

Issue 23

COVID-19 : Public Health

Friday, April 24

Hello. This is Kohno Shigeru, the President of Nagasaki University.

The next three emails are based on information from Prof. Kaneko Satoshi from the Institute of Tropical Medicine (NEKKEN) regarding COVID-19 infections: public health and public cooperation.

As the coronavirus infection spreads across the world and in Japan, the virus not only has an impact on healthcare, but also on the economy, culture, and people's lives. The scale of the infection is unprecedented and thus we may have the opportunity to change our lifestyles, values, and social system.

Closer to home, on the Italian cruise ship "Costa Atlantica" in the Nagasaki repair docks, 48 people have been diagnosed with COVID-19 as of April 24.

Can we stop the spread of the infection?

In the next three issues I will discuss the public health aspects of COVID-19 to protect the health of individuals, regions and the population as a whole.

First, let me explain the COVID-19 situation using the examples of "grass" and "fire".

Suppose our community is an area of grass. On that grass a fire, the COVID-19 infection, is spreading. How do you stop the fire? How do we protect our community? I would like us to consider this for a moment.

The fire rises from the buildings next to a grass. The people living in the grass area prepare to prevent the sparks from coming to the grass and extinguish them immediately if they are found. Over the grass area sparks fly up from the fire. Some of the sparks extinguish themselves in the air while other sparks land on the grass, which cause the fire to expand.

Consider now the human population as the grass. The people on the grass will stop the fire and check if it is not spreading. If there is fire, it should be extinguished. If there are a small number of sparks, the spread of the infection in the human population can be controlled.

But once the number of sparks increases, it becomes difficult to control the fires. Without noticing, a small fire can develop and spread. By the time you notice, the small fire has become a large fire. This is called a “cluster”.

Suppose the fire can be securely stopped this time. In this way, the fire was discovered and the appropriate tools extinguished the fire before it spreads further. This is the basis of the current cluster prevention measures.

In this example with the grass, we can see the fire, however in the case of COVID-19, we cannot see the fire. Moreover, we cannot see the sparks that start the fires. This is not only an oversight but infected people, who do not know they are infected, continue to move around in the population as carriers spreading the fire.

And once the fire becomes prevalent to some extent it cannot be contained easily. To protect the grass we put a steel plate covering the grass to stop the fire. This is known as a lockdown.

But in the case of Japan there is not a large enough steel plate and we need to use smaller steel plates instead. In addition, grass that is covered cannot receive sunlight and cannot grow. When should the steel plate be removed? We still see some flames outside the plate. It is a difficult choice.

We will face this kind of situation from now. To protect the grass (community), it is important to protect the grass from the sparks. Now fires are found in many places. The first priority is to stop new sparks from entering from elsewhere.

Even if you think you are OK, there is a possibility that you are infected. According to a study in Santa Clara County in the United States, for each known infected person there may be 50 times as many people with asymptomatic infections.

The most important thing now is for each person to take precautions and act as if they are infected.

In the next issue I will discuss COVID-19 situation in the world.