

Public health epidemiologist : Coronavirus 'could infect 60% of global population if unchecked'

Wednesday 12 February 2020, by [BOSELEY Sarah](#) (Date first published: 11 February 2020).

Exclusive: Public health epidemiologist says other countries should consider adopting China-style containment measures.

Not reproduced here: Coronavirus a test of global solidarity, says WHO director - video

The coronavirus epidemic could spread to about two-thirds of the world's population if it cannot be controlled, according to Hong Kong's leading public health epidemiologist.

His warning came after the head of the World Health Organization (WHO) said recent cases of coronavirus patients who had never visited China could be the "tip of the iceberg" [[1](#)].

Prof Gabriel Leung, the chair of public health medicine at Hong Kong University, said the overriding question was to figure out the size and shape of the iceberg. Most experts thought that each person infected would go on to transmit the virus to about 2.5 other people. That gave an "attack rate" of 60-80%.

"Sixty per cent of the world's population is an awfully big number," Leung told the Guardian in London, en route to an expert meeting at the WHO in Geneva on Tuesday.

Confirmed cases of the coronavirus have risen to more than 42,000

Deaths from the coronavirus rose to 1,013 by 10 February

Graph not reproduced here

Even if the general fatality rate is as low as 1%, which Leung thinks is possible once milder cases are taken into account, the death toll would be massive.

He will tell the WHO meeting that the main issue is the scale of the growing worldwide epidemic and the second priority is to find out whether the drastic measures taken by China to prevent the spread have worked - because if so, other countries should think about adopting them.

The Geneva meeting brings together more than 400 researchers and national authorities, including some participating by video conference from mainland China and Taiwan. "With 99% of cases in China, this remains very much an emergency for that country, but one that holds a very grave threat for the rest of the world," the WHO director-general Tedros Adhanom Ghebreyesus said in his opening remarks. To date China has reported 42,708 confirmed cases, including 1,017 deaths, Tedros said.

Leung – one of the world’s experts on coronavirus epidemics, who played a major role in the Sars outbreak in 2002-03 – works closely with other leading scientists such as counterparts at Imperial College London and Oxford University.

At the end of January, he warned in a paper in the *Lancet* that outbreaks were likely to be “growing exponentially” in cities in China, lagging just one to two weeks behind Wuhan [2]. Elsewhere, “independent self-sustaining outbreaks in major cities globally could become inevitable” because of the substantial movement of people who were infected but had not yet developed symptoms, and the absence of public health measures to stop the spread.

Confirmed cases of coronavirus

Updated Tuesday 11 February 06.00 GMT

China 42,000+
Hong Kong 42
Singapore 45
Thailand 32
S Korea 28
Japan 26
Malaysia 18
Taiwan 18
Australia 15
Vietnam 15
Germany 14
US 13
France 11
Macau, 10
UAE 8
UK 8
Canada 7
India 3
Italy 3
Philippines 3
Russia 2
Belgium 1
Cambodia 1
Finland 1
Nepal 1
North Korea 1
Spain 2
Sri Lanka 1
Sweden 1
Others 64

Guardian graphic [not reproduced here]. Source: AFP

Epidemiologists and modellers were trying to figure out what was likely to happen, said Leung. “Is 60-80% of the world’s population going to get infected? Maybe not. Maybe this will come in waves. Maybe the virus is going to attenuate its lethality because it certainly doesn’t help it if it kills everybody in its path, because it will get killed as well,” he said.

Experts also need to know whether the restrictions in the centre of Wuhan and other cities have

reduced infections. "Have these massive public health interventions, social distancing, and mobility restrictions worked in China?" he asked. "If so, how can we roll them out, or is it not possible?"

There would be difficulties. "Let's assume that they have worked. But how long can you close schools for? How long can you lock down an entire city for? How long can you keep people away from shopping malls? And if you remove those [restrictions], then is it all going to come right back and rage again? So those are very real questions," he said.

If China's lockdown has not worked, there is another unpalatable truth to face: that the coronavirus might not be possible to contain. Then the world will have to switch tracks: instead of trying to contain the virus, it will have to work to mitigate its effects.

For now, containment measures are essential. Leung said the period of time when people were infected but showed no symptoms remained a huge problem. Quarantine was necessary, but to ensure people were not still carrying the virus when they left, everybody should ideally be tested every couple of days. If anyone within a quarantine camp or on a stricken cruise ship tested positive, the clock should be reset to 14 days more for all the others.

Some countries at risk because of the movement of people to and from China have taken precautions. On a visit to Thailand three weeks ago, Leung talked to the health minister and advised the setting up of quarantine camps, which the government has done. But other countries with links to China appear, inexplicably, to have no cases – such as Indonesia. "Where are they?" he asked.

Scientists still do not know for sure whether transmission is through droplets from coughs or possibly airborne particles. "It's rather difficult to do that kind of careful detailed work when everything is raging. And unless it is raging you are unlikely to get enough confirmed cases," he said. "In Sars we never had the chance to do these kinds of studies."

Hong Kong, which has 36 confirmed cases of coronavirus, was in the worst possible set of circumstances for fighting a raging epidemic, said Leung.

"You need extra trust, extra sense of solidarity, extra sense of goodwill, all of which have been completely used up – every last drop in that social capital fuel tank has been exhausted after now eight months of social unrest, so it couldn't have come at a worse time," he said.

Sarah Boseley *Health editor, The Guardian*

P.S.

- The Guardian. Tue 11 Feb 2020 09.47 GMT:
<https://www.theguardian.com/world/2020/feb/11/coronavirus-expert-warns-infection-could-reach-60-of-worlds-population>
- Sarah Boseley articles in The Guardian:
<https://www.theguardian.com/profile/sarahboseley>
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Footnotes

[1] <https://www.theguardian.com/world/2020/feb/10/coronavirus-who-warns-spread-by-people-who-had-not-visited-china-could-be-tip-of-the-iceberg>

[2] [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30260-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30260-9/fulltext)