

Series: Coverage of the novel coronavirus disease (COVID-19)

The University of Yamanashi battles COVID-19 (Part 6)

Is Japan's fatality count really a "miracle?"

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1. The myth of the "Japanese miracle"

In parts 3, 4, and 5 of the PCR series,¹⁻³⁾ we showed how Japan's PCR test count (one of the lowest counts among all the OECD countries⁴⁾) has shaken the global community's faith in the country and severely complicated the effort to determine an accurate number of COVID-19 cases. Shigeru Omi, the deputy chair of the government's Novel Coronavirus Expert Meeting, even explained in a statement to the Diet that the number of infections "could potentially be 10 times, 15 times, or even 20 times higher than what's being reported."⁵⁾ Responsible for that reality is Japan's policy on PCR testing, which gave the country's regional institutes of public health and health centers (both administrative organizations under the direction of the Ministry of Health, Labour and Welfare) a virtual monopoly on the tests.

In the eyes of many observers, however, the current reality in Japan is something to marvel at—the "Japanese miracle," as some call it. Take the commentary that appeared on an NHK special on May 10, for example. Nahoko Shindō, a WHO senior advisor, said that several experts with connections to the WHO saw Japan's testing pace not as "sluggish" but rather as a "commendable approach to strategic testing" on the country's part.⁶⁾ Shindō and other like minds base their arguments on several points, such as the fact that Japan, despite being the second country to see cases of COVID-19 after China, had done an "almost miraculous" job keeping its numbers of cases and fatalities in check; the presence of "eminent epidemiologists leading the country's response"; and "the Japanese people's sensitivity to personal hygiene."⁶⁾

The problem is that the logic behind that praise breaks down when the facts behind Japan's infection count come into the picture. Of all the OECD countries, Japan has one of the lowest total PCR test counts.⁴⁾ As Omi admitted, Japan's actual total number of infections is essentially anyone's guess—and almost certainly leagues higher than the current official tally.^{2, 5)} If actively holding back the PCR-testing framework to minimize official COVID-19 case counts should garner acclaim for its "almost miraculous" results,

the improper research practices that have tarnished the reputation of Japan's research community deserve the same kind of accolades. While we still have no idea just how many cases actually exist in Japan, Japan's inadequate testing regimen is a fact that observers from a variety of different standpoints already agree on. Following that reality along logical lines, one reaches the same conclusion that we reached in Part 4²⁾ and that Omi acknowledged in his statement⁵⁾: that Japan has overlooked a significant number of COVID-19 cases.

Another point that champions of Japan's COVID-19 response invoke is the country's low fatality count. Again, given the above discussion, the logical conclusion is that the lack of a clear, accurate number of cases would also mask an accurate fatality count. Low PCR test counts limit the number of successful diagnoses, resulting in inaccurate mortality figures. A person who dies from COVID-19 without actually being diagnosed as having the condition can obviously not be counted as a COVID-19 fatality. We explored that point in Part 4 by looking at "excess mortality" from influenza and pneumonia evident in a National Institute of Infectious Diseases system that provides users with up-to-date information on influenza-related deaths.²⁾

In Part 4 of the series, we noted that Tokyo recorded excess mortality from influenza—deaths exceeding the standard threshold—in weeks 8 and 9 of the 2020 calendar year, normally when the influenza season has all but run its course. Those elevated numbers were no mere blips, either; excess-mortality levels persisted all the way through week 13.⁷⁾ The influenza data system covers 21 cities, 10 of which had up-to-date information on influenza cases (while the other 11 either had no reports whatsoever [5 cities] or just through weeks 5 or 9 [6 cities]). Of those 10 cities, 3 reported excess influenza mortality: Tokyo, Sendai (week 12), and Kumamoto (weeks 7, 9–11, and 13). Those excess-mortality levels could serve as indicators of COVID-19's true impact, assuming that some of the unusually high influenza fatalities were in fact attributable to the coronavirus.⁸⁾ When the reports from Saitama, Kyoto, Osaka, and the other cities whose reports are current only through weeks 5 or 9 come out, we should have an even clearer picture of the actual extent to which COVID-19 has impacted the country.

As we argued above, it would be premature to conclude that Japan's COVID-19 case count and fatality levels are low based solely on the country's relatively scant reports of COVID-19 cases. The "almost miraculous" containment of the outbreak in Japan, as some have decided to call it, might just be a transitory illusion. Even for the believers in the "Japanese miracle," it would appear that the numbers are simply not enough to corroborate their claims. If the data itself were sufficient to make the Japanese response truly miraculous, the observers would not need to point to "eminent epidemiologists leading the country's response" as evidence. The pull of the theory is

strong, however. Although observers have accused WHO Director-General Tedros of being too lenient with China, the myth of the “Japanese miracle” has apparently been compelling enough to draw even the WHO in.⁹⁾

2. Why Japan has a lower death count than the West

Japan may be undercounting its numbers of infections and fatalities, but even accurate counts would still fall far below the enormous totals that have accompanied COVID-19’s explosive spread into Europe and the United States. While that yawning gap surely has quite a few explanations, what we can say with certainty at this point is that Japan’s comparatively low totals are due not necessarily to something distinctly Japanese but rather to factors common to the entire Western Pacific region. A research team led by Alba Grifoni detected SARS-CoV-2-reactive CD4* T cells in 40% to 60% of blood samples from unexposed individuals, suggesting that T cells cross-reactive against typical coronavirus may play a role in immunity.¹⁰⁾

A paper by Dora Pinto, et al. also reports that an antibody from SARS-CoV (which emerged in 2003) potentially neutralizes SARS-CoV-2.¹¹⁾ That could be another reason explaining the differences in COVID-19’s spread in the Western Pacific region and the West.

Figure 1 shows changes in fatalities over time in the 19 Western-Pacific countries (out of a total of 37 countries) for which data was available in the “Our World in Data” collection.¹²⁾ Note that the Chinese government revised the COVID-19 death toll for Wuhan on April 18, which explains the sudden jump in the line for China.¹³⁾ As of May 16, the fatality counts for several countries in the West were already far higher than the total for China: Italy had 6.8 times, the United Kingdom 7.3 times, and the United States a whopping 18.8 times the number of fatalities as China did. China may have the highest numbers in Figure 1, but it has obviously had far fewer deaths than much of the West; fatalities in the Philippines and Japan come in at under 20% of the Chinese total, thus making them even starker contrasts with the Western figures. These types of trends are not only evident throughout the Western Pacific but also prevalent in Southeast Asia as well.

Total confirmed COVID-19 deaths

Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.

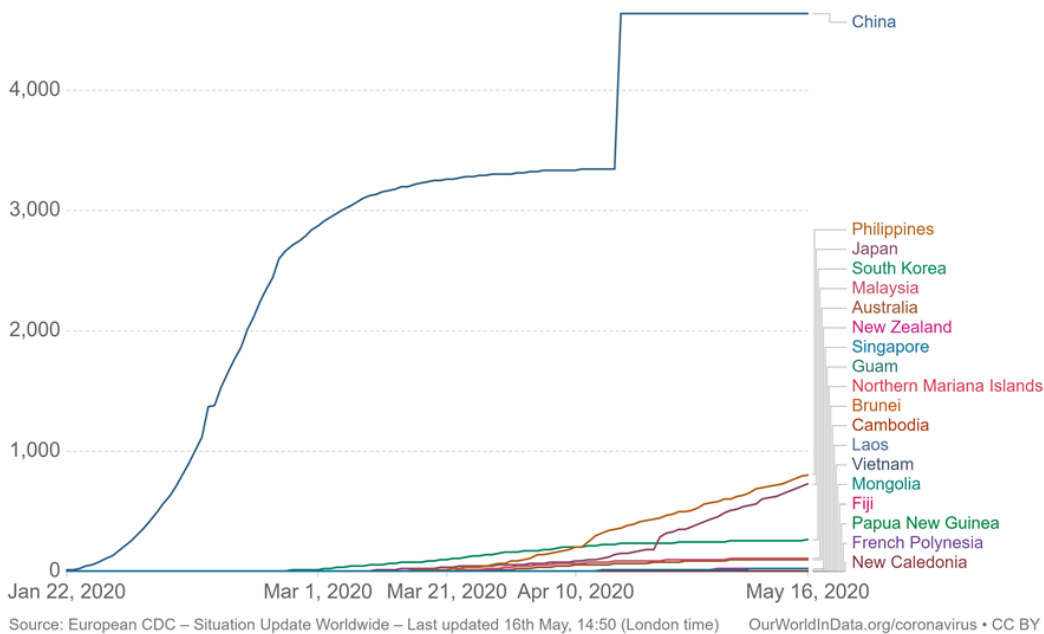


Figure 1. Fatalities in 19 countries in the Western Pacific region

If the WHO wants to frame the struggles in the Europe and the United States against a region that has seen a more successful response, it should be referring to the “Pan-Pacific miracle” or the “Asian miracle”—not lavishing praise on the “Japanese miracle” due to Japan’s fatality count. A look at Figure 2 reveals support for that argument. Figure 2 shows the same data as Figure 1 but eliminates China from the picture, instead incorporating the numbers for Taiwan. By reducing the scope of the Y-axis, the graph more clearly highlights the differences among the 17 countries in the data set. Sharp increases in fatalities are evident in the Philippines and Japan, the latter of which has seen a massive uptick since an inflection point on April 11. As of May 16, Japan’s number of fatalities per 100,000 people sits at 0.57—higher than South Korea (0.51), New Zealand (0.43), Australia (0.39), Malaysia (0.36), China (0.35), and Taiwan (0.03). The only country in the region with a higher fatality rate is the Philippines at 0.76.

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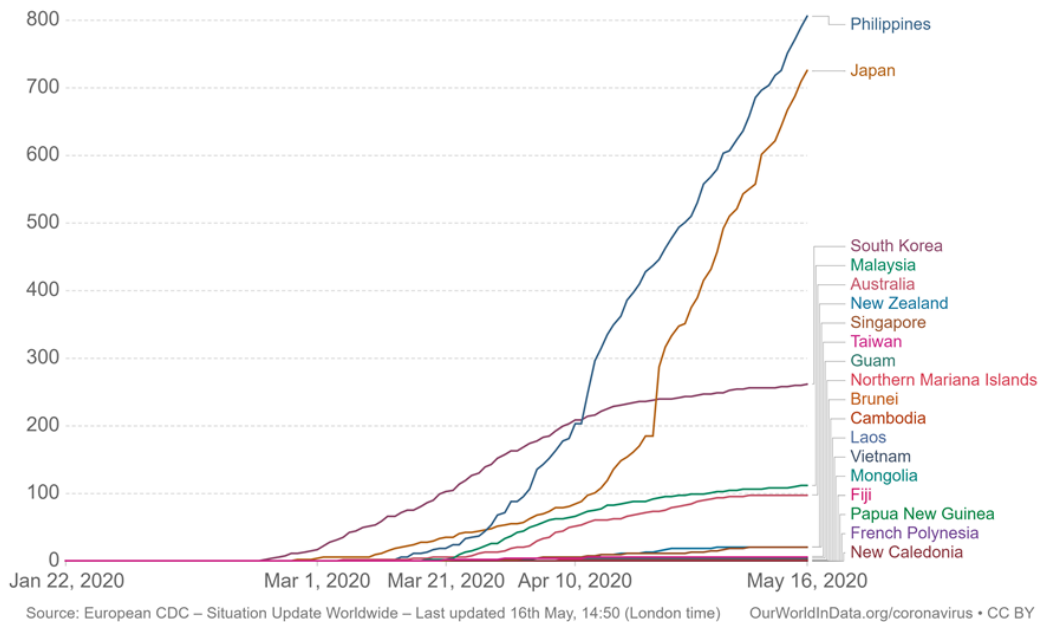


Figure 2. Fatalities in 18 countries in the Western Pacific region and Taiwan

Southeast Asian countries like Singapore (0.37 fatalities per 100,000 people), Indonesia (0.40), Thailand (0.08), Vietnam (0 fatalities), and Cambodia (0 fatalities) all have rates below Japan's, too. While fatality rates in a majority of the region's other countries have begun to level off as of May 16, fatalities per 100,000 people are climbing in just three countries: the Philippines, Indonesia, and Japan. Should the current trends persist, Japan's high fatality rate will continue to diverge from the norm in the region and make the country a conspicuous outlier among its peers.

Shigeru Omi cites three reasons for Japan's low fatality count compared with those of the West: that the solid, stable Japanese medical system has managed to detect the vast majority of severe COVID-19 cases via its current system, that the country's cluster-based approach in the earliest stages of the outbreak worked, and that the Japanese people are generally more health-conscious than those in the West.¹⁴⁾

It would be misleading to compare Japan with the West, however—the conditions are so different on the two sides that the comparison is essentially meaningless. An apter comparison would contextualize Japan's numbers in the Western Pacific region, where the fatality counts are all much lower than those in the West, and thus illuminate the actual trend in Japan: a climbing mortality rate that demands an explanation.

The number of COVID-19 infections in Japan may have moved past their peak, but the data suggests that fatalities have yet to hit their zenith. From our perspective, that

reality has emerged via a cyclical chain reaction of factors. Japan’s miniscule PCR test count (even relative to the rest of the Western Pacific region; see Figure 3) has obscured the actual extent of the infection in the country, which has thereby delayed the adoption of social-distancing policies. With people thus in closer contact, unaware of just how far the infection has spread, the numbers of “hidden” cases have grown—and the larger population of cases has naturally spawned larger numbers of severe cases and fatalities. In a system where officials reserve PCR tests for the most serious cases, the population of “confirmed cases” (people with positive PCR results) skews disproportionately toward severe cases. The total case count may be small, but a significant percentage of those cases are severe—and that explains why the number of fatalities continues to rise despite the case count having already peaked.

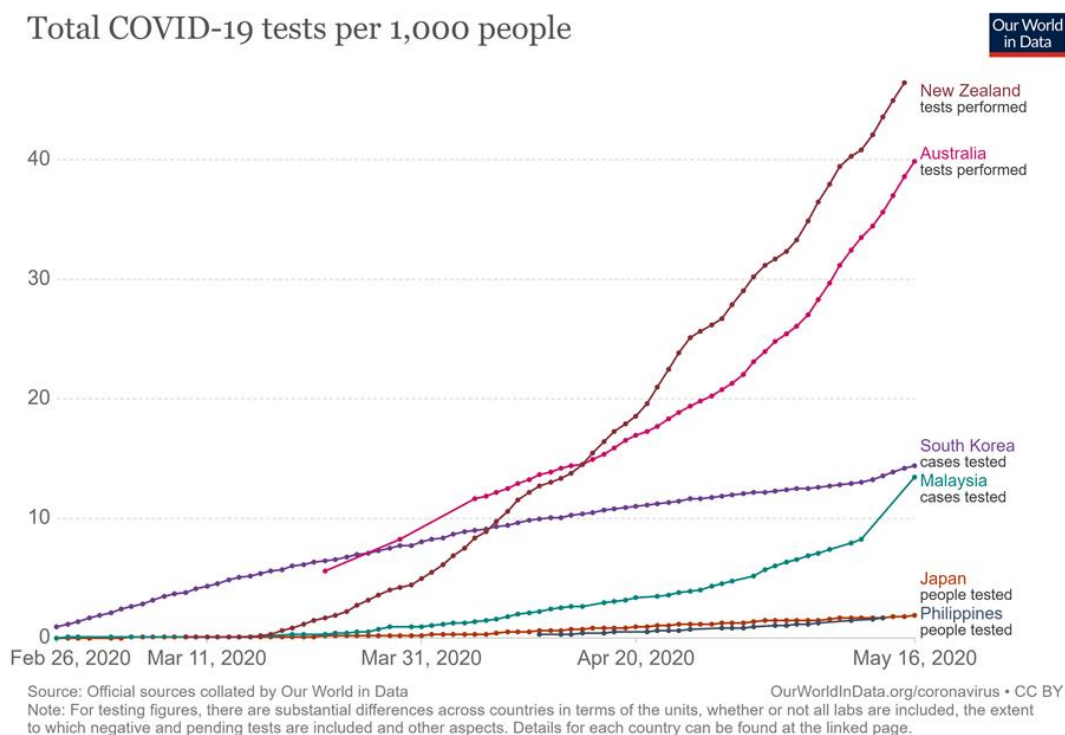


Figure 3. Cumulative PCR test counts in 6 countries in the Western Pacific region (per 1,000 people)

3. Preparing for a long, drawn-out battle

No one has the “correct answer” to solving an unknown virus. The only way to derive a solution is to stay focused on the realities at hand, utilize the available information, and respond as quickly and effectively as possible to what emerges. Over the course of this PCR series, we have repeatedly emphasized that Japan needs a stronger, broader PCR-testing framework. The Novel Coronavirus Expert Meeting, too, has begun to advocate the same viewpoint.¹⁵⁾ Efforts to bolster the PCR-testing

structure are slowly gaining momentum on the ground: the University of Yamanashi Hospital began offering drive-through PCR testing on May 8, for example, and the Ministry of Education, Culture, Sports, Science and Technology has also launched a study on utilizing university resources (which we discussed in Part 3³) for PCR-testing equipment.

In today's world, where people have unprecedented, real-time access to open data from across the globe, attempts to sweep inconvenient information under the rug or willfully deceive audiences can only go so far before they fail. A commitment to constructive dialogue rooted in an objective, data-driven foundation, not a need for self-justification, is more vital than ever to helping Japan regain its luster. Blindly following the "experts" amounts to nothing but a blatant neglect of scientific rigor and the decay of the academic spirit.

Thankfully, the academic community is starting to speak up on charting a better course. Takashi Odagaki (professor emeritus, Kyushu University) at the Science Education Laboratory and Kyōsuke Ono (professor emeritus, Tokyo Institute of Technology) are just two of the many scholars producing important, data-oriented work on the COVID-19 response.^{17, 18} To help Japan weather the first wave of infections (which is still progressing, considering the rising fatality count) and prepare for multiple subsequent waves, the members of the Japanese academic sphere will need to pay close, open-minded attention to response initiatives from around the world and combine its collective wisdom in guiding the government's strategies forward.

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