining one of the blocks of Amoy Gardens where most of the cases occurred and also ordering more than 1000 close contacts of people currently infected with the disease to have daily health checks for 10 days.

Although Hong Kong has not banned flights, WHO expects that several airlines will soon refuse to fly there. In the

meantime, the disease will continue to spread. "As domestic helpers in Hong Kong start fleeing their jobs and returning home, we expect the Philippines to be among those countries affected soon, as well as countries such as Cambodia and Laos, where there is no real health structure," said Mr Cordingley.

Elsewhere in the world, Canada, which has reported local transmission of cases, closed two hospitals in Ontario, and thousands of people have been asked to submit to voluntary quarantine. Thailand has started screening travellers to the country, quarantining anyone suspected of having atypical pneumonia. Singapore continues to keep contacts of people infected with the disease in quarantine but has also experienced a new cluster of cases, which started from a case brought into the country from a flight between Hong Kong and Beijing. □