"Japan's pandemic story is that of a country that dodged a bullet without strong leadership from the prime minister, an efficient bureaucracy, or the use of advanced technology."

How Japan Stumbled into a Pandemic Miracle

DANIEL P. ALDRICH AND TOSHIAKI YOSHIDA

Like all governments, Japan's is far from perfect. Most political leaders want to avoid blame and claim credit. As the political scientist Arjen Boin has argued, Japanese officials acting on those motivations put lives at risk during past disasters.

A poor government response imposed major human and economic costs on the Japanese public in the wake of the triple disaster that struck the country on March 11, 2011. A failure of imagination among state officials and bureaucrats regarding the possibility of a nuclear emergency left many ill-prepared when an earthquake struck off the coast, triggering a tsunami that caused reactor meltdowns at the Fukushima Daiichi power plant. Local communities lacked critical resources such as potassium iodide pills and evacuation plans. Utilities had no playbook for properly handling station blackouts during the meltdowns.

In one particularly egregious example of malfeasance, officials not only suppressed data about the spread of radioactive particles, but even threatened citizen-scientists to stop them from publishing radiation exposure levels. This cover-up left thousands of evacuees in the path of radioactive plumes.

What stands out in the present novel coronavirus pandemic, by contrast, is that the government's response has not resulted in measurably negative public health outcomes. Given how creaky and disjointed Japan's handling of the COVID-19 crisis has been thus far, the public health outcomes seem almost miraculous. Just as the political scientist Chalmers Johnson once analyzed Japan's economic "miracle" in the postwar period, we should be pondering what, precisely, Japan has done to achieve this new miracle without a quick lockdown or widespread testing—measures that have proved crucial in other countries that successfully controlled the spread of the virus, including some in East Asia, the first region to face the pandemic after it originated in China.

In late January 2020, COVID-19 infections aboard the cruise ship *Diamond Princess*, anchored off the coastal city of Yokohama, captured the world's attention. Eventually, 700 of the 3,700 passengers and crew onboard tested positive, and 14 died. It began to be understood that the coronavirus was not just a mysterious sickness confined to the central Chinese city of Wuhan, but a spreading global pandemic.

Since then, critics have disparaged Japan's management of the pandemic, arguing that the response of Prime Minister Shinzo Abe and his government was too little, too late. Many alleged that a desire to go ahead with the planned 2020 Summer Olympics in Tokyo watered down potentially more effective health responses as officials tried to play down the severity of the situation.

Observers pointed to a low number of COVID-19 antibody tests, the inability of mayors and governors to lock down cities due to a lack of legal authority, limited teleworking provisions among tradition-bound businesses (less than 15 percent of the workforce have reported that they are working from home), and paralysis among decision-makers—including slow, ham-handed moves by Abe himself. Some went so far as to warn that COVID-19 would be another Fukushima. As with the triple disaster, pundits pointed to suppression of information, bureaucratic inflexibility, and a government eager to win the public-relations campaign but failing to take the kind of action needed to prevail in a battle against a pandemic. Yet somehow Japan has avoided another disaster, at least so far.

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Risk Factors

By mid-July, the total number of patients who had tested positive for the virus in Japan reached 26,303, with a total death toll of 989. Compared with other advanced industrial democracies like the United States and Italy, and especially with the United Kingdom, another island nation, Japan made it through the pandemic's first wave relatively well. Its death rate was 7.8 per 1 million people, 86 times lower than in the UK (669) and 55 times lower than in the United States (429).

Japan has not had to cope with overwhelmed hospitals or a rise in overall mortality rates. Scholars have used these rates to gauge the toll of COVID-19 infections where testing has been scarce. Tokyo had only had 33,106 deaths from all causes through March, which was actually 0.4 percent below the average for the same period in each of the past four years. Nor do available data for April and May indicate a massive spike in excess deaths.

Japan's pandemic outcomes are especially noteworthy given three factors: age, population density, and a lack of strong policy responses. First, most COVID-19 mortalities occur among the elderly, and Japan is among the oldest and most rapidly aging nations in the world. About one-third of Japan's population is over the age of 60. Data from the UK, China, and Italy indicate that those over 60 have suffered the highest mortality rates from the virus.

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Second, Japan's capital city and nearby minor metropolises, which form one massive agglomeration, are home to some 38 million people and have comparatively high population density (more than 6,000 people per square kilometer on average in Tokyo, compared with 4,500 for London and 8,000 for Singapore). Given the graying of its society and the density of Tokyo and its other cities, Japan should have been an ideal breeding ground for the virus.

Yet Japanese authorities have done far less than governments in other countries to impose new physical distancing measures. Whereas Wuhan, northeastern Italy, and Germany forcibly limited movement with police coercion, and New Zealand and Australia were among the countries that closed their borders, Japan refrained from imposing such measures.

Despite stereotypes of Japan as a high-tech society, it did not employ surveillance technologies such as those that helped countries such as Singapore and Israel track the infected and carry out contact tracing to monitor those with whom they interacted. Nor did Japan impose mass testing of its citizens, as its neighbor South Korea did. Nonetheless, World Health Organization Director-General Tedros Adhanom Ghebreyesus in late May declared Japan's management of COVID-19 a "success." There were also smug boasts from Japanese leaders: Finance Minister Taro Aso invoked an imperial-era term implying that Japan's superior culture was responsible for its mild pandemic experience.

Secret Formula?

As a result of Japan's seeming victory over the virus, a cottage industry has sprung up to identify the "special sauce" of the country's response. Homebound, self-appointed public health experts have pointed out a variety of potential explanations for Japan's COVID-19 outcomes.

Among these suggested reasons (one list includes more than 40): face masks were already widely used year-round in Japan (as protection against hay fever, to avoid spreading a cold, to keep warm, or simply to limit interactions with others); the custom of bowing during greetings eliminates the physical contact that comes with handshaking, hugging, and kissing; and low levels of obesity and diabetes are found across the population (these conditions seem to be factors in more severe COVID-19 infection outcomes). Some pundits have argued that the Japanese language requires fewer sharp exhalations of breath (and therefore produces fewer potentially infectious droplets) than English, resulting in fewer infections.

Others have suggested that Japan's use of the Bacille Calmette-Guérin (BCG) vaccine to fight tuberculosis is behind these lower infection and death rates. But the BCG explanation has been disproven already, and many of the remaining hypotheses could apply to other Asian nations that have not done as well as Japan in the pandemic.

Alternatively, critics argue that the main reason for low official numbers of COVID-19 cases and deaths is political pressure, which they say has produced fraudulent statistics and limited testing. It is certainly true that the government's response has not been impressive. Japanese leaders followed their standard operating procedure in a state of uncertainty: they hoped to run out the clock and

do little. One model for this approach is the old "cow walking" maneuver used to stall measures in the Diet (parliament): party members are directed to delay casting their votes for as long as possible.

Japan's schools were closed in March, but buses, subways, and trains continued to run normally. Though the government told people to work from home, surveys showed that few full-time employees—about one in seven—were doing so. Newspapers reported crowds of gawkers strolling through public parks to view the cherry blossoms and patrons filling bars and *izakayas*. Some passengers told of departing from the *Diamond Princess* in February without being tested, then strolling through international airports in Japan and abroad as they returned home.

Rather than make a quick judgment on declaring a lockdown, Abe set up a task force to advise him on whether to decree a state of emergency. It took him until April 7 to declare an emergency in seven prefectures, and until April 16 to expand it nationwide.

When pressed on what many saw as minimal levels of testing and lockdowns, the Ministry of Health, Labor, and Welfare argued that it was pursuing a "cluster-based approach" intended to prioritize identifying individuals and locations that were superspreaders of COVID-19. Then it would take actions to stop the spread from the clusters and isolate the infected, rather than undertaking wider testing or enforcing strict stay-at-home orders. Authorities claimed that this was a more efficient approach.

Whether it was indeed the result of a deliberate policy decision, Japan has tested far less than most other advanced industrial democracies. Japanese physicians and government officials justified the limited testing with claims that focusing only on those with severe symptoms saved time and resources. But many outside Japan's health care system argued that this approach was risky, given the scientific consensus that COVID-19 can be contracted from presymptomatic and asymptomatic carriers.

Doubtful Numbers

Aside from politicians' avoidance of decisive action, other aspects of Japan's response to the pandemic to some extent paralleled information-control attempts during the Fukushima nuclear meltdowns. In March and April 2011, the government refrained for weeks from using the word "meltdown" to describe the nuclear disaster, until it became clear from foreign reporting that this was the most accurate description. Nor did the government release radiation information to the public, even though it provided data to allies and local authorities.

Similarly, during the pandemic, reporters from Safecast, a volunteer-driven environmental data-gathering organization, and others have asserted that their attempts to gain access to pneumonia and mortality data from the National Institute of Infectious Diseases have been stalled—perhaps deliberately, in order to suppress bad news. Although Japan regularly ranks highly in international assessments of transparency, data access, and anticorruption measures, the government has been accused in the past of falsifying statistics. One scandal in 2019 involved the Ministry of Health, Labor, and Welfare. The discovery of sampling errors in monthly labor statistics exposed a wider pattern of inappropriate data collection and analysis in 22 out of 56 core government statistics produced by seven ministries.

The government's statistical division has been drained of financial and human resources since the 1990s. By 2018, the number of statisticians in all ministries stood at around 1,900, a 50-percent decrease over a decade. And most bureaucrats have generalist orientations, and transfer to a new division every two or three years, making statistical expertise unlikely. Experts have warned that relying on inaccurate, untrustworthy statistics can have serious consequences: the government and lawmakers may formulate ineffective bills, and foreign investors could shy away.

Notable figures, including Hosaka Nobuto, ward mayor of Setagaya District in Tokyo, have accused political leaders of worse than statistical fiddling in the pandemic response. They argued that the government was initially reluctant to pursue high levels of testing for COVID-19 infections because of the possibility that doing so might force it to cancel the 2020 Summer Olympics.

Reputational and commercial concerns may well have slowed a more effective response. Spending on preparations to host the Games in Tokyo had already risen over $12 billion, so the government and corporate sponsors had a lot to lose. It was not until March 24 that the government and the International Olympic Committee agreed to put off the Tokyo Olympics until the summer of 2021.

Nevertheless, the mortality rates remain low. Why? A mundane but likely explanation is that residents throughout Japan voluntarily and drastically reduced their mobility, choosing to stay in

rather than go out. New research from Purdue University engineering professor Satish Ukkusuri and Japanese colleagues, using cell phone tracking data, indicates a 70-percent drop in the number of social interactions by mid-April.

Despite anecdotal reports that little seems to have changed in terms of daily behaviors and commuting, such data suggest most people have calmly followed the advice of health experts and government officials and stayed home. If anything has saved Japan from the pandemic, it has been the people themselves.

Social Solutions

While noting that Japan's overall levels of COVID-19 infections and deaths have been relatively low, it is also important to recognize that there has been variation across the country. This variation is likely not due just to mobility, health care system capacity, or local and national policies.

Working with our colleague Tim Fraser at Northeastern University, we have examined differences in COVID-19 infection rates across Japan's 47 prefectures. Some, such as Wakayama, have been praised for their responses and outcomes. Others, like Hokkaido, have not done as well in coping with the pandemic. Our investigation found that the types of ties people had with others in their social circles, outsiders, and authorities strongly correlated with different types of outcomes.

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When our lab studies shocks and crises, including the 2004 Indian Ocean tsunami, Hurricane Harvey in 2012, rocket attacks on Israeli civilians, and Japan's 3/11 triple disaster, we try to better understand the social infrastructure in place in the communities affected by the event. In a post-crisis environment, we look at three types of connections, which social scientists call bonding, bridging, and linking social ties.

Bonding social ties connect people who are quite similar—such as kin, extended family, and other people who look and sound like you. Bridging ties, in contrast, are often referred to as weak or thin ties—they connect us to people who are different. These ties increase the diversity of information and resources available to us. They may come through an institution like a workplace, school, club, or place of worship.

Whereas bonding and bridging ties are horizontal in nature, linking social ties are vertical, connecting us to people in power and authority. If we know the provost at our university, or the mayor of our town, that connection could improve our capacity to weather a shock. For example, Japanese communities with strong ties to the central government managed faster recoveries than similar towns lacking such advantages after the 3/11 triple disasters.

Looking across Japan's 47 prefectures over time, we found that different types of social ties correlate differently with COVID-19 infection rates. These data show that measures of social vulnerability—such as being elderly, immunocompromised, or poor—correlated with higher rates of COVID-19 at the prefectural levels. However, bridging and linking ties had a negative correlation with new cases. That is, for prefectures with weaker, thinner ties, prevalence of the disease was measurably less than in prefectures more tied to homogeneous groups.

We suggest that prefectures with more bonding ties are areas where residents typically receive information from a smaller number of sources and may not strictly adopt physical distancing measures. In areas with more diverse networks, a wider spectrum of information is available, along with reinforcement of physical distancing advisories from multiple sources.

Our analysis goes beyond facile claims about Japanese culture by looking at the actual behavior of residents as they have responded to the pandemic. We also recognize that there is no national-level response: individuals and their communities behave differently from block to block, and from town to town. We are still in the initial phases of collecting and analyzing this data, but the pilot study shows that different communities have different social structures in which they operate, with implications for how they are weathering COVID-19.

Silver Linings

Japan's pandemic story is that of a country that dodged a bullet without strong leadership from the prime minister, an efficient bureaucracy, or the use of advanced technology. The relatively small number of recorded COVID-19 infections and deaths is likely due to widespread voluntary self-quarantine and a resulting massive reduction in social interactions.

Are there longer-term outcomes from the pandemic that might amount to some kind of silver

lining? One obvious finding is that residents were willing to listen to the advice of experts and government officials and stay home. No coercion or threats were necessary. There were no anti-lockdown protests like those seen in the United States and other countries.

COVID-19's presence has also brought an unexpected benefit: suicides are down by some 20 percent compared with 2019. Perhaps this is because of less commuting, less time at work, and more time at home with family. Breaking Japan's post–World War II culture of overwork, heavy drinking with colleagues, and extended commutes has clearly produced some promising results.

From a top-down perspective, the aftermath of the 3/11 triple disaster had already shown that change is possible. Out of the wreckage of Fukushima, a few positive developments emerged. One is a new regulator with a backbone, the Nuclear Regulation Authority, that takes seismic risks and safety equipment seriously. Unlike its predecessor, it has denied licenses to private utilities unable to comply with tightened restrictions on nuclear power plants. The government also set up the Recovery Agency (*Fukkōchō*) to serve as a one-stop shop during the long post-3/11 reconstruction process.

During the pandemic, another administrative shortcoming has drawn attention: Japan has no equivalent to the US Centers for Disease Control and Prevention. Experts such as Nobel Prize–winning immunologist Tasuku Honjo have called for establishing such an agency. Abe has set up an ad hoc Novel Coronavirus Response Headquarters, but nothing more permanent for handling future pandemics. Moving to make disaster response institutions a more permanent structure at the cabinet level would be an important step forward for crisis governance.

International and domestic critics of Japan have justifiably underscored the Japanese government's tepid pandemic response. But it is undeniable that Japan's coronavirus case numbers and, more importantly, overall mortality rates remain low. Whether this is due to the choices of its citizens or some other, yet to be discovered cause, the nation's outcomes during this pandemic have been nothing short of miraculous, at least so far. Although Japan's political and public health responses to the pandemic have not been ideal, COVID-19 may change the country's social and political landscape in ways that would have been hard to predict just a few months ago. ■