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“Consider self-isolation where the virus is spreading.” Expert council’s advice (Full text)

March 19th, 2020

The government’s expert council to discuss the novel coronavirus report released a new statement on March 19th. In the statement, they investigate whether it is necessary to enforce self-isolation in areas where the virus is spreading, and whether it is advisable to remove restrictions on low-risk activities in areas where the virus is declining. Following is a summary and the full text of the council’s statement.

Summary of the expert council’s advice

- In order to prevent a massive outbreak of the virus
 - If a massive outbreak occurs and the number of cases rises rapidly, it will place an enormous burden on the health care system, and there is a risk that it will become unable to provide adequate health care.
 - This advice was compiled as a plan to help Japan avoid this situation and minimize the damage.
- Outline of Japan’s strategy

- There are three pillars to the strategy.
 - (1) Detect clusters (groups of infections) early.
 - (2) Ensure there is sufficient intensive care for patients in critical condition.
 - (3) Change the behaviour of the citizenry.
- How can we keep infections down, and start returning to normal around the country.
- The WHO approves of Japan's strategy of detecting clusters early.

● What is the situation in Hokkaido? Is their approach working?

- In Hokkaido, they have managed to reduce the number of new patients, but the epidemic is still far from over, and the situation remains worrying.
- As the behaviour of the people of Hokkaido changed in response to the prefectural governor's declaration of a state of emergency, we have concluded that this was effective in preventing the virus from spreading rapidly.

● What is the situation in Japan?

- The number of cases is steadily rising outside Hokkaido, particularly in Tokyo.
There have also been clusters reported at elderly care facilities.
- In certain areas, the virus is spreading, and vulnerable people like the elderly have become infected.
- There are also areas around the country where the virus is spreading while the source is unknown.
- If the number of cases keeps increasing without the source of the cluster being found, there is a risk of an explosive surge of the virus somewhere.
- Overall, Japan is managing to withstand the virus, but the number of cases is still growing in some areas.
- Looking at the examples from other countries, if the number of cases in an area continues to increase without the source being known, and if this spreads to the entire country, it could lead to an explosive, large-scale outbreak.

● Are measures like large event cancellations effective?

- At the request of the Japanese government, large events have been canceled and all schools have been closed, and businesses are complying with the request to introduce staggered work hours.
- We don't know what would have happened without these measures, but as of now we can safely say that there haven't been any "megaclusters" (large group infection).
- Because the behaviour of the populace has changed, the number of new cases within Japan has slightly decreased, which shows that these measures had some effect.
- However, the virus is continuing to come in from overseas.
- It is important to avoid places and situations that fulfil three conditions simultaneously. These three conditions are (1) a closed space with poor ventilation, (2) a lot of people close together, and (3) conversations/talking from a close distance.

● How to respond in each region

- In order to maximize the effectiveness of countermeasures against the virus spreading while minimizing effects on society and the economy, we must take measures appropriate to the situation of each region.
- In areas where the virus is spreading, we must consider whether it is necessary to send unique messages and alerts, or enforce event cancellations.
- In areas where the situation is returning to normal or has stabilized, we will take measures to avoid all places and situations that fulfil the three conditions, while looking at gradually loosening the restrictions on areas with the lowest risk of the virus spreading.
- In areas where the state of the virus is unknown, reintroduce educational and sporting activities that have a low risk of spreading the virus.

● Schools

- In areas where the virus is spreading, closing schools for a set time is also an option.
- When the school year starts after spring break, initiatives are needed to avoid places and situations that fulfil the three conditions.
- Also remember to be thorough with basic disease protection measures like cough etiquette and washing hands.
- Try to eat balanced meals, exercise regularly, and sleep well to strengthen your immune system.

- The expert council's position is that we should still be very careful regarding nationwide large-scale events.
- If it is not possible to reduce the infection risk, the event should be canceled or postponed.

● What about businesses?

- Work to prevent infections among your staff.
- Set up a space where people showing symptoms can rest.
- Encourage employees to work from home and introduce staggered hours where possible.
- Ensure that parents are able to rest if their child's school is closed.



Full text of the statement by the government's expert council

Novel Coronavirus Response Expert Council

Analysis/advice on the response to the novel coronavirus

March 19th, 2020

This council was established by the government's Novel Coronavirus Response Headquarters, in order to provide advice from a medical perspective on measures to reduce the spread of the novel coronavirus (Decided by the Novel Coronavirus Response Headquarters, February 14th, 2020). This opinion is a summary of the council's study of data such as the analysis conducted by the Cluster Response Team of the MHLW's Novel Coronavirus Response Headquarters.

Using the information available now, the council has analyzed the current situation and attempted to provide accurate information, while also giving advice to the national and local governments, and making requests of the general populace and businesses.

Analysis results and other data are all based on the situation as it is now, and may change in future.

I. Introduction

Within a few months of the novel coronavirus beginning to spread, it has become a pandemic, spreading throughout the world. While there is still a lot we don't know about this virus, there are many things that have become clear. For example, among people that contract the virus, 80% of people only become mildly ill, while around 5% become seriously ill, and some die; we also know that the elderly and people with preexisting conditions are more likely to be severely affected by the virus. Over 190,000 cases have been reported throughout the world, with nearly 8,000 deaths. The council believes that the novel coronavirus requires adequate caution and countermeasures. In particular, there is a risk that the virus could spread throughout a city undetected, and then causing a sudden explosion of cases, which would excessively burden the medical system, meaning that people would not be able to receive medical care as they can now. If something like this happens, as has already been seen in other countries/regions, the government may be forced to restrict unnecessary outings and travel (what they call "lockdown") for a certain time.

We wrote this proposal as a way for the country to avoid this kind of situation, and minimize the damage caused by the virus. We hope the Japanese government and people will understand this, and craft policy/behavior in ways that will reduce the damage to our country as much as possible.

II. Analysis of the situation

1. The WHO recognizing the coronavirus as a pandemic (March 11th) and Japan's response

At a press conference on the 11th of March, 2020, World Health Organization (WHO) Director-General Tedros Adhanom said that the novel coronavirus, which has been spreading throughout the world, "can be characterized as a pandemic." While strong concerns were expressed over the way the virus is spreading outside of China and South Korea, he also said, "Describing the situation as a pandemic does not change WHO's assessment of the threat posed by the virus. It doesn't change what WHO is doing and it doesn't change what countries should do."

Based on the above, the council believes that for now, we must continue with our policy of minimizing the social/economic effects while maximizing the results of measures against further spread of the virus. For this reason, we believe that we have to **maintain the three pillars (1) Early cluster detection/response, (2) Early diagnosis of patients, intensive care for serious cases, and ensuring the continued functioning of the medical system, (3) Changing the behaviour of the general populace) of our strategy, while strengthening it when needed, and acting quickly.**

Furthermore, the number of cases is rising in places like Europe and the United States, where previously there had not been many reports of the virus, and we can presume that the outbreak is spreading in places like the Middle East, Southeast Asia, and Africa, so it will be difficult to contain the virus within the country with the goal of reaching zero cases. For this reason, we still need to be able to respond when the novel coronavirus is brought to Japan from these countries and when clusters (groups of infections) occur



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spontaneously in an area without a known source (link), so in addition to early detection of clusters, we need the public to change their behaviour as appropriate for the situation in each region, requiring self-isolation if necessary, and it will be important to find the best way to limit the size of infection chain reactions, and control the virus in each region so that we can begin to reduce the number of cases.

2. Cluster prevention methods

World Health Organization (WHO) Director-General Tedros Adhanom released a statement on the 13th of March, 2020, commending the Japanese government for their strategy of early cluster detection/response, and for taking several measures against the virus. The fact that several foreign governments didn't intervene until the number of cases grew to hundreds, or even thousands, has most likely caused the rapid increase in the number of deaths, but in Japan, they detect even small clusters (groups of infected people), and have been able to keep the virus relatively under control, which we judge to be one reason why the number of cases and deaths is lower than other countries.

Up until now, the MHLW's Cluster Response Team has worked with patients, people who have come in close contact with patients, health centers, and local governments to discover clusters (groups of infected people) early on, asked those people to refrain from coming into contact with others as much as possible, and continued to monitor their health. As a result, some areas have succeeded in preventing the virus from spreading rapidly.

However, the cluster response measures that have currently been enacted by the government, local governments, etc., suffer from a lack of experts to lead the cluster response, and the burden on health centers (including operating consultation centers for people returning from overseas and those who have come into contact with them) is extreme, meaning that they can't spare any staff members to work on the cluster response, so there are several issues still.

3. State of the virus in Hokkaido and effectiveness of their response



[Note]: Once someone is infected with the novel coronavirus, they remain asymptomatic for an average of around five days, and the average time taken from first showing symptoms to being diagnosed and reported is around eight days. Therefore, the data we have today actually represents the number of new cases from around two weeks ago, or early March.

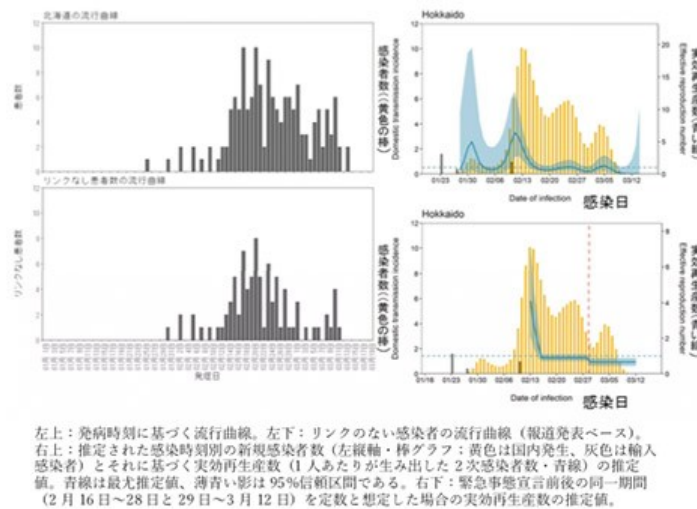
In Hokkaido, where there were signs of the virus spreading rapidly, the governor announced a state of emergency on the 28th of February, 2020, and asked people to avoid going out on the weekends, while large-scale events were canceled, and schools were closed. They were also the first to introduce awareness programs centered on the general public, businesses, and young people. Looking at the number of cases in Hokkaido, there were more than 10 new cases reported on February 27th and 28th before the state of emergency was declared, but there has been no sign of the virus spreading suddenly since then, and for the past few days, the number of new cases has stayed between 0 – 5 (Diagram 1, left). The scale of the outbreak hasn't expanded, but the number of new cases from unknown sources (links) has stayed the same, and community transmission has not completely stopped.

Also, as shown in Diagram 1, the effective reproduction number (average number of cases generated by one case of the virus) varies from day to day, but was generally around 1 until the state of emergency was declared, after which there have been more days when it dropped below 1. (See the blue line in Diagram 1). Estimating the effective reproduction number for two time spans of equivalent duration before and after the state of emergency was declared (February 16th – 28th and February 29th – March 12th) shows that it has decreased from 0.9 (95% confidence interval: 0.7, 1.1) to 0.7 (95% confidence interval: 0.4, 0.9).

Furthermore, we believe that it was due to the fact that they were able to properly detect clusters (groups of infected people) in Hokkaido, with the help of patients, people who had come into close contact with patients, local governments, and health centers, that they were able to prevent the virus from spreading rapidly. Based on this, the council believes that the growth of new cases in Hokkaido has been suppressed, but the number of patients is not yet decreasing, and the situation is still concerning. In addition, the fact that the governor declaring a state of emergency led to the people of Hokkaido changing their lifestyles and the prefecture's businesses quickly responding to the situation has also been effective in preventing the rapid spread of the virus.

However, among the declaration of a state of emergency, the cancellation of large events, and other measures taken in response to the virus, it is unclear which had the greatest effect. We must also not become complacent, and including cities like Sapporo, which has recently seen a rise in the number of coronavirus cases, continue to avoid situations that meet the three conditions shared by places where new clusters have been discovered.

Diagram 1. Hokkaido epidemic curve, estimated infection times and effective reproduction number



4. State of the virus in Japan and effectiveness of the response [Important]*

(1) State of the virus in Japan

The number of new cases outside Hokkaido varies from day to day, but has been increasing, especially in cities, and since the 10th of March, there have been several days where the number of new cases exceeded 50. There has also been a case of multiple infections at an elderly care facility. This shows that the virus is already spreading over a wide area, and vulnerable people like the elderly have begun showing symptoms.

As shown in Diagram 2, the effective reproduction number across all of Japan varies from day to day, but generally hovered around 1, until early March onward, when it fell below 1 and has stayed there for several days in a row. Going forward, we should watch this number closely, and take any measures needed to respond to the situation at hand.

Also, as shown in Diagram 3, there are areas around the country where the number of cases are increasing without a known source (link). This means that in future, if the number of people infected is increasing without the source of the cluster being known, we won't know how many existing cases there were in the background. At present, the areas where cases are increasing without a known route of infection are localized and small in scale, but in the future, these areas could expand to the whole country, and furthermore, if the number of patients for whom the source (link) of the cluster (group of infected people) is unknown keeps increasing, there is a risk that at some point, somewhere, there will be a massive outbreak of the virus, and consequently an increase in the number of people who become seriously ill.

Based on these facts, the **situation in Japan**, as expressed in the opinion of the expert council meeting of March 9th, is **still holding up well, but the virus has been spreading in some areas. As can be seen in the examples from other countries, if the number of patients for whom the infection source (link) is unknown continues to grow in some regions, and if these regions expand to the whole country, we believe that one area could become the catalyst to a massive outbreak.**

Diagram 2. Change in effective reproduction number over time (all of Japan)

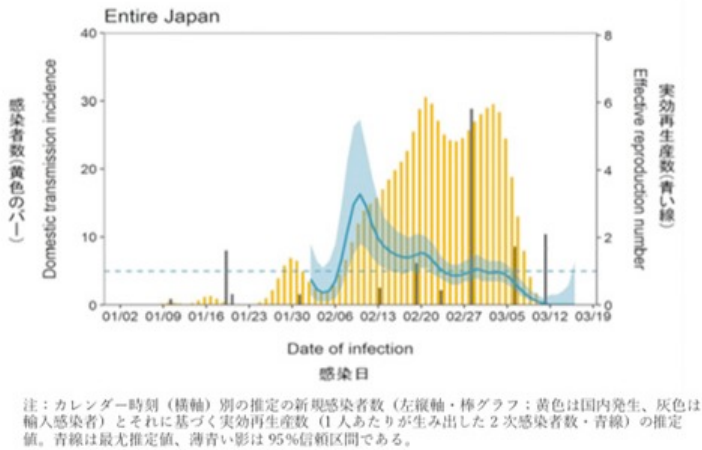
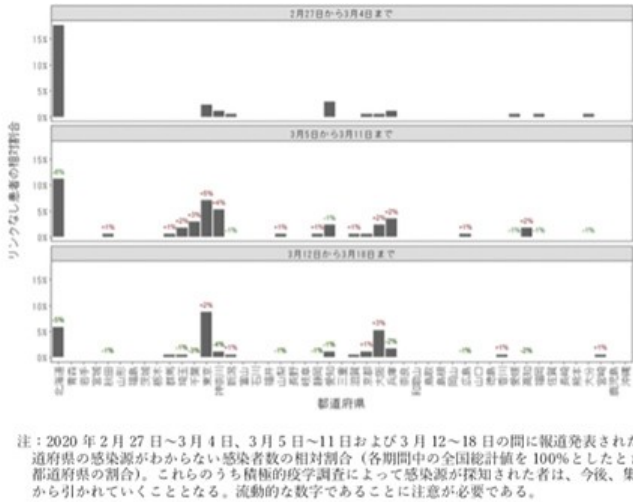


Diagram 3. Change in number of patients whose infection source (link) is unknown, by prefecture



(2) On the effects of various measures enacted in Japan

Even outside Hokkaido, the Japanese government has requested the cancellation of large events and the closure of all schools, and has also conducted epidemiological surveys in areas at risk of a major outbreak. As a result, efforts have been made to change the way businesses operate and create easier work environments, with one example being the reduction in traffic volume in the capital during rush hour due to businesses complying with the request for staggered work hours.

While we have no way of comparing this result to what would have happened if we hadn't done anything, at present, we can presume that no “megaclusters” (large group infections) have formed. Also, as shown in Diagram 3, the number of patients has gradually increased, mainly in areas with cities. On the other hand, if you look at Japan as a whole—and perhaps this is the effect of the event cancellations and school closures, or possibly the resulting change in people’s behaviour—due to the way people changed their behaviour, the number of new cases in Japan has slightly decreased, which shows that these measures had some effect. However, as the virus is continuing to come in from overseas, and there’s a cycle to the increase/decrease in cases, we must continue to watch this trend, and the public and businesses must make sure to limit their activity in environments with high transmission risk (places with 1. poor ventilation, 2. a lot of people, and 3. conversations/talking at a close distance).

(3) Patients who become seriously ill

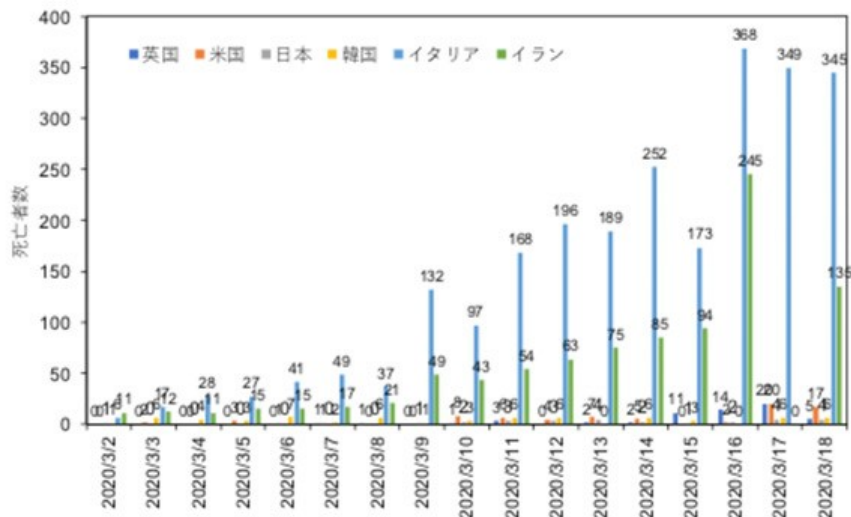
As of March 18th, 2020, out of the 758 symptomatic people confirmed to have the virus in Japan, 579 are currently in hospital, and of these, 337 (58.2%) are in mild or moderate condition, and 46 (7.9%) are currently on ventilators or in intensive care. 150 people (25.9%) have recovered and been discharged from hospital.

As shown in Diagram 4, there have been 29 deaths recorded in Japan as of March 18th, 2020, and in comparison to countries like Italy, the death rate as a proportion of hospitalizations has been kept low.

This seems to demonstrate the high quality of health care in Japan; even with limited medical resources, Japanese doctors are able to test the majority of patients at risk of their condition worsening, and provide them with adequate care.

However, in some areas, the hospital beds reserved for designated infectious diseases are being taken up by patients in mild condition or who are being monitored after recovery, and the number of deaths is rising, so the council believes that we must seriously consider the possibility of a massive outbreak like those that have been observed in Europe, and the severity of the resulting effect on health care systems around the country.

Diagram 4. Daily number of reported deaths by country

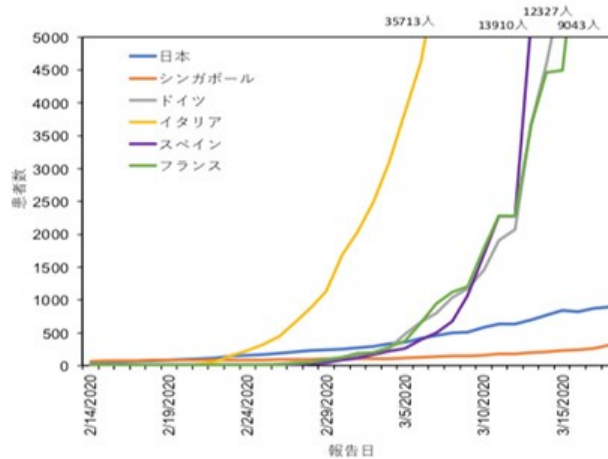


5. Forecast

The data on the number of cases that we have today actually represents the number of cases from around two weeks ago, due to the period between the time someone gets infected and when they start to show symptoms, as well as the time taken from someone first showing symptoms until they are diagnosed/reported. This essentially means that even if clusters were intermittently formed of people who didn't realize they had the virus, and this caused a chain reaction or large-scale outbreak, we would have no way of knowing this beforehand, and by the time we realized, it would already be out of control. That is the difficulty of dealing with this virus.

If a large-scale outbreak occurs, as has been observed in Europe, the health care system in the affected region may collapse, leading to the deaths of not just coronavirus sufferers, but people who could have received medical care under normal circumstances. That's why countries experiencing massive outbreaks, such as Italy, Spain, and France (Diagram 5), have been forced to go into lockdown, banning people from going out and shutting down all non-essential stores.

Diagram 5. Total number of cases by country



注：報告日付（横軸）別の国別感染者数の推移。イタリア、スペイン、ドイツ、フランスなどで同様の増殖率で指数関数的増殖が見られる（オーバーシュート）。

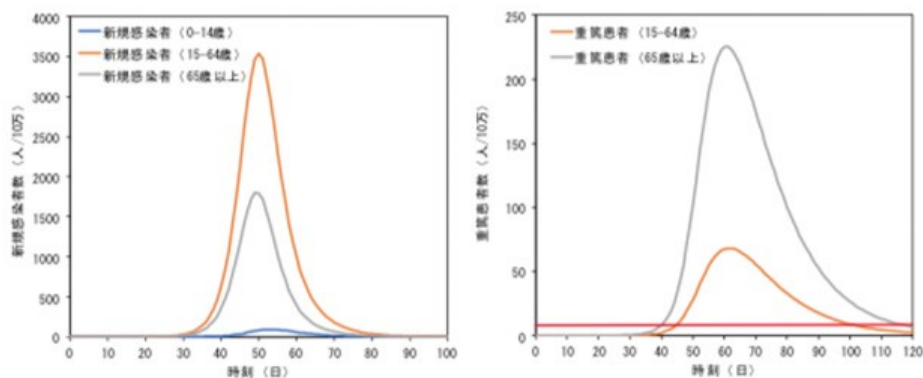
What would happen if, in certain regions of Japan (population of 100,000), outbreaks on the scale of those observed in Europe were to occur, and lockdown measures were not put in place? According to the estimates of Professor Nishiura of Hokkaido University, as shown in Diagram 6:

If you assume the basic reproduction number (R_0 : the average number of secondary infections produced by one infection, assuming everyone is susceptible to the virus) is around $R_0 = 2.5$ in Europe (the level in Germany), on the 50th day of the outbreak, the number of cases produced as a result of one infection on day 1 will be 5,414 (including people with no or only minor symptoms), and eventually, 79.9% of the population will be infected. In addition, the number of patients in serious condition, requiring ventilators or comprehensive monitoring, is predicted to reach 1,096 on the 62nd day of the outbreak, exceeding the number of ventilators that exist in the region, so it is important that we have broad cooperation and preparation between regions.

However, of course this doesn't mean that we need to prepare enough ventilators in each region to handle this scenario, but rather that we should take appropriate public health and cluster response measures in order to ensure that the massive outbreak that would be created by this basic reproduction number doesn't occur, and that the health care systems that will be put in place by each prefecture are not overwhelmed by the coronavirus. (The health care systems that should be put in place in each region are described in Section 6)

The probability of a major outbreak is higher in large cities, where there are many people coming in and out.

Diagram 6. Predicted number of new cases (left) and severe cases (right) per 100,000 people during a large-scale outbreak



注：いずれも 10 万人あたりの新規感染者数等。右図の赤実線は日本国内の 10 万人あたりの使用可能な人工呼吸器台数を示す。

It is therefore necessary to prepare for the worst-case scenario by ensuring health care systems are properly equipped to handle it, and it is even more important to take measures to ensure that this worst-case scenario never comes to pass. This will require the general public to cooperate by changing their behaviour; radical expansion of cluster response measures alone will not be nearly enough. This means that if the general public and businesses do not continue to cooperate by reducing interpersonal contact as much as possible and avoiding situations that fulfil the three conditions previously discussed, clusters will begin to form of people unaware they have the virus, which could lead to a large-scale chain reaction, as has already been observed in multiple countries. This could then one day cause a massive outbreak. We need the people of Japan to understand that if this happens, the only option left to the government will be to place the country into full lockdown, like some other countries have already done.

Consequently, we believe that we must find a Japanese solution to this virus through people continuing to avoid places fulfilling the three conditions, while taking regional differences into account, so that we can avoid having to take the drastic step of going into lockdown after an outbreak has already occurred.

It is therefore important to quickly pick up on the signs of an outbreak in an area, and if these signs are observed somewhere, we need to respond adequately and appropriately, and change the public's behaviour on the national level as well. In particular, looking at the examples from places where this has already happened, there is a possibility that someone with mild symptoms could not realize that they have the virus, and spread it by walking around the city, so it is important for everyone in the region to change their behaviour, including avoiding situations that fulfil the three conditions simultaneously.

Something else we have discovered so far is that the risk of a large-scale outbreak is increased by large events that attract many people from around the country, where it is difficult to avoid situations fulfilling the three conditions. Even if the event itself is held in a low-risk environment, if it is impossible to restrict the opportunities for people to interact before and after the event, this will lead to a higher risk of the virus rapidly spreading. Also, if someone at a large event has the virus, this could lead to a chain of clusters, increasing the risk of a massive outbreak.

At present, there is no scientific evidence we can use to create a universal standard for a safe scale/region, so we have to make decisions based on what we have seen so far.

If people take the appropriate measures, such as avoiding situations that fulfil the three conditions, it is conceivable that we could prevent a massive outbreak, but considering the state of the virus in Japan and around the world, this situation is unlikely to be resolved soon, and we must be prepared for a long battle against the coronavirus.



6. Medical care systems that need to be established in each area

Based on the projected infection numbers described above, it is impossible to construct a health care system in each area that will function perfectly. There is also no effective treatment or vaccine currently available, and while we will require a lot of highly trained doctors, clinical engineers, and nurses in order to operate the medical devices such as ventilators and ECMO that are needed by patients in critical condition, with the number of existing medical professionals, we can only increase this number enough to barely be able to respond.

Consequently, in order to minimize the number of deaths caused by this virus, we believe it is a top priority to ensure the medical system in each region is capable of managing the predicted (based on the infection number estimation model for each region shown previously) number of infections, cases brought from overseas, hospitalizations, and serious cases, by deciding which facilities will focus on this virus, providing staff members to these facilities, and canceling elective surgeries/hospitalizations, in order to ensure that the health care system in each prefecture is as well-prepared as possible.

We believe that it is necessary to establish an office that will use the data on the number of cases each day to make wide area adjustments pertaining to patients in critical condition across prefectures.

7. Basic approach to the responses in different regions

If a massive outbreak happens somewhere in Japan in the future, the virus will probably keep flaring up in various areas at intermittent times. If that happens, if we want to minimize the impact on society and the economy while maximizing protection against the virus and cluster chain reactions, we have to take a balanced approach that is tailored to the unique situation in each region.

In areas where the virus is spreading, in order to lower the risk of it proliferating further, we need to consider the necessity of sending out special messages or alerts to everyone in an area, or even enforcing self-isolation. If that happens, we believe that the social and economic effects should also be taken into consideration; the specific details, timing, and duration of the self-isolation should be decided on; and these measures should only be put in place in regions at risk of the virus spreading rapidly, before being lifted after the danger passes.

In areas where the virus is declining or not spreading, as described below, while people should continue to avoid events with a lot of people and places that fulfil the three conditions, we will begin to consider the possibility of gradually removing some restrictions on things that have a low risk of spreading the virus. However, even if the virus begins to recede, if we later see signs of it spreading again through our early cluster detection method, it will again become necessary to stop even activities with a low risk of spreading the virus.

In areas where the state of the virus is unknown, make a judgment on the risk levels of things like school activities, playing and watching sports, and use of cultural facilities, and resume activities that have the lowest risk of spreading the virus. However, it is always essential to be prepared for a rapid outbreak and avoid all situations that fulfil the three conditions.

8. Schools and other academic institutions

On the 27th of February, the government announced that all schools throughout the country would be closed. As discussed in Section 3, we believe that closing schools in Hokkaido along with the other initiatives had a positive effect, but it is difficult to isolate this one policy to quantitatively determine just how much of a preventative effect it had against the virus.

It is also believed that this virus is not very dangerous to children. However, in China there have been some cases where their condition has become serious, and some papers written overseas have pointed out that while children generally experience no or only mild symptoms, they can spread the virus to their family members, including the elderly, which has the possibility of leading to a chain reaction of clusters, so we cannot say much for certain. However, in the “areas where the virus is spreading” described in Section 7 above, one option is to close schools for an extended period of time.

III. Advice

1. Advice to the national government and local governments

(1) Drastic strengthening of our cluster response

With our current systems, it will be difficult to continue with our strategy of early cluster detection/response, and there is a risk that we will become unable to avoid a large-scale outbreak.

Therefore, the council believes that we need to drastically expand our cluster response, and we urge the government to do so as quickly as possible. Specifically, we should (1) secure staff to support the experts leading the cluster response in each region, (2) promote cooperation among local governments, (3) create a system that can use patient information held by local governments to assess the risk level of an area, and (4) invest in staff members and a budget that health centers can use solely for large-scale cluster response.

(2) Request to Hokkaido and local governments around the country

It is possible that new infection clusters will emerge in the future, so we must remain vigilant, and be prepared to potentially enact measures similar to these if the situation requires. The experience in Hokkaido seems to show that messages/alerts sent out by the head of local governments, through close collaboration with the national government, have the potential to change the behaviour of the public, and are effective at reducing the spread of the virus. Local governments in areas where the coronavirus is spreading should use information provided by the MHLW to consider enacting measures that will encourage the public to change their behaviour, to reduce the risk of an outbreak.

(3) Raising awareness of the need to avoid situations that fulfil the three conditions

To prevent an outbreak, the behaviour of the general public needs to change. That's why this council wants the government to work harder to raise awareness about the need to avoid situations that fulfil the three conditions.



(4) Creating a health care system that prioritizes those in critical condition

Care for critically ill patients requires specialist knowledge and equipment, so it is essential to acquire the staff and resources necessary to be able to care for them all. We therefore need to decide beforehand which hospitals will take coronavirus patients. To do this, we need the relevant medical facilities to collaborate/cooperate in order to increase the number of hospital beds, and staff at general hospitals to also help by participating in diagnosis of the novel coronavirus.

That is why this council has decided that in order to quickly move to a health care system that prioritizes patients in serious condition, we should look into changing policies on doctor's visits, hospitalization, and discharge from hospital in the following ways to respond to the unique situation of each region.

- Prioritize the patients at risk of their condition worsening (those with symptoms like lethargy and trouble breathing), elderly patients, and patients with underlying health conditions
 - Coronavirus patients with no symptoms, or only mild ones, who don't require hospitalization should recover at home. *However, continue checking up on them over the phone
 - Patients prioritized for hospitalization should be those with pneumonia caused by the coronavirus who require regular oxygen administration, those with complications requiring treatment at hospital, and other patients who have to be continuously treated at the hospital
 - After someone recovers from their symptoms, they should be discharged from hospital and rest at home, and the hospital should regularly check up on their health over the phone
 - If a coronavirus patient with mild symptoms is living with an elderly person or someone with an existing condition, and there is a high risk of them transmitting the disease, they should consider ways to reduce contact with that person. For example, the coronavirus patient could stay at a hotel or other accommodation while they recover, or the family member living with them could visit a doctor before moving somewhere else temporarily, in order to reduce the risk of transmission among the family
- It is important to start from this basic way of thinking, and decide in advance the delegation of roles among medical facilities to respond to the needs of the region.
- *At present, to prevent the spread of the virus, even those with mild symptoms who do not need hospital treatment must be hospitalized in accordance with the provisions of the Infectious Diseases Control Law.

(5) Schools and similar institutions

It is important to prepare for the infection risk generated by all of the children and teachers going back to school after spring break. To do this, we must consider the way the virus is spreading in each region. Also, if a massive outbreak occurs somewhere in Japan, **we need them to consider the basic approach to the responses in different regions outlined in Section II.7.**

In order to avoid situations at school that meet the three conditions, schools need to (1) improve ventilation to eliminate closed spaces with poor air flow, (2) prevent people from gathering within arm's reach of each other, (3) avoid conversations from close distances and loud talking as much as possible, and take other measures to maintain health and cleanliness.

Also ensure that everyone takes the basic steps to prevent transmission, such as following proper cough etiquette and washing their hands.

Students and teachers should work to reduce the risk of the virus spreading at school, and in their lives outside school as well. By avoiding places and situations where group infections are likely to occur, you can increase the likelihood that we can stop the virus from spreading rapidly.

We ask that you do everything you can to reduce the risk of the virus, such as ventilating your room to avoid closed spaces, following the basic disease prevention methods like cough etiquette and washing your hands, eating a balanced diet, exercising regularly, and strengthening your immune system with rest and sleep.

If a teacher or a member of their family is infected, or they have flu symptoms such as a fever, they must not come to school. This should apply equally to students.

For universities, we also ask that you inform the students to refrain from the high-risk activities described in this statement. In particular, when students return from visiting countries and areas with a high coronavirus risk over spring break, in addition to the safety measures required when returning to the country, their health should be monitored for two weeks, and if there are any changes in their condition, they should see a doctor to get a diagnosis and find out what action to take.

2. To the public and businesses



(1) Request to avoid places meeting all three conditions

The data that we have now shows that every place where a group of infections have occurred shared three characteristics: (1) a closed space with poor air flow, (2) with a lot of people, (3) talking to each other from a close distance (within two arm's lengths of each other). For example, there have been clusters suspected to have formed at yakatabune cruises, gyms, music venues, exhibitions, and social gatherings.

By avoiding places that fulfil these three conditions, you can stop many people from becoming seriously ill, and even save their lives.

(2) Discrimination against infected people and those who have come into close contact with them

Discrimination against the infected, people who have been in close contact with them, their families, and the medical staff caring for those with the virus will not be tolerated. Please understand that anyone can get the virus or come into contact with someone who has it.

To journalists, please take extra care to protect people's privacy and preserve public health.

We ask the public to be aware so that medical staff dealing with this virus are not discriminated against.

(3) Request to cooperate with epidemiological investigations

The fight against this virus will continue for some time, and even if we are able to stop it from rapidly spreading within Japan, the virus can still spread from Japanese returning from overseas or foreigners visiting Japan, so we will need to remain vigilant.

Infected people and those who have come into close contact with them should cooperate with the epidemiological investigations conducted by health centers. By closely analyzing your movement history, they can pinpoint the origin of the infection and detect other cases early on, which is essential to stopping the spread of the virus.

To business owners, if a group of infections occur at your business, please cooperate with the reporting of this information. Quick reporting of information will help us detect infected people early on.

(4) Request for the elderly, those with chronic diseases, and other high-risk groups

Studies conducted in Japan and around the world have shown that elderly people, even if they are relatively healthy, are more likely to contract the novel coronavirus, and are at higher risk of becoming severely ill if they do. Those with chronic diseases should also try to control it as best they can, and reduce their infection risk as much as possible. Regular vaccinations are also important to ensure you do not contract multiple viruses.

Even if you are normally someone who goes out a lot, we implore you to try to reduce your risk of infection as much as possible. In particular, avoid places with shared facilities and places where a lot of people gather. However, going outside is important to maintain good health. Going for a walk on your own or with a small group has a low infection risk.

(5) Request for those working or living with the elderly or people with chronic diseases

People working in fields like medicine, nursing, welfare, or regular businesses who often come into contact with the elderly and people with chronic diseases need to take extra precautions against spreading the virus. If you experience a fever or flu symptoms, try to avoid places that have a high risk of spreading the virus.

Many cases around the world where coronavirus transmission has been observed have taken place in the home. When visiting family members, especially the elderly, check that you are not sick before visiting them.

(6) Request for young people

Young people are not at risk of becoming seriously ill due to the coronavirus. However, there have been many cases of people with no symptoms, or only mild symptoms, infecting others with the virus without realizing. Therefore, in order to prevent the virus from spreading, we ask you again to please avoid situations that fulfil the three conditions simultaneously. We have also learned that the risk of a massive outbreak is exacerbated in particular by large events with a lot of people from around the country, where it is often difficult to avoid situations that fulfil the three conditions. Even if the event itself is held at a low-risk location, if it is not possible to limit the opportunities for people to socialize before and after the event, this will increase the risk of the virus rapidly spreading, so please take this into consideration and act with caution.

If you or one of your family members is infected with the novel coronavirus, or you have flu-like symptoms such as a fever, please stay at home while you monitor your condition, and refrain from going outside.



(7) Request for health care workers

If an increase in coronavirus cases or massive outbreak were to happen in the future, it would be difficult to manage it with only the medical facilities designated for dealing with the virus, so we will need more medical facilities (excluding those that do not generally provide medical care) to care for patients infected with the novel coronavirus. If this happens, we will need work to be delegated among medical facilities in a region (mild cases receive home care, serious cases are treated at critical care centers, others are treated at clinics or general hospitals, etc.), and the level of extraneous medical care should be reduced (make the time between checkups longer for regular patients, fax people their prescriptions, postpone elective hospital admissions/surgeries, etc.). In addition, each medical facility should consider the appropriate allocation of staff according to their treatment continuity plan. The VI care guidelines from the “June 26th, 2013 (partially revised June 21st, 2018) Response Guidelines for New Influenza Viruses,” created by the Council of Ministries Involved With the New Influenza and Bird Flu Response, can be applied, so use this for reference.

(8) PCR tests

When a doctor suspects that a patient may be infected with the novel coronavirus, they conduct a PCR test. PCR tests are also taken on people who have come into close contact with an infected person when testing has been deemed necessary during an epidemiological investigation. By testing people when necessary, we are able to provide care to pneumonia patients who may have coronavirus, and the tests performed on people who have come into close contact with an infected person prevent a chain reaction of infections, and stop the virus from spreading. The rate at which tests can be performed has already been increased, and we believe that PCR tests should continue to be carried out promptly when necessary. We also need to conduct an investigation into the state of the virus around Japan.

The PCR test is very effective, but it is not perfect, and sometimes someone that has the virus will show up as negative on the test. Therefore, doctors must not rely solely on the PCR test, but also observe the symptoms of the patient before making their decision. Through the introduction of fast diagnosis methods and serum antibody tests, we expect to see faster, more accurate diagnoses in the future.

(9) How to handle large events

We do not believe it is possible as of now to quantify the effect of the government's command to cancel all large-scale national events, issued on the 26th of February, but the expert council is of the opinion that large-scale event organizers should carefully consider the below points, and assess the risk when deciding how to proceed.

Regarding events on a nation-wide scale:

1. Many people congregating in one venue creates a risk of group transmission of the virus, and has the potential to have a large effect on local health care systems (Example: religious ceremonies in other countries)
2. People will gather not just at the event, but before and after as well
(Example: Even at an outdoor event like the Sapporo Snow Festival, infections have been observed in places near the event that fulfil the three conditions)
3. As people gather from around the country, there is a risk of the virus spreading to many different regions, and cluster response if infections occur will be difficult
(Example: Osaka music venue incident (transmitted to 16 prefectures))
4. The above risks are not necessarily correlated to whether the event is inside or outside, or the number of people at the event, so there is a risk that if a group infection happens at a large event, it could spread the virus around the entire country.

Event organizers should therefore make a judgment call based on the state of the virus in their region and whether the event is really necessary; if the event absolutely must be held, they should consider the following three points.

However, if it is not possible to take the steps needed to mitigate these risks, the event needs to be canceled or postponed.

Even if these steps are taken, organizers should still prepare to quickly cancel or postpone the event if necessary based on the state of the epidemic.

1. Appropriate infection prevention measures before, during, and after the event
2. Avoiding closed spaces, crowded spaces, close contact between people, and other situations that carry a high cluster (group) infection risk
3. In the event that an infection occurs, maintaining contact with attendees and collaborating with government investigations.

(See the appendix titled “Example of measures taken for a large gathering”)



(9) Request for businesses

Keep the following points in mind, and work to protect your employees from the virus, including those who work in a range of different ways.

- Create an environment where sick workers can take time off easily
- Utilize remote work and staggered work hours
- Make it easy for parents to take time off when their child's school is closed
- To prevent infections, reconsider whether some events are necessary
- Use the measures described in the appendix "Example of measures taken for a large gathering," section 2, "Avoiding situations with high cluster (group) infection risk," in order to protect employees against the virus.
- When staff members return to Japan from an overseas business trip, monitor their health for two weeks, and if their condition changes, inform them of what they should do based on their diagnosis.

IV. In conclusion

If any new information arises that the people or government should know (such as changes in the international situation, or trends in the number of new cases), the council will investigate and update this analysis/advice so that the government can promptly and resolutely take any steps needed, including declaring a state of emergency if necessary.

Appendix: Example of measures taken for a large gathering

1) Appropriate anti-coronavirus measures for a large gathering, including before/after the event

- Take the temperature of everyone at the event and check for symptoms; don't let in unwell people
- People who have been to a doctor or taken medication for a fever or cold in the past two weeks may not enter
- People who have visited areas or countries where the virus is spreading in the past two weeks may not enter
- Make changes to cancellation fees to encourage people feeling sick not to participate.
- If someone is identified as having a fever or being sick, take the appropriate measures to prevent the virus spreading to areas and people who may have come into contact with that person.
- Require people to wash their hands when entering, and set up a place where they can wash their hands during the event
- Regularly wipe down areas that the participants' hands touch using a cloth covered in sodium hypochlorite
- Take the necessary steps to prevent airborne transmission (e.g. staying at arm's length from others, minimize opportunities to talk, have participants wear masks in situations with a lot of talking)

2) Avoiding situations with high cluster (group) infection risk

- Ensure good air flow by properly operating/maintaining the ventilation system. Regularly ventilate the space by bringing in air from outside.
- Create an environment that is not too crowded. Set the capacity of the venue lower than it usually is, introduce staggered entry times, etc.
- Create an environment without loud talking/shouting (avoid cheering)
- Properly manage/disinfect shared objects

3) Staying in contact with participants who have caught the virus and cooperating with government investigations

- If someone who has participated in a group event turns out to have the coronavirus, contact other participants, check for symptoms, and have a system for contacting public facilities like health centers if necessary.
- People who participated in the event should cooperate with questioning from health centers and other organizations, and if they have come into close contact with an infected person, they may be required to self-isolate at home for two weeks.

4) Other

- When providing food, avoid putting it onto big plates, and instead offer individually packaged food.
- Avoid holding/allowing gatherings after the event.



“Avoid places meeting all three conditions.” Full text of the council’s opinion

March 9th, 2020

March 10th News 7: Shigeru Omi, Vice Chair of the government’s Expert Council

On the 9th of March, two weeks after the Novel Coronavirus Response Expert Council released its opinion that “The following week or two will determine whether we are able to slow the spread of this virus,” the council has written up a new opinion.

In that opinion, we expressed the understanding that “A massive outbreak has not occurred, and we seem to be withstanding the virus.”

However, the number of cases has continued to rise, and we must remain vigilant.

That is why we shared three conditions shared by all places where transmissions have been observed.

- （ 1 ） Closed space with poor ventilation
- （ 2 ） A lot of people close together
- （ 3 ） Conversations/talking from a close distance

The council urges people to avoid places and situations that meet these three conditions in their daily lives.

At a press conference on the 9th of March, the members of the council announced that they would analyze the results of measures like the cancellation of large events, closure of all schools, and the declaration of a state of emergency in Hokkaido, consider whether these measures need to be continued and what should be done in future, and release their statement on the 19th of March.

The following is a summary and the full text of the council’s opinion.

Summary of the expert council’s opinion



● How we see the current situation

- As of now, there have been many cases where clusters were detected relatively early on. This is one reason why the virus is spreading slowly in Japan compared to other countries that have seen rapid growth in the number of cases.
- In the opinion released by the expert council on the 24th of February, we stated that the next week or two would be the most important time; currently, a massive outbreak has not happened, so it seems that we are withstanding the virus relatively well.
- However, it is likely that the number of infections will continue to increase for a while. We also don't have complete information about the virus, so we must remain vigilant.
- On the 28th of February, the governor of Hokkaido declared a state of emergency in the prefecture; the council's judgement on the effectiveness on this measure will be published around the 19th of March.

● Forecast

- In the long term, even if we are able to prevent the virus from rapidly spreading throughout Japan, we cannot completely stop a global outbreak.
- Even if we are able to restrict the spread of the virus within Japan, it will still spread throughout the world, so it is likely that we will continue to see cases of the virus coming in from overseas.

● What you should do in your daily life to stop the virus from spreading quickly

- The data we have so far has proven that by avoiding places and situations with high transmission risk, we can stop the virus from spreading rapidly.
- The places where transmission has been observed all shared the following three characteristics.

- (1) Closed space with poor ventilation
- (2) A lot of people close together
- (3) Conversations/talking from a close distance

Try to avoid places and situations that meet these three conditions in your daily life. That is, take the following three actions.

- (1) Ventilate properly (if possible, open two windows on opposite sides of the room)
- (2) Lower the number of people (keep a 1 – 2 meter distance between yourself and others)
- (3) Avoid conversation/talking from a close distance (if you must, wear a mask)

Full text of the expert council's opinion

Novel Coronavirus Response Expert Council

Opinion on the response to the novel coronavirus

March 9th, 2020

This council was established by the government's Novel Coronavirus Response Headquarters, in order to provide advice from a medical perspective on measures to reduce the spread of the novel coronavirus (Decided by the Novel Coronavirus Response Headquarters, February 14th, 2020). This opinion is a summary of the council's study of data such as the analysis conducted by the Cluster Response Team of the MHLW's Novel Coronavirus Response Headquarters.

We are publishing this opinion because we believe that it is our responsibility as experts to directly inform the public of the way we're analyzing the situation using the information available now, and the advice we're giving the government. The details written here are accurate as of the present day, but may change in future.

1. Japan's core strategy to prevent the virus from spreading

The policy of the expert council, which we take into consideration when advising the government, is that our coronavirus response strategy should attempt to minimize the damage to society and the economy, while maximizing the effectiveness against the virus. The strategy itself is comprised of three key pillars: (1) early cluster detection/response, (2) early diagnosis of patients, intensive care for serious cases, and ensuring the continued functioning of the medical system, and (3) changing the behaviour of the general populace. This strategy mirrors the one recommended by the World Health Organization (WHO), and is similar to the strategy already adopted in places like Singapore and Hong Kong.

In contrast, in countries where the virus has spread faster than it has in Japan, they were not able to stop the virus from spreading with just a strategy similar to Japan's, and have been forced to substantially restrict the movement of



their citizens.

Japan boasts a high quality of health care, and local governments and health centers are capable of conducting high-quality investigations. To prepare for the virus spreading further, we must strengthen these institutions, and have them collaborate and share information throughout the country.

Also, the Japanese people have a strong sense of cooperation. To properly execute this strategy, every single person needs to cooperate in order to reduce the number of transmissions. The basic strategy we propose can only be executed with all of these things together, but as we will discuss later, this strategy may be able to slow the pace of the virus's spread in Japan. That is why the council believes that for now, we should continue to escalate this strategy.

2. State of the virus in Japan



At present, the number of cases is rising. There have also been several reports from around the country of the virus being transmitted from one person to multiple people in places that fulfil certain conditions.

But overall, around 80% of patients (both mild and severe) who are confirmed to have contracted the virus while in Japan have not passed it on to anyone else. The effective reproduction number (the average number of infections generated by one person with the virus) varies day to day, but is hovering around 1. Thanks to the cooperation of patients, people who have come into close contact with patients, local governments, health centers, and the MHLW's cluster response team, we have been able to detect the formation of many clusters relatively early on. This has helped Japan to slow down the spread of the virus, in comparison to other countries that have seen a rapid rise in the number of cases.

In the council's statement released on the 24th of February, we said that the next week or two would decide whether the number of cases would increase rapidly or begin to decline, but considering the above information, there has not been a massive outbreak of the virus, and it seems that Japan is managing to withstand it.

However, while the number of cases fluctuates from day to day, we predict that it will continue to increase for a while. Also, as described below, there is a two week lag in our understanding of the state of the virus, and we don't have all of the information, so we must remain vigilant. The council intends to offer our opinion to the government after we have completed our analysis of the measures being enacted in Hokkaido, and understood the situation in other regions and the steps being taken on a national level.

3. Serious cases of the virus

Reports from China as of February 20th, 2020, show that of those infected by the virus, around 80% only showed mild symptoms, while 13.8% were severe cases, and 6.1% were in critical condition. As of February 20th, 2020, in the province of Guangdong, there have been 125 serious cases, and of these 26.4% of patients recovered and were discharged from hospital, while 46.4% are recovering.

In Japan, there have been 366 recorded symptomatic cases of the virus as of March 6th, 2020, of which 55 (15%) patients recovered and have been discharged from hospital. Even patients that end up becoming seriously ill start out with regular flu symptoms (slight fever, throat pain, coughing, etc.), so in the early stages it is difficult to tell which patients will see their condition worsen.



In Japan, there have not been many deaths caused by the coronavirus. This seems to show that even with limited medical resources, Japanese doctors are able to test most patients who are at risk of their condition worsening, and provide the appropriate care, demonstrating the high quality of Japanese health care. In future, to prevent more deaths from occurring, we need to further improve Japan's health care system.

Patients who become seriously ill start out with regular flu symptoms for the first 5 – 7 days, before their symptoms quickly worsen, and they get pneumonia. Patients in serious condition will often have to be hospitalized for 3 – 4 weeks. Patients in critical condition may require not just ventilators, but intensive care using a heart-lung machine.

4. On the Hokkaido policy of reducing interpersonal contact as much as possible

On the 28th of February, the governor of Hokkaido declared a state of emergency due to the coronavirus, with the aim of stopping the rapid rise in the number of infections. The people of Hokkaido cooperated with the strategy, and are also helping by limiting interpersonal contact as much as possible.

It will still be a while before we have the data needed to evaluate the effect of this policy. After someone is infected with the coronavirus, it takes an average of five days before they start showing symptoms, and after they start showing symptoms it takes another eight days on average before they are recorded, so the data we have today actually represents the number of new cases from around two weeks ago. As a result, until at least two weeks have passed since the declaration of a state of emergency in Hokkaido, it will be difficult to evaluate the effectiveness of the steps taken there. Afterwards, we will use multiple scientific indices (change in number of cases, effective reproduction number, number of patients with a known infection source (link)) over a week to make a judgment on the effects of these measures, and plan to release our findings around March 19th.

5. The long-term forecast

Even if we are able to stop the virus from rapidly spreading within Japan, we cannot completely stop it from spreading globally.

In countries that hadn't had many reports of the virus until last week, the number of patients is growing fast. In countries without travel restrictions, people have been coming into contact with each other a lot. However, we can't trace every single infection source, so there is a chance that the virus is already spreading around Japan. Therefore, even if we were able to stop it from spreading within the country, it would still be feasible for the virus to start spreading again for a while afterwards. As the virus is also spreading throughout the world, we also predict that there will be more cases of the virus coming in from overseas.

The novel coronavirus can infect people without them realizing, which is a major factor in the spreading of the virus, so it is essential that we have systems capable of early cluster detection and response.

It is likely that we will need to keep adjusting our policies in order to balance social/economic activity with preventing the virus for a while to come; in areas where the virus is projected to spread rapidly, we will encourage people to avoid interpersonal contact as much as possible, and when the number of cases begins to decline, we will gradually lift restrictions in a way that doesn't risk the virus flaring up again.

The WHO recommendation for the novel coronavirus response is to consider three different scenarios (3 C's). They say each area should be grouped into one of three types, and managed accordingly: (1) areas where the only cases have originated elsewhere (Cases), (2) areas that are forming clusters (Cluster), and (3) areas where the virus is spreading widely (Community Transmission). The WHO has not yet provided a detailed definition of these categories, but the MHLW's Cluster Response Team is developing indices to define these categories, and response policies for each one. This council intends to look at these indices and the effects of the measures enacted in Hokkaido to study possible responses in different areas of Japan, and report on our findings. We believe that one of our top priorities is to create a sustainable system for continuing our early cluster detection/response over the long term. In order to reduce the burden on health centers, we think that they should promptly gather staff and funding support, perhaps by bringing in people from outside the health center, for consultation centers for people who have returned from overseas and those who have come into contact with them. Collaboration and information sharing is also required between local governments and health centers over a wide area. To prepare the health care system for the further spread of the virus, certain hospitals and medical facilities should be selected to handle the virus, and provided with support to improve their systems.



6. Our request for everyone

With the data we have now, it has become clear that we can prevent the virus from spreading rapidly by avoiding places and situations with a high infection risk. Places where transmissions of the virus have been observed all share three characteristics: (1) a closed space with poor air circulation, (2) with a lot of people, (3) talking to each other from a close distance (within arm's reach). These places are likely to increase the risk of the virus being transmitted. Therefore, members of the public should do their best to avoid situations and places that meet all three of these conditions.

While we do not yet have the scientific evidence necessary to quantify just how much this will reduce the risk of the virus spreading, since the virus has been spreading in places with poor air circulation and a lot of people close together, even if we don't yet have the data needed to develop quantitative standards, we would still like people to avoid these situations.

The council wants everyone to participate in the fight against this virus. In order to lower the risk of the virus spreading as much as possible, please see the appendix titled "How to approach situations in your daily life that have a high risk of causing clusters (group infections) of the novel coronavirus," and try to apply the guidelines in your own life. We would greatly appreciate your support.

Our request for businesses

While we are sure that businesses are already taking various steps to reduce the risk of the coronavirus spreading, we ask you to see the appendix titled "How to approach situations in your daily life that have a high risk of causing clusters (group infections) of the novel coronavirus." We also ask you to actively share information about the measures you are taking with the public. We believe that this will help the public to decide whether they can use a facility or service. We hope you will cooperate. Thank you.

Novel Coronavirus Response Expert Council:

How to approach situations in your daily life that have a high risk of causing clusters (group infections) of the novel coronavirus

March 9th, 2020

To prevent the spread of the novel coronavirus in a region, it is important to stop the formation of infection clusters (groups). If someone is infected without realizing, and they interact with a lot of people, they run the risk of spreading the virus. Therefore, in order to reduce the opportunities for transmission, we need to eliminate opportunities for people to interact as much as possible.

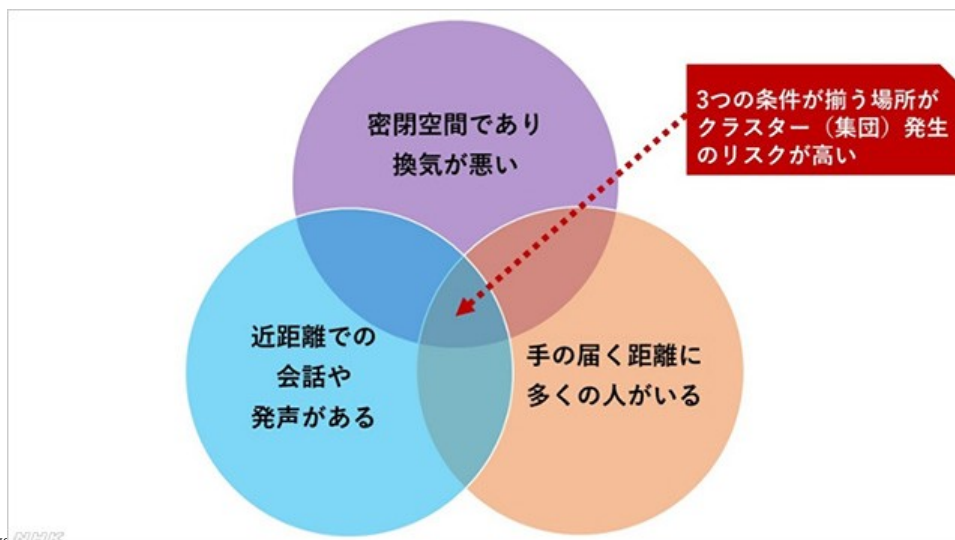
In places with a high cluster formation risk, one infected person can spread the virus to many, which sometimes leads to the formation of large clusters. In other countries, there have been reports of large clusters generated from events with a lot of people.

This statement was written by the expert council based on the data analysis conducted by the Cluster Response Team of the MHLW's Novel Coronavirus Response Headquarters, with the goal of sharing information on the prevention of clusters. The data and evidence we have as of now is limited, and a lot is unknown about how the virus spreads, so this may be updated when appropriate.

Places where cluster formation has been observed, and their characteristics

There are three conditions met by all places where transmission of the virus has been observed so far: □ A closed space with poor air flow, □ filled with a lot of people, □ who are talking to each other from a close distance. These places seem to be where most people get infected.

Even if all three conditions are not met, if one or two of them are, any small change could mean that the third condition is also met. For example, a packed train meets the first and second conditions, but usually not the third. However, sometimes the third condition can be met as well. Also, some activities do not meet the three conditions most of the time, but have some parts where they do. For example, playing outdoor sports doesn't usually meet the three conditions, but when getting changed or having a team meeting, these conditions can all be fulfilled. It is therefore important to ensure that you avoid situations meeting these three conditions as much as possible.



In addition to the above conditions, there are also times when people use shared objects; this can lead to transmission of the virus.

Clusters have been suspected of forming in closed spaces with poor air flow where a lot of people are talking at a close distance, for example yakatabune cruises, gyms, music venues, exhibitions, and social gatherings.

Events with a large number of people not only create a large risk of transmitting the virus, but also make it harder to find and test the people who come into contact with the virus at the event, which increases the risk of a cluster chain reaction. If possible, the risk of spreading the virus will be reduced if the event organizers know the identity of everyone who attends the event.



Three rules to lower the risk of cluster formation

1. Require good ventilation: In spaces with windows, two windows facing different directions must be opened if possible, to improve ventilation. However, we don't yet have enough evidence to say just how much ventilation is necessary.

2. Lower the number of people: For events that will be attended by a lot of people, use a large venue, and try to lower the density of people, for example by keeping a 1 – 2 meter space between attendees. Avoid talking/conversations from a close distance: Avoid situations where surrounding people will talk from a close distance. If conversations from a close distance are absolutely necessary, wear a mask to ensure that particles will not be spread by you.

In addition, we strongly recommend that you wash your hands often, follow cough etiquette, and avoid shared items, or disinfect them if you must use them, in order to protect against the coronavirus. Thank you.

“Rapid proliferation in closed spaces.” Opinion of the expert council (Full text)

March 2nd, 2020



March 2nd News 7: Shigeru Omi, Vice Chair of the government's Expert Council

The Novel Coronavirus Response Expert Council has written this opinion after analyzing data from Hokkaido, where the number of coronavirus cases is highest. We discuss how young people can experience only minor symptoms even if they catch the virus, and end up spreading it to others, and ask everyone to stay home when sick, even if you just have a cold, and avoid events in spaces with poor air circulation. Following is a summary and the full text of this opinion.

Summary of the expert council's opinion

- ◆ Even people with only mild symptoms are most likely playing a major role in spreading the virus without realizing it.
- ◆ It seems that when people interact for an extended period of time in a closed indoor space, it creates group infections, called "clusters."
- ◆ These clusters then create other clusters, causing a chain reaction which is thought to be the reason why the virus has spread so quickly.
- ◆ Patients that experience severe symptoms start out with regular flu symptoms, before quickly taking a turn for the worse after around 5 – 7 days, and getting pneumonia.
- ◆ In Hokkaido, if they act quickly over the next week or two, for example by limiting physical contact between people as much as possible, it is possible to quickly stop the spread of the virus.
- ◆ However if they do not act, there is a risk that the number of cases will increase rapidly.
- ◆ What Japan needs to do is control the spread of the virus as much as possible, while maintaining the function of society as much as possible.
- ◆ To achieve this, people should do the following things.
 - Avoid going out if you're sick, even if it's just a slight cold.
 - Avoid places and events where you talk to people up close in an environment with poor air circulation.
- ◆ Make extensive use of methods such as remote work and online conferences that allow employees to work with a minimal amount of physical contact between people. <Continued in the full text>



Opinion on measures taken against the novel coronavirus (full text)

This opinion is a summary of the council's study of data such as the analysis conducted by the Cluster Response Team of the MHLW's Novel Coronavirus Response Headquarters.

We are publishing this opinion because we believe that it is our responsibility as experts to directly inform the public of the way we're analyzing the situation using the information available now, and how we interpret the situation.

The details written here are accurate as of the present day, but may change in future.



1. What we've learned in the past day or two

(1) The virus spreads from people with mild symptoms

We had already known that there was a possibility that the virus could spread from people with only mild symptoms, but through analyzing data from Hokkaido over the last day or two, we have found that people with minor symptoms are playing a major role in the spreading of the virus without realizing it. Young people in particular are unlikely to become seriously ill from the coronavirus, and they can't see the virus spreading, which results in them spreading the virus to middle-aged and elderly people.

(2) The virus is spreading from places meeting certain conditions

Approximately 80% of all confirmed coronavirus cases in Japan (both mild and severe) are people who have not infected anyone else. However, there are reports of one person infecting multiple others, at places that fulfil certain conditions. Specifically, places like music venues, gyms, yakatabune cruises, buffet restaurants, mahjong clubs, ski lodges, large tents, etc. This seems to show that group infections (clusters) are generated when multiple people gather close together for an extended period of time in a closed space. It also seems that clusters of patients creating other clusters is what results in the rapid proliferation of the virus.

(3) Patients who become seriously ill

Based on the data we have so far, **80% of confirmed coronavirus patients only experience mild symptoms, while 14% experience severe symptoms, and 6% end up in critical condition. However, around half of patients who have ended up in critical condition have recovered.**

Even patients who end up in critical condition start out with regular flu symptoms (mild fever, throat pain, coughing, etc.), and in the early stages, it is difficult to tell which patients will get worse. Patients whose conditions become serious generally start with regular flu symptoms for the first 5 – 7 days, before suddenly taking a turn for the worse, and getting pneumonia.

2. Current state of the virus in Hokkaido

The estimated number of new coronavirus cases is thought to be rapidly climbing every day. However, if we take aggressive action over the next week or two, such as reducing social contact as much as possible, there is a chance that the number of cases will quickly decline. But if we don't take action, there is a risk that the virus could quickly spread throughout all of Hokkaido.

3. Why did the situation end up like this?**(1) Characteristics of Hokkaido**

The cities have large populations, and the young people who are socially/economically active are concentrated there, but in other regions there are a lot of elderly people, who will be in more danger if they contract the virus. There is also a lot of travel between the cities and the other regions.

(2) Characteristics of the virus in Hokkaido

Hokkaido gets a lot of visitors from China, and it is thought that the virus first spread from some of them. The virus is not yet covering all of Hokkaido, but there are coronavirus cases scattered throughout the island. As a proportion of the population, the number of reported cases is far higher in rural areas.

(3) Why the situation ended up like this

In the cities, socially/economically active people often gather in places with high risk of infection, so it is likely that some were infected without realizing. Many young people only experience minor symptoms, so what most likely happened is that when these people traveled to other regions, it spread the virus to multiple areas of Hokkaido, and it was only after they infected elderly people, who became symptomatic and had their cases recorded, that we were able to see that the virus was spreading.

4. The measures Hokkaido should implement

To quickly stop the virus from spreading and reduce the number of cases, it is essential that people avoid contact with others as much as possible. Hokkaido should focus on that right now.

If these measures are not taken, and people do not change their behaviour, the number of infections will rapidly rise (rising red line), and after the incubation period of the virus, the number of people showing symptoms will rise as well (rising blue line). Some of these people may become seriously ill. If this happens, it will not only harm a lot of people, but also put an enormous strain on the health care system.

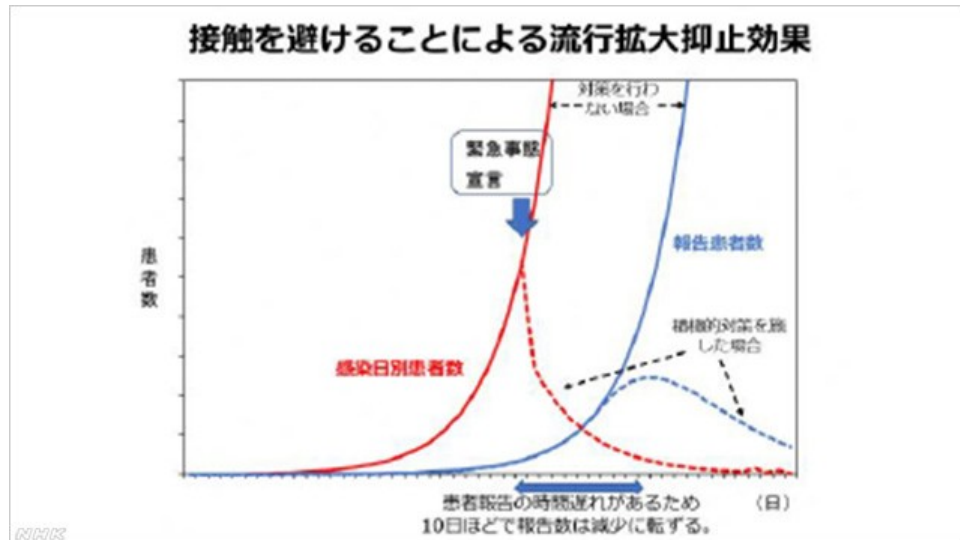
However, if people change their behaviour today to prevent the virus from spreading quickly, we forecast that the number of new cases will rapidly decline (dotted red line). If this goes well, the number of patients needing care will not rise (dotted blue line). However, the virus has an incubation period, so it will take some time before we can confirm that the number of cases has gone down, and until two weeks pass after people have changed their behaviour, we won't be able to tell if it has had an effect.

Furthermore, with some viruses, if the vast majority of people become infected, the chain reaction of infections will end, and the people who haven't caught the virus will be protected (creating herd



「感染拡地域では粛検を」専門家が提言【全】 | 特設サイト 新型コロナウイルス | NHK NEWS WEB immunity). However, the number of people is nowhere near enough for herd immunity to have an effect.

We also don't know if someone that has previously caught the coronavirus can catch it again.



5. What the people of Hokkaido can do

In Wuhan, they have managed to reduce the number of cases by shutting down society, but as of now in Japan, we want to control the virus while maintaining social functions as much as possible. To do this, we need as many people as possible to help out by doing the following things.

- ☐ Avoid going out when sick, even if it's just a mild cold (just throat pain, a cough, or a fever)
 - ☐ Regardless of scale, try to avoid any events and places with poor air flow where people talk at a close distance from one another (music venues, karaoke boxes, nightclubs, cocktail parties, gatherings at your house, etc.)
- However, if you have no symptoms, going outside, doing things where you don't interact with others much (such as walking, jogging, shopping, or viewing art), or talking with someone from more than an arm's length away have low risk of transmission.

A request for Hokkaido businesses

As described above, it is now clear that the virus is quietly spreading through people with mild symptoms who are economically/socially active. Therefore, please try to work in ways that reduce contact between people, such as through working from home or online meetings. Also try to reduce business trips as much as possible.

However, essential businesses and medical facilities need to keep operating/providing care. If your business needs to stay running in order to preserve people's daily lives, be sure to take the adequate precautions against infection.

6. A request for young people around Japan

Teenagers, people in your 20s and 30s.

Young people are at low risk of becoming seriously ill from the coronavirus. However, due to the way this virus operates, even people with mild symptoms can spread the virus to people at high risk. By just avoiding places with a lot of people and poor air flow, you can help to stop many people from becoming seriously ill, and save their lives.

“The next week or two is critical.” Opinion of the expert council (Full text)

February 24th, 2020



February 24th News 7: Shigeru Omi, Vice Chair of the government's Expert Council

While reports of more people being infected with the novel coronavirus are coming in one after the other, this council expressed our opinion that the next week or two would determine whether we are able to stop this virus from spreading quickly.

We urge members of the public to avoid places where you will come into close contact with a lot of people as much as possible, and if you have a cold or other mild sickness, recuperate at home. Following is a summary and the full text of the council's opinion.

Summary of the expert council's opinion

- The number of infections in Japan is at risk of growing rapidly.
- The next week or two will determine whether the virus spreads quickly, or begins to decline. (The point that decides whether it will follow the red line or the blue line on the graph)
- Testing everyone for the novel coronavirus is not the most effective way to stop the disease. Also, due to limitations in resources and staff, it isn't physically possible to test everyone for the virus.
- If you experience mild symptoms like a cold or fever, avoid going outside, and recuperate at home. However, if you experience coronavirus symptoms, please contact a health professional.
- Don't see a doctor just because you're worried.
- The ultimate goal of our strategy from now is to slow the spread of the virus, and reduce the numbers of serious cases and deaths as much as possible.



- Even if you aren't experiencing symptoms, please try to adjust your daily routine, for example by working from home, or holding online meetings.

Full text of the expert council's opinion

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