



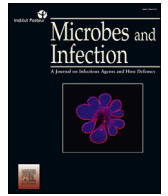
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Letter to the editor

## Emergency response to the outbreak of COVID-19: the Korean case

### A B S T R A C T

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Integrated emergency management system

This letter aims to describe how Korea can improve its emergency response to the outbreak of COVID-19. The key finding is that the nation has to shift from a self-interest-oriented response to a shared-interest-oriented response. Similarly, neighboring nations could form a national framework of networks among stakeholders.

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At the end of 2019, an outbreak of COVID-19 (or Coronavirus Disease 2019), which originated from bats, occurred in Wuhan city, Hubei province, China, infecting many humans as a zoonosis. As a respiratory illness, the symptoms of the virus in humans include cough, fever, and shortness of breath [1]. Thus far, there is no vaccine available to prevent COVID-19 infection. Hence, some infected people have become seriously ill, and thus died. In addition, the globalized arena has enabled the virus to spread across many nations.

The outbreak of COVID-19 is considered as a transnational emergency. The emergency management cycle consists of four phases: emergency prevention/mitigation, preparedness, response, and recovery. Considering that various stakeholders in different regions are now working to stop the spread of the virus and its infection, the current period can be regarded as phase of emergency response. This phase requires a systematic response to address the unexpected and dangerous spread of COVID-19 while seeking to decrease its social and physical impacts.

South Korea (hereinafter Korea) as a neighboring nation to China has responded to the outbreak of COVID-19 as the number of infected patients continues to grow. This letter aims to briefly describe how the Korean emergency response to COVID-19 outbreak can be improved toward the ultimate goal of decreasing its impacts in the region. Two approaches are compared, namely, self-interest-oriented response and shared-interest-oriented response. In the former, the stakeholders respond to the outbreak primarily by pursuing their own interests, whereas in the latter, the stakeholders pursue shared interests during the emergency response.

The above-mentioned two approaches are briefly and systematically examined in terms of five stakeholders: government officials, emergency victims, first responders, foreign visitors, and local residents. These five stakeholders are important players in the Korean emergency response against COVID-19 outbreak. The key finding is that Korea needs to shift from a self-interest-oriented response to a shared-interest-oriented response.

### 1. Self-interest-oriented response

The Prime Minister as well as the Minister of Health and Welfare Ministry (MOHW) has played a major role in responding to COVID-19 outbreak in Korea in order [2]. Although those two have not systematically studied infectious diseases yet, they have been appointed as a leading government official for the matter due to the Korean president's political interests. In carrying out this role, they designated quarantine stations in Jincheon and Asan in Chungbuk province to accommodate Koreans returning from Wuhan, China. However, these locations, which are far from international airports, were chosen without a consensus among local residents.

The number of infected patients has steadily increased among some groups, such as Koreans in China, believers in religious cults such as Shincheonji Church of Jesus, and patients with secondary or tertiary infection, among others. Based on pictures and videos uploaded on social networks, these patients are in desperate need of assistance. Some, but not all, victims have aggressively pursued their self-interests, with a few patients preferring to hide instead of reporting to health centers or calling 1339 for help. Other patients have not fully cooperated with the first responders due to miscommunication or lack of emergency awareness.

First responders include medical staff, scientists, safety personnel, and emergency managers, many of whom have had direct contact with COVID-19 or infected patients. Some have pursued their own interests during the complicated process. For example, medical staff at Chonnam University have examined yes or no of coronavirus for those who are from only China, without addressing people from other places. Some scientists have recommended the use of face masks by regular people during their daily routines, whereas others have not done so, thus creating confusion among the public.

The majority of foreign visitors to Korea include many Chinese. In particular, large numbers of Chinese tourists visited Korea in January 2020 to celebrate the lunar new year, causing anxiety

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over COVID-19 infection and decreased face mask supplies in Korea. In addition, Chinese importers have purchased large amounts of face masks and hand sanitizers, in violation of Korean trade regulations. With about 70,000 Chinese students expected to return to Korean colleges for the beginning of the spring semester around the end of February, many local colleges have postponed classes to mid-March to prevent the potential spread of the coronavirus.

Local residents have made their own efforts to prevent COVID-19 infection in their communities. Some have expressed opposition to the entry of Chinese individuals into Korea, a sentiment that a number of mass media practitioners have advocated. As a result, the amount of fake news has increased considerably. Other residents still do not adopt basic ways to protect themselves against COVID-19, such as coughing into their upper sleeves, washing their hands with soap and water, and avoiding public places.

## 2. Shared-interest-oriented response

There are two approaches to the emergency response in the field, namely, a politics-oriented response and a risk-oriented response. In the former, the emergency response operates in behalf of political interests, whereas in the latter, the effort focuses on mitigating various risks related to the emergency. The risk-oriented response is theoretically preferred in emergency management. Therefore, Korea should adopt this approach against COVID-19 outbreak, such as in selecting the location of quarantine stations. Similarly, in appointing the lead government official, ability rather than rank should be the main consideration. Otherwise, leadership around coronavirus would not be much appreciated.

Considering that COVID-19 can infect anyone, any individual can become an emergency victim. Thus, everyone must acquire some level of emergency awareness regarding the outbreak of pandemics through multiple channels even before a pandemic occurs. Infected individuals should realize how quickly they could spread the coronavirus to many people when they ignore their symptoms or lie about their travel routes and other critical information. They must also strictly follow the recommended response guidelines on the basis of humanitarianism.

First responders, such as medical staff and safety personnel, should have gone through series of trainings and exercises to effectively respond to the outbreak of pandemics. Without receiving appropriate training and exercise in advance, it would be difficult for them to deal with COVID-19 on the spot. Scientists need to systematically research new viruses and their mutation before and even after related outbreaks. Such studies may be done in collaboration with accredited scientists through joint international research and development efforts.

Chinese tourists and traders have to know the appropriate scientific response to COVID-19 outbreak. The Centers for Disease Control and Prevention (CDC) do not recommend wearing face masks to regular Americans to protect against the coronavirus. However, it recommends washing hands with soap and running water [3]. Therefore, there is no need to hoard face masks or hand sanitizers during daily life in Korea. Similarly, Chinese students returning to Korean colleges must disclose truthful and relevant information and thus contribute to local efforts to respond to the coronavirus on college campuses.

When sticking to nationalistic viewpoint on coronavirus, Korea will face with robust resistance from China or other nations. Instead of taking the nationalist approach, which pursues the self-interests of Koreans without much regard for the shared interests between/among nations, local residents in Korea should embrace patriotism during

transnational emergencies. Patriotism entails loving one's homeland and pursuing multilateral relations with other nations, and it should lead local residents to increase their awareness of COVID-19 and then adopt the necessary precautions to prevent infection.

## 3. Discussion for neighboring nations

Five stakeholders in Korea, namely, government officials, emergency victims, first responders, foreign visitors, and local residents, have made their own efforts to deal with COVID-19 outbreak; however, their responses have not been satisfactory. The key finding is that these five stakeholders have to shift their self-interest-oriented response into a shared-interest-oriented response in a timely manner. Toward this end, each stakeholder has to focus on specific tasks and values, such as risk-oriented response, emergency awareness, international collaborative research and development, respect for all people, and patriotism.

The Korean transition to the shared-interest-oriented response could provide important lessons for neighboring countries, such as North Korea, China, Japan, Hong Kong, Thailand, Taiwan, Vietnam, and Mongolia, which have somewhat similar disaster response cultures. Further, because the period of emergency response against COVID-19 has been relatively short, each neighboring nation should be quick to apply the lessons learned from the transition.

One significant difference between the self-interest-oriented response and the shared-interest-oriented response is the absence or presence of an integrated emergency management system (IEMS). An IEMS aims to form various networks among the stakeholders for emergency response [4]. In the self-interest-oriented response, the stakeholders pursue their own interests because the extent of the networks formed among them is not so strong in terms of cooperation, transparency, and specialization. In the shared-interest-oriented response, the stakeholders embrace their shared interests because the level of networks formed among them is substantially high.

Under the self-interest-oriented response, many stakeholders in Korea have temporarily applied an IEMS, relying on the existence of networks without collaborating with each other regarding the location of quarantine stations, the contradictory information on the use of face masks, and other relevant issues. In contrast, under the shared-interest-oriented response, all stakeholders need to permanently or systematically depend on the networks formed among them to continuously coordinate their efforts.

In the long run, nations need to set up an IEMS on the basis of perspective of framework. The roles and responsibilities of each stakeholder should be assigned under a national network before the outbreak of a pandemic because this would be difficult to do within the short period of emergency response once an outbreak has occurred. Anyhow, stakeholders will make coordinated networks among them. This system must not be based on an ad hoc schedule or plan but rather on a national framework to ensure that the networks would be stable and lasting.

## Declaration of Competing Interest

The author declares that he does not have any competing interest with this manuscript.

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Kyoo-Man Ha  
*Department of Public Policy and Management,  
Pusan National University 2, Busandaehak-ro 63beon-gil,  
Geumjeong-gu, Busan, 46241, South Korea  
E-mail address: [ha1999@hotmail.com](mailto:ha1999@hotmail.com).*

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