

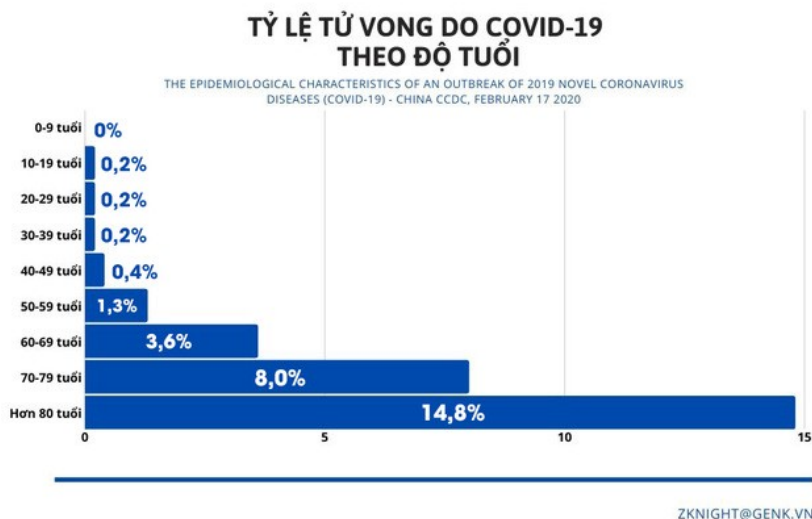
# Covid-19 is unlike seasonal flu, it is dozens of times more dangerous

Pathologists estimate that each person with Covid-19 will infect 2-3 others on average. This number is called R0, or basic reproduction number. In comparison with seasonal flu, the disease has only a basic transmission coefficient of R0 = 1.3. Meaning a person infected with c

Fever, headache, aches and sore throat - although the symptoms of Covid-19 may be similar to the common cold, health experts say that anyone cannot equate the two diseases. this together.

Covid-19 disease caused by the SARS-CoV-2 virus strain is much more dangerous than seasonal flu. Its mortality rate is currently about 3.5%. And based on those numbers, it can be said that Covid-19 is dozens of times more dangerous than seasonal flu.

In comparison, the annual number of deaths from seasonal flu is only 0.1% of the total number of infections.



Although actual figures may vary, even if Covid-19's calibrated death rate is calculated accurately, experts predict it will be no less than 2%.

" There is still uncertainty surrounding Covid-19's mortality rate and it may vary depending on the quality of local health care ," said Francois Balloux, Professor of Computer Systems Biology. at University College London said.

*"But it can be said that the mortality rate of Covid-19 is about 2%, 20 times higher than current flu strains in circulation today."*

### **There are many serious cases**

The real danger posed by SARS-CoV-2 virus does not seem to come from the total number of people infected, or the total number of deaths. Health experts say the real number that is causing concern is the total number of hospitalized hospitalizations that have been very severe.

These patients had pneumonia, needed mechanical ventilation and sometimes dialysis. In the limited condition of the health system, with the number of ventilators, ECMO machines and human resources unable to mobilize, these cases are the hidden numbers behind the recorded deaths.

An analysis of more than 45,000 confirmed Covid-19 cases in China showed that the majority of deaths occurred in the elderly (mortality rates up to 14.8% among those over 80 years old. ).

But another Chinese study found an equally alarming number, with 41% of serious cases occurring in the infected group below 50, compared to 27% of those over 65.

*" It is true that if you are older, you are at higher risk, but serious cases can also occur in relatively young people who have not had any underlying illness," said the Deputy Minister of Health. French Jerome Salomon stressed.*

### **High transmission coefficient**

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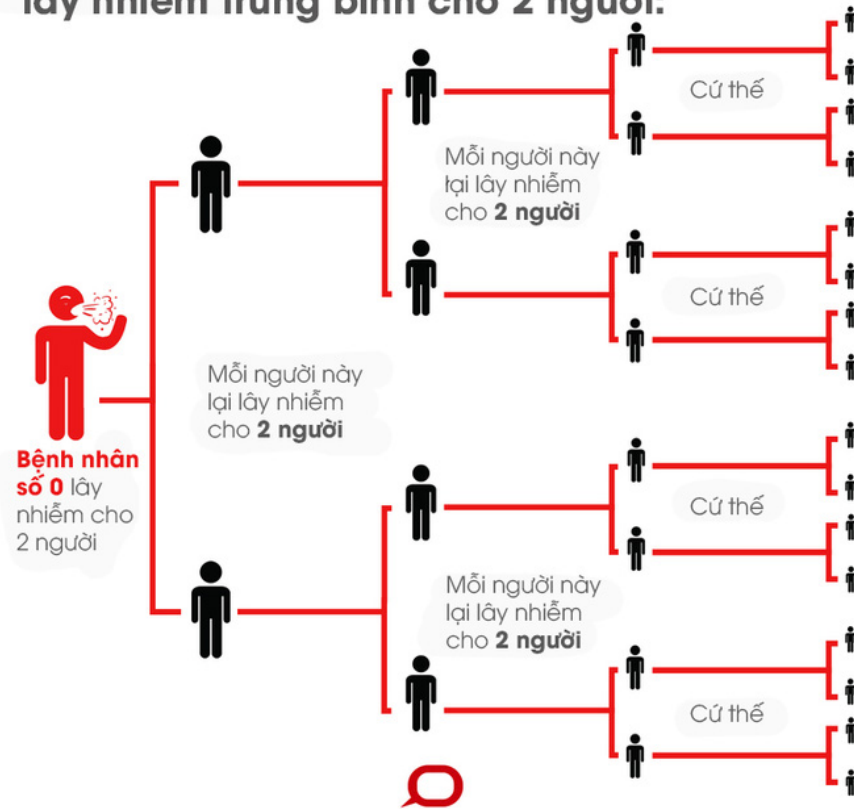
In comparison with seasonal flu, the disease has only a basic transmission coefficient of  $R_0 = 1.3$ . This means that an infected person only spread on average to 1-2 others.

The disparity looks small, but keep in mind that what we are talking about here is an exponential disease.

Adam Kucharski, an epidemiologist, said: *" When the disease broke out, on average, each person with Covid-19 would infect about 2.5 others. On average, there were about 5 days of incubation for further infections. So, we estimate there will be  $2.5^6 = 244$  infections after only one month.*

*But if we could cut the transmission coefficient in half, each person would then infect only 1.25 others, we would only have 4 new infections in the same period . "*

## Nếu một người nhiễm Covid-19 lây nhiễm trung bình cho 2 người:



1.25 is a number close to  $R_0$  for seasonal flu. And exponentially that's the reason why in some countries like Italy and China, where quarantine measures are implemented too late, we get the impression that Covid-19 initially spread very slowly, but at some point it seems like it will flare up terribly.

Think of a sequence of numbers multiplied by 2: 1, 2, 4, 8, 16, etc. How many times will you have to count to cross the 1 million mark? It turned out to be only 20 times. And how many steps will it take to surpass 16 million? Only 4 more times.

### **We do not have the vaccine and the drug to treat Covid-19**

Salomon said that people have lived with the flu for more than 100 years. " *We have studied it very carefully* ," he said. " *The new corona virus has clinical symptoms similar to the flu, but they do have very big differences.* "

The first is that we do not yet have a vaccine against Covid-19, or even any treatments that have been shown to be consistently effective.

Although there have been several drug trials showing promising results to treat Covid-19 infected patients, the sample sizes of these trials are too small to conclude that they are effective for all set of patients in the world or not.

Hundreds of researchers around the world are working frantically to find the vaccine for Covid-19, but the vaccine development process takes months to years. And perhaps in this first outbreak, people won't get vaccines against Covid-19.



We can only expect a vaccine to be available at the earliest to combat the next wave of disease outbreaks in the future. Even in the brightest scenario where we have the Covid-19 vaccine, universal vaccination will face many other obstacles.

Current health agencies often complain that the proportion of people vaccinated against seasonal influenza is too low to be able to create population immunity.

### **But there are similarities**

Despite these differences, the new corona virus still has some flu-like characteristics. Most notably are measures that people can take to prevent and slow its spread.

Accordingly, you should avoid gathering in crowded places, avoiding close contact with infected or suspected infected people. Wash your hands often with soap and clean water, avoiding your face and wearing a mask if you are infected.

Such actions can help limit new cases of Covid-19, just as it can limit cases of influenza, stomach illness and other infectious diseases.

\* To find out if you have properly practiced the preventive measures during the epidemic season, take the following test:

Refer to *Sciencealert*

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