



# SEED Experience Essay

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In early February 2020, I worked in Thailand for CDC's Division of Global Migration and Quarantine on immigrant, refugee, and migrant health. My supervisor contacted me one evening and asked if I could urgently travel to Tokyo to assist with the U.S. Embassy's response to the *Diamond Princess* cruise ship. Around 400 American citizens were passengers aboard the ship and were under quarantine as reported COVID-19 cases on the ship increased dramatically. Within 24 hours, I was flying to Tokyo, where I spent the next two weeks working closely with colleagues from Japan's Ministry of Health, Labour and Welfare (MHLW); Carnival cruise lines; the U.S. Embassy; the U.S. Centers for Disease Control and Prevention; the U.S. Department of Health and Human Services; and the World Health Organization. Those two weeks I spent in the field leading the CDC team were an intense and fascinating experience. I observed many complex cultural and political situations overlying the immediate public health crisis. In the weeks and months after the

*Diamond Princess* response, I often reflected on the situation and became interested in learning more about the COVID-19 experience from different perspectives.

Two and a half years later, I returned to Japan with Sasakawa Peace Foundation USA's 2022 SEED Program (Sasakawa USA Emerging Experts Delegation), which had a special focus on U.S.-Japan relations and expert-to-expert exchange as it applied to the COVID-19 pandemic. The organizers of the SEED program arranged for us to meet with various public health and political experts during our week in Tokyo. We had the rare privilege to listen to their viewpoints, have conversations, and gain insights which otherwise would be difficult to attain in our extended emergency response roles. My goals for that week were to: (1) learn more about Japan's approach to its COVID-19 response, including lessons learned from the *Diamond Princess* response; (2) deepen my understanding of the U.S.-Japan diplomatic relationship and how it extends to public health; and (3) build connections with public health figures and institutions for future collaborations.

The *Diamond Princess* outbreak was extraordinary in several ways. At the time that it occurred, it was the largest COVID-19 outbreak outside of China, and little was known about SARS-CoV-2 epidemiology or effective prevention measures. Many people around the world closely followed the outbreak as a large number of people on the cruise ship contracted COVID-19 (712 confirmed cases, comprising more than 19 percent of the 3,711 passengers and crew).<sup>1</sup> The passengers and crew were citizens and residents of 57 countries, and there was concern that incomplete control measures could lead to the transmission of SARS-CoV-2 not only in Japan, but also in other countries.

There were multiple challenges to implementing a quarantine effectively on a cruise ship. No one had ever quarantined 3,000 people in such a confined space. Health officials were challenged with implementing a quarantine with the facilities available on board the cruise ship and limited information about the pathogen. This quarantine response was complicated by the simultaneous discovery that multiple passengers had asymptomatic infections and no clear date of exposure. It

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<sup>1</sup> "COVID-19 patients on Diamond Princess Japan 2020," Statista Research Department, July 27, 2020, <https://www.statista.com/statistics/1099517/japan-coronavirus-patients-diamond-princess/>.

was, therefore, unclear whether confining passengers in their cabins would effectively contain transmission of the virus. However, overall cases among passengers declined towards the end of 14-day quarantine. After the passengers completed quarantine, Japan had no resulting widespread outbreak. There was a rise in cases observed nationally at the time, but it was not linked to cases on the cruise ship. This meant that the implemented quarantine measures for the cruise ship were effective.

While confirmatory testing and isolation care were available in Japan at that early point in the COVID-19 pandemic, the sheer number of patients with infection and persons exposed aboard the cruise ship was more than the capacity of COVID-19 hospital beds in the country. Japanese health authorities provided prompt hospitalization and medical care to all persons who tested positive, and the rapid response efforts were laudable.

I returned to Thailand from Japan in late February 2020, and my first-hand experience led me to believe that this novel virus would almost certainly cause a pandemic. While the public health measures for the *Diamond Princess* response may have prevented an explosive outbreak in Japan, it was apparent that COVID-19 was likely to spread worldwide. I have spent much of my time since then working with partners in Thailand to prevent COVID-19 at international borders and in mobile populations such as refugees and migrants. From this perspective, I will compare Japan's early response during the *Diamond Princess* outbreak and subsequent response during the pandemic to Thailand's pandemic response.

The *Diamond Princess* situation clearly had a strong impact on the Japanese government. According to public health experts with whom we spoke, the medical community already recognized that SARS-CoV-2 would be difficult to contain prior to the incident, and the *Diamond Princess* outbreak made this point evident to policymakers. Japan's Cabinet promptly created a COVID-19 Countermeasures Group and the Health Technical Advisory Board, led by Dr. Shigeru Omi. The shortage of isolation facilities for people with COVID-19 during the cruise ship outbreak also led to early expansion and preparation of hospitals and laboratories for increasing numbers of infected patients.

From early in the pandemic, Japan had an effective prevention response that focused on asking the public to voluntarily avoid the Three Cs (closed spaces, crowded places, close contact settings) and to wear face masks. Lockdowns were not legally possible in Japan at the time, although the relative willingness of the Japanese population to adjust their activities meant high compliance despite few mandates. The early adoption of these prevention measures kept the case surge in February 2020 from leading to uncontrolled disease transmission. It allowed the healthcare system to adjust and prepare for future case surges. The success of these measures may have a lot to do with cultural factors in Japan, which included use of face masks prior to the pandemic and embracing of measures considered to be hygienic and courteous. Despite the Japanese population's compliance with outbreak prevention recommendations, the Japanese healthcare system struggled to recruit doctors and nurses to provide vaccines, and many private hospitals did not accept patients with COVID-19 early in the pandemic. Without legal mandates, it was difficult to meet these needs for vaccine distribution and expanded hospital bed capacity.

I observed similar cultural factors in Thailand, although Thailand's legislative environment is quite different from Japan's. Thailand swiftly imposed sweeping mask mandates and lockdown measures starting in late March 2020 with the first national emergency declaration. Some Thais already used face masks because of air pollution or hygiene concerns, and the Thai population widely adopted these same measures during the pandemic. Widespread use of face masks continues to this day, even after the Thai government dropped the legal mandate to wear masks at all times. The Thai government imposed lockdowns for several types of businesses—some were not allowed to open at all, and others were allowed with only limited operating hours and capacity. At times, curfews and bans on alcohol sales were imposed to reduce risky behaviors that could lead to disease transmission. Thailand's Communicable Disease Act allows for sweeping restrictions in consideration of public health, and these restrictions were widely employed. It is unlikely that businesses and individuals would have voluntarily followed these measures, considering their heavy financial impact. COVID-19-related restrictions were imposed and relaxed in Thailand based on the disease situation, and the Thai government's Center for COVID-19 Situation Administration, a specially designated interagency task force, made decisions on the next steps based on advice from scientists, as well as political and business sectors.

Vaccination campaigns in Thailand and Japan were slower to start than in the United States—partly due to belated negotiations with pharmaceutical companies and slower regulatory processes to approve COVID-19 vaccines, as well as limited initial availability of vaccine doses. Fortunately, the vaccine campaigns did accelerate after these initial delays. As of September 1, 2022, both countries have achieved 2-dose coverage of greater than 70 percent for adults. Perhaps some of the cultural factors that supported the adoption of non-pharmaceutical interventions also led to high vaccination rates in Japan and Thailand.

In contrast to the United States, the Japanese and Thai people did not widely protest or politicize lockdowns, vaccination, and face mask use. While the presiding governments received criticism for their response to the pandemic, there were no movements against the public health measures that aligned along political lines.

Both Thailand and Japan closed their borders and imposed strict quarantines on incoming travelers early in the pandemic. I believe that in both cases, these restrictions were well-timed to reduce COVID-19 circulation and prevent large-scale waves of transmission in these two countries. Several concurring factors in both countries led to the success of these measures: (1) at the time of the border closures, COVID-19 was not widespread in either country; (2) neighboring countries did not have widespread outbreaks; and (3) outbreak measures such as case investigation and contact tracing, testing, isolation, and quarantine had been implemented and were widespread in both countries. The Thai and Japanese public health sectors effectively responded to the COVID-19 cases in their countries, and the border closures prevented additional imported cases. Japan and Thailand, however, did not completely eliminate COVID-19, and new pandemic waves arrived, but more slowly and with fewer cases than experienced in other countries with fewer restrictions. The overall numbers of cases per population bear this out. As of May 2, 2021 (a time when border restrictions were still in place for Thailand and Japan, and before the more highly infectious and transmissible Delta wave that swept around the world), number of cases per one million population in Japan was 4,852; Thailand 963; and the United States 96,587.<sup>2</sup>

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<sup>2</sup> Hannah Ritchie et al., “Coronavirus (COVID-19) Cases,” Our World in Data, last modified October 12, 2022, 11:01, <https://ourworldindata.org/covid-cases>.

While likely preventing disease and deaths, the closure of international borders did come at an important cost to Japan and Thailand—particularly through loss of revenue from tourism and business travel. Starting in October 2021, Thailand took steps to gradually reopen the country to international visitors. As of June 1, 2022, testing and quarantine were no longer required for entry to Thailand. Japan continued to require negative PCR tests to enter the country until September 7, 2022. As noted during our SEED visit with *Keidanren* (a Japanese business forum), the Japanese business community pushed strongly to reclassify COVID-19 to a lower control status and to remove border controls. It is important to consider whether the health benefits of border closures outweigh the economic and other costs, especially as COVID-19 becomes widespread and domestic transmission is the main source of cases in a country. Although it is possible that extended entry restrictions delayed an explosive introduction of the Omicron variant in Japan and Thailand, this needs further study in light of other control measures and local conditions.

At the time of the SEED visit to Japan in early August 2022, the Omicron BA.5 variant was surging. Nationally there were daily reports of the number of PCR-confirmed cases in the country. During that week the national advisory council recommended downgrading COVID-19 to a lower status and removing national entry restrictions, considering the current Omicron variant's apparent reduced severity rate. The process of transitioning surveillance in this manner is critical as public health officials and the scientific community contend with the concept that SARS-CoV-2 virus continues to adapt and is likely to continue to evolve and circulate in humans for the foreseeable future. The U.S. began de-emphasizing daily national case numbers at the beginning of 2022 and began basing decisions about COVID-19 public health measures on a color-coded county-level “transmission map” that considered hospital occupancy in addition to numbers of new infections. Thailand began reporting only the number of newly hospitalized COVID-19 cases per day in June 2022, which reflected an important shift nationally to monitor severe cases. As of October 2022, Thailand only reports the number of confirmed COVID-19 cases weekly. As society determines what the “new normal” should be, public health officials and the scientific community need to plan for COVID-19 for the long term. If societies, informed by science and public health communities, can reduce transmission so as not to overwhelm healthcare systems and closely monitor the changes in the circulation and severity of the virus, drastic and unwelcome lockdowns and

restrictions might be reduced or completely avoided, allowing societies and economies to continue functioning with minimal disruptions.

Transitioning from reporting daily case counts can help the public reset their expectations to expect COVID-19 cases to continue—that eradication or elimination of the virus is not possible. Health authorities will need to continue to track future case fluctuations and plan responses as appropriate. Genomic surveillance continues to be significant for monitoring as SARS-CoV-2 mutates and finds new ways to potentially evade our immune responses and pharmaceutical interventions. Similar to surveillance for other infectious diseases such as influenza, it is important to consider key indicators that would alert for a new pandemic wave and trigger increased investigations, vaccinations, expansion of healthcare facilities, and prevention measures.

Even as Japan relaxes its stance toward COVID-19 cases, there are many plans for future public health emergency responses. In parallel with our SEED visit, a delegation of Japanese governmental officials traveled to the U.S. and visited CDC's Emergency Operations Center in preparation for Japan to create its own Centers for Disease Control. Responsibilities and activities are still being developed. It is anticipated the Japan-CDC will incorporate members of the Japanese Institute of Infectious Diseases and Japan's National Center for Global Health and Medicine, as well as major public health institutions responsible for infectious disease surveillance, treatment, and control. As leadership considers the formation of a Japan-CDC, it will be critical to consider Japan's unique governmental situation and the essential functions such an agency would need to encompass.

Of particular interest to those of us working in global health capacity building is the role that a Japan-CDC agency would take in supporting public health outside of Japan. The United States and Japan's close alliance extends to health areas, where Japan's work is well-respected and integral to future advances. Over many years, Japan's International Cooperation Agency has provided invaluable aid to developing countries in health, and numerous Japanese governmental and non-governmental agencies have provided technical assistance and global outbreak response support. This includes staunch support of the COVAX global COVID-19 vaccination distribution scheme. Japan's political and foreign affairs leadership also have promoted Universal Healthcare and the

“100 days mission” framework within the G7. The U.S. CDC recently announced that an East Asia regional office would open in Japan, part of a broader initiative to expand regional global health. This office would most likely focus on strategic health initiatives in the East Asia region, building deeper collaborations with institutions in Japan for global health work. In Southeast Asia, the Japanese government financially supported the recent launch of the ASEAN Center for Public Health Emergencies and Emergency Diseases (ACPHEED), which aims to unite countries in the region on future emergency responses. With the U.S. and Japan supporting efforts like ACPHEED together, public health officials can continue to push toward targets of greater global health security and better worldwide response to future pandemic threats.

I would like to extend gratitude and appreciation to the Sasakawa Peace Foundation USA for arranging the SEED group and for including me in the experience.

*The views and interpretations expressed by the author are solely her own. The findings and conclusions in this report are those of the author and do not necessarily represent the views of the CDC.*



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