Japan
Special Case Study
Covid-19 Safety Assessment

Japan: #5 Region by COVID-19 Safety Ranking

COVID-19 Quarantine Efficiency
Weight 2.2   Category Score 57.62

127 POINTS

- ❑ Scale of Quarantine — **17.81**
- ❑ Quarantine Timeline — **10.63**
- ❑ Criminal Penalties for Violating Quarantine — **4.47**
- ❑ Economic Support for Quarantined Citizens — **8.16**
- ❑ Economic and Supply Chain Freezing — **9.30**
- ❑ Travel Restrictions — **7.18**

COVID-19 Government Efficiency of Risk Management
Weight 2.2   Category Score 83.76

184 POINTS

- ❑ Level of Security and Defense Advancement — **17.00**
- ❑ Rapid Emergency Mobilization — **16.00**
- ❑ Efficiency of Government Structure — **13.41**
- ❑ Economic Sustainability — **10.93**
- ❑ Legislative Efficiency — **12.00**
- ❑ Political Stability — **14.42**

COVID-19 Monitoring and Detection
Weight 1.5   Category Score 94.70

142 POINTS

- ❑ Monitoring Systems and Disaster Management — **18.00**
- ❑ Scope of Diagnostic Methods — **15.00**
- ❑ Testing Efficiency — **14.40**
- ❑ AI for Diagnostics and Prognostics — **15.00**
- ❑ Government Surveillance Technology for Monitoring — **15.30**
- ❑ Reliability and Transparency of Data — **17.00**

COVID-19 Healthcare Readiness
Weight 1.3   Category Score 83.31

108 POINTS

- ❑ COVID-19 Equipment Availability — **16.80**
- ❑ Mobilization of New Healthcare Resources — **14.25**
- ❑ Quantity and Quality of Medical Staff — **12.03**
- ❑ Level of Healthcare Progressiveness — **13.62**
- ❑ Level of Technological Advancement — **12.74**
- ❑ Epidemiology System Level of Development — **13.87**

COVID-19 Regional Resiliency
Weight 1.3   Category Score 65.62

85 POINTS

- ❑ Infection Spread Risk — **5.39**
- ❑ Culture Specifics and Societal Discipline — **13.11**
- ❑ Level of Modern Sanitization Methods — **15.00**
- ❑ Demography — **5.20**
- ❑ Chronic Diseases — **13.92**
- ❑ Societal Risks — **13.00**

COVID-19 Emergency Preparedness
Weight 1.5   Category Score 60.58

91 POINTS

- ❑ Societal Emergency Resilience — **20.25**
- ❑ Emergency Military Mobilization Experience — **15.33**
- ❑ Surveillance Capabilities (Scale, Scope and Technological Sophistication) — **13.50**
- ❑ Previous National Emergency Experience — **11.50**

738 CUMULATIVE SCORE

COVID-19: SWOT Analysis of Japan

STRENGTHS

- A relatively low number of infections compared to size of population, and low number of deaths vs. number of infected.
- Aggressive use of contact tracing to offset comparatively lower testing rates, and the use of a "cluster-based" approach that assumes majority of infection comes from high-transmission cases, focusing efforts on quarantining highly transmittable cases.
- High numbers of elderly individuals voluntarily self-isolating.

WEAKNESSES

- A large elderly population (the demographic at greatest risk of infection and mortality from COVID-19)
- Fairly low per capita testing rates
- Growing public concerns over prioritizing economic recovery over healthcare and public wellbeing
- A four-year decline in GDP that will be further exacerbated by the postponement of the 2020 Tokyo Olympic Games.

OPPORTUNITIES

- To reduce potentials for future steep rises in number of infected due to outbreaks among elderly population, the Japanese government can preventively coordinate resources and logistics in advance to be maximally prepared for potential rises in number of infected.
- Prioritize government communication and transparent public relations strategies to offset the falling public acceptance rates over how the Japanese government is handling the pandemic.

THREATS

- Their large aging population puts the region at risk for large infection resurgences and future healthcare resource incapacitation due to the rapid rate of transmission in elderly care facilities and nursing homes.
- Growing public concerns over prioritizing economic recovery over healthcare and public wellbeing (e.g., 80% of public responding that state of emergency address was delivered too late).

Japan: COVID-19 Quarantine Efficiency

While Japan has been proactive in advising social distancing and self isolation measures, and in border control to prevent incoming travelers, it's critical weakness is that it lacks the legislative power to actually impose and enforce a mandatory quarantine, and is among a minority of regions that have not implemented mandatory lockdowns with associated monetary and criminal penalties for non-compliance.

To reduce person-to-person contact, the government has instructed the public to refrain from attending high risk environments and limiting long distance travel. It emphasized extreme caution when coming in contact with the elderly. The government also promoted reforms including home-based work, staggered commuting times, and long-distance learning for students.

In early May, Japan's Ministry of Health, Labour and Welfare released details on a program to maintain a "new lifestyle" for its population, to be practices on a daily basis moving forward. The program consists largely of behavioural changes aimed at reducing infection spread, such as avoiding high-risk environments and long-distance travel, wearing masks during face-to-face contact, avoiding eating face-to-face, and refraining from talking on public transportation, and it is the hope that the program will help to offer the fact that under current law the Japanese government has very limited capacity to actually impose and enforce mandatory lockdowns.

Indicators	Points
Scale of Quarantine	17.81
Quarantine Timeline	10.63
Criminal Penalties for Violating Quarantine	4.47
Economic Support for Quarantined Citizens	8.16
Economic and Supply Chain Freezing	9.30
Travel Restrictions	7.18
Final Score	**57.62**
Weight	**2.2**
Final Points	**127**

Japan: COVID-19 Government Risk Management Efficiency

Overall, Japan has achieved good results in terms of rapid and integrated government coordination to reduce COVID-19 infection and to enable best-case treatment of COVID-19 patients.

Fairly early in the overall timeline of the pandemic, the Japanese Ministry of Health, Labour and Welfare also coordinated with local governments to establish 536 consultation centres, covering all prefectures within the region, to give citizens with instructions on how to receive COVID-19 testing and treatment.

Japan's Health minister also coordinated Fujifilm to make their anti-influenza drug, favipiravir, available for use as a COVID-19 treatment, as well as to increase production and enable the distribution of the drug to hospitals for use in critical cases.

However, one key shortfall is the government's incapacity, under currently law, to impose and enforce mandatory lockdowns upon their citizens, with criminal penalties for noncompliance. Despite this, the region has offset this downside with efficient cross-department coordination and the rapid creation of dedicated task-forces and facilities, combined with proactive public communications and suggested public guidelines.

Indicators	Points
Level of Security and Defense Advancement	17.00
Rapid Emergency Mobilization	16.00
Efficiency of Government Structure	13.41
Economic Sustainability	10.93
Legislative Efficiency	12.00
Political Stability	14.42
Final Score	**83.76**
Weight	**2.2**
Final Points	**184**

Japan: COVID-19 Monitoring and Detection

One of Japan's largest comparative weaknesses in terms of monitoring and detection is its low rates of testing. For example, only 52,000 tests were performed in March 2020, which constitutes just 16% of the number of tests performed by South Korea that same month, and testing was restricted to large hospitals (i.e., a lack of local or remote testing) as of March 2020. While the government decided to expand testing by mid-April, many experts believe that this decision should have been made earlier in the COVID-19 timeline.

Despite its fairly low testing rates, the region has a comparatively low number of infection and death rates compared to other regions with more widespread and aggressive testing, in large part due to the region's unique "cluster-based approach", which assumes that large increases in infection rates are due specific individuals able to transmit the virus at much higher than average rates.

The region thus concentrates resources on very intensive and comprehensive contact tracing in order to identify individual sources of a large number of infected individuals, and imposing strict quarantining on identified source-cases. And, indeed, it is the region's very strong focus on contact tracing that sets it apart from other regions in terms of the strength of its COVID-19 monitoring and detection efforts.

Indicators	Points
Monitoring Systems & Disaster Management	18.00
Scope of Diagnostic Methods	15.00
Testing Efficiency	14.40
AI for Diagnostics and Prognostics	15.00
Government Surveillance Technology for Monitoring	15.30
Reliability and Transparency of Data	17.00
Final Score	94.70
Weight	1.5
Final Points	142

Japan: COVID-19 Healthcare Readiness

Early in the overall COVID-19 timeline, Japan's government pivoted from containment-focused efforts to heightening its prevention and treatment capacities in order to prepare for increased community-based transmission within its own borders. One key step in this regard was the launch of a dedicated testing and consultation system modelled after the National Institute of Infectious Diseases (NIID) and the government's 83 existing municipal public health institutions (separate from its public hospital infrastructure).

This infrastructure deals with the treatment of convifmred COVID-19 patients in order to help reduce their burden on the public hospital system (thereby reducing the risk of overwhelming their existing healthcare infrastructure) and to reduce transmission to critical front-line healthcare workers. Japan's Ministry of Health, Labour and Welfare also took key steps in reinforcing its medical system by prioritizing access to COVID-19 treatment for elderly people, pregnant women, people suffering from fatigue or shortness of breath, and people with underlying health conditions.

Another key advantage of Japan is its higher-than-average number of computed tomography (CT) scanners (111.49 per million people), which allows them to test and confirm cases of COVID-19 pneumonia prior to official COVID-19 testing.

Indicators	Points
COVID 19 Equipment Availability	16.80
Mobilization of New Healthcare Resources	14.25
Quantity and Quality of Medical Staff	12.03
Level of Healthcare Progressiveness	13.62
Level of Technological Advancement	12.74
Epidemiology System Level of Development	13.87
Final Score	**83.31**
Weight	**1.3**
Final Points	**108**

Japan: COVID-19 Region Resiliency

In terms of demographics, Japan's large elderly population remains one of its greatest threats, an outbreaks among its elderly (particularly in elderly care facilities) could create sudden spikes in the number of cases and deaths, and transmissions if it is unable to enforce mandatory quarantining of elderly COVID-19 patients.

Such possible outbreaks leave the region at risk for over-capacitating their healthcare system, both strictly in terms of the number of elderly infected, and especially in terms of transmission from their elderly demographic to other sectors of their general populace.

Japan's Societal Risks are very minimal, as it is a region that lacks serious existing geopolitical threats. However, the region is witnessing declining public support and sentiment regarding how its government has handled the crisis, citing its early decision to not postpone the 2020 Tokyo Olympics (which has since been postponed) and its lack of widespread economic freezing measures as an indication that it is prioritizing economic viability over public health and safety.

The region's overall infection spread risk is comparatively low, despite low per-capita testing rates and a lack of criminally-punishable quarantine mandates, in large part due to its focus on effective and intensive contact tracing to identify and isolate high-transmission cases.

Indicators	Points
Infection Spread Risk	5.39
Culture Specifics and Societal Discipline	13.11
Level of Modern Sanitization Methods	15.00
Demography	5.20
Chronic Diseases	13.92
Societal Risks	13.00
Final Score	**65.62**
Weight	**1.3**
Final Points	**85**

Japan: COVID-19 Emergency Preparedness

Japan's military prowess, both in terms of its overall size as well as its technological sophistication, lags behind many other regions included in the present analysis, which limits their overall preparedness for rapid mobilization of resources to neutralize national crises, at least (in comparison to other regions included in the present analysis).

The region does have some limited experience with chemical attacks relating to terrorist organizations in the mid-199's, but besides this, the region is relatively unprepared for major biological and chemical warfare.

However, many of these factors are offset by the very high degree of societal discipline among their populace. Due in part to their very strict and strongest professional and intensive business ethic. This comes into play both generally (e.g., wearing face masks is already common in Japan), and specifically in relation to COVID-19, in the general public's overall higher levels of obeying and respecting social etiquette.

This is seen in the fact that compliance with the government's social distancing and self isolation suggestions are seeing a much higher rate of compliance than would be expected considering that the government doesn't have monetary or criminal penalties in place for violating them.

Indicators	Points
Societal Emergency Resilience	20.25
Surveillance Capabilities (Scale, Scope and Technological Sophistication)	15.33
Emergency Military Mobilization Experience	13.50
Previous National Emergency Experience	11.50
Final Score	**60.58**
Weight	**1.5**
Final Points	**91**

Japan: COVID-19 Recommendations

- Japan should continue its efforts in very stringent and comprehensive contact tracing (based on a "cluster-based approach", which assumes the majority of infections can be traced back to select individuals with higher-than-average capacity for transmitting the virus), since this has proved successful thus far in maintaining a lower-than-average number of infections and death.
- However, the region should also prepare to increase its capacities for widespread testing in the event that Japan sees substantial increases in infection rates due, for example, COVID-19 mutations that increase the overall, average level of viral transmissibility.
- Given Japan's very large aging population, the region should prioritize investing into elderly-specific treatment regimes to improve patient outcomes in its elderly population, and consider broader testing (e.g. of asymptomatic elderly individuals).
- The region should also consider implementing more stringent mandatory lockdown mandates for elderly individuals in the event that the region sees a large spike in the number of elderly infections, which would have much lower negative effects on its economy compared to lockdowns imposed by working-age individuals)
- Additionally, Japan should seek to expand its legislative capacity to impose and enforce mandatory quarantine and social distancing measures (with criminal penalties for non-compliance) as much as possible, to protect against future and longer-term COVID-19 outbreaks.

Index Categories: All Scores	Points
Quarantine Efficiency	127
Government Efficiency of Risk Management	184
Monitoring and Detection	142
Healthcare Readiness	108
Regional Resiliency	85
Emergency Preparedness	91
Cumulative Score	738

Japan: COVID-19 Conclusions

- Japan has proven effective at efficiently coordinating government efforts across many departments to reduce infection spread and optimize COVID-19 prevention and treatment.

- One unique aspect of Japan's specific approach is that the country switched very early on within the overall pandemic timeline (i.e., in February 2020) from containment to prevention and treatment, in anticipation of very substantial increases in the rate of infection spread within its own borders.

- Another unique factor of Japan's particular approach is the use very stringent and comprehensive contact tracing to identify the original source of infections. This is considered a "cluster-based" approach, which assumes that the majority of COVID-19 infection is the result of a select number of individuals with much higher-than-average capacity to transmit the virus to others. Thus, the country's focus is less on nationwide quarantining, and more focused on dedicating resources to intensive contact tracing, and strict quarantining of select individuals.

- The government has also imposed some of the strictest monetary and criminal penalties (including fines and incarceration) for violating mandatory quarantine, self-isolation and social distancing mandates, which helps to significantly reduce the risk of infection spread.

- The country also has a generally optimal state of healthcare readiness, which in part owed to the fact that the country has been steadily increasing its per capita quantity of doctors and healthcare professionals. The Japan Healthcare 2020 Master Plan (released in 2012) details its ongoing efforts in this regard, including the addition of 500 new doctors on average per year, as well as measures to attract medically trained Singaporeans overseas to return.

- As a result, despite having the highest number of confirmed COVID-19 cases in all Southeast Asia, the country has not witnessed critical medical equipment shortages, and its healthcare system is not in immediate risk of being over-capacitated.

Japan: COVID-19 Conclusions

- Despite Japan's high efficiency in certain areas like reducing infection spread and integrated coordination of government departments for rapid mobilization of emergency resources (especially as it pertains to medical resources), and its proactive and widespread public communications efforts, one of the country's key weaknesses is its incapacity, under current law, to actually impose and enforce lockdown and social distancing mandates with criminal penalties for non-compliance.

- The Japanese government should pursue its available options for increasing its legislative capacity to deploy and enforce such mandates in the longer-term, while simultaneously prioritizing alternative efforts.

- Additionally, the country should consider developing specific, reward-oriented mechanisms and incentives for citizen and industry compliance with government-suggested quarantine, self-isolation and social distancing guidelines, given its comparative inability to legislatively enforce compliance via "punishment-oriented" mechanisms.

- Japan's large elderly population remains one of its greatest threats, an outbreaks among its elderly (particularly in elderly care facilities) could create sudden spikes in the number of cases and deaths, and transmissions if it is unable to enforce mandatory quarantining of elderly COVID-19 patients.

- Such possible outbreaks leave the country at risk for over-capacitating their healthcare system, both strictly in terms of the number of elderly infected, and especially in terms of transmission from their elderly demographic to other sectors of their general populace.

- To counteract these threats, the country should consider proactive measures including developing dedicated care facilities for elderly COVID-19 patients, more heavily-prioritized testing among asymptomatic elderly individuals, and prioritizing critical medical supplies and equipment for treatment of COVID-19 in elderly patients.

DISCLAIMER

Deep Knowledge Group is using its best efforts to continuously update its COVID-19 analytics based on dynamic, publicly available metrics deemed reliable, such as World Health Organization, Worldometers, CDC, Johns Hopkins University, and other publicly available sources.

Certain metrics used for advanced and qualitative assessment were formulated by Deep Knowledge Group analysts in coordination with specific experts and consultants using proprietary sources and techniques. Therefore, such rankings may be adjusted over time depending on the corresponding underlying information and in coordination with ongoing enhancements to our underlying analytical methodologies.

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CONTACT US

www.dkv.global/covid
info@dkv.global