

An average of nearly 200,000 new infections per day over a six-week period: What is the impact of such a severe COVID-19 pandemic on the healthcare system in Japan?

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SUMMARY During a six-week period from July 20 to August 31, 2022, Japan experienced its highest level of COVID-19 infection ever, with an average of nearly 200,000 new infections per day nationwide. Cases requiring inpatient care peaked at 1,993,062. Twenty-seven prefectures (out of 47 prefectures) had an average hospital bed occupancy of 50% or higher, and bed occupancy in Kanagawa in particular reached 98% in mid-August. In Tokyo, bed occupancy by patients with severe COVID-19 reached 57% and peaked at 64% in mid-August. Although the number of new infections per day has decreased since September, hospital bed occupancy, the number of severe cases, and deaths remain high nationwide. Efforts including vaccination campaigns, domestic surveillance, and routine infection control measures based on the varied knowledge that the Japanese public already has should be thoroughly implemented to reduce the number of the infected in order to avoid an increase the number of serious cases and deaths.

Keywords COVID-19, Omicron variant, new infections per day, bed occupancy

Globally, the number of infections with the Omicron variant of SARS-CoV-2 has increased unlike ever before due to its higher transmissibility (1,2). Japan in particular has experienced its highest level of COVID-19 infections ever, with an average of nearly 200,000 new infections per day nationwide during a six-week period from July 20 to August 31, 2022 (Figure 1A); a cumulative total of 18,917,782 infected and 39,872 deaths were reported as of August 31, 2022 (3).

On July 20, 2022, the number of new infections per day in Japan exceeded 200,000 for the first time, the peak to date was reached on August 2, 2022 with 267,470 new infections (accounting for over 30% of new cases globally), and the number was 169,771 on August 31, 2022 (3,4). In addition, the infection status may have been underestimated in light of severe pressure on the testing system, changing healthcare-seeking behavior, and a delay in the conducting of tests and examinations and the publication of reports during the summer vacation and Obon holidays (5).

With an average of nearly 200,000 new infections per day over a six-week period, the number of cases requiring inpatient care, severe cases, and deaths have tended to increase (Figure 1B), causing an unprecedented

shock to the healthcare system. The number of cases requiring inpatient care peaked at 1,993,062 on August 11, and 637 of those cases were severe (3).

Hospital bed occupancy has increased nationwide. Over a six-week period, 27 prefectures (out of 47 prefectures) had an average hospital bed occupancy of 50% or higher. Bed occupancy in Kanagawa in particular reached 98% in mid-August (Figure 2A). In addition, bed occupancy by patients with severe COVID-19 (defined based on the characteristics of the Omicron variant) has also increased. The situation was most critical in Tokyo, where average bed occupancy reached 57%, peaking at 64% in mid-August (Figure 2B).

There are unique characteristics with respect to the progression of the COVID-19 pandemic in Japan and the response of the Japanese healthcare system. This is particularly evident in declaring states of emergency during peaks with voluntary self-isolation, the low mortality rate, the sharp decline in the number of cases after the impact of the Tokyo 2020 Olympic and Paralympic Games on the healthcare system (6), and the unprecedented rise in the number of infections due to the current spread of the Omicron variant, with an average of nearly 200,000 new infections per day nationwide

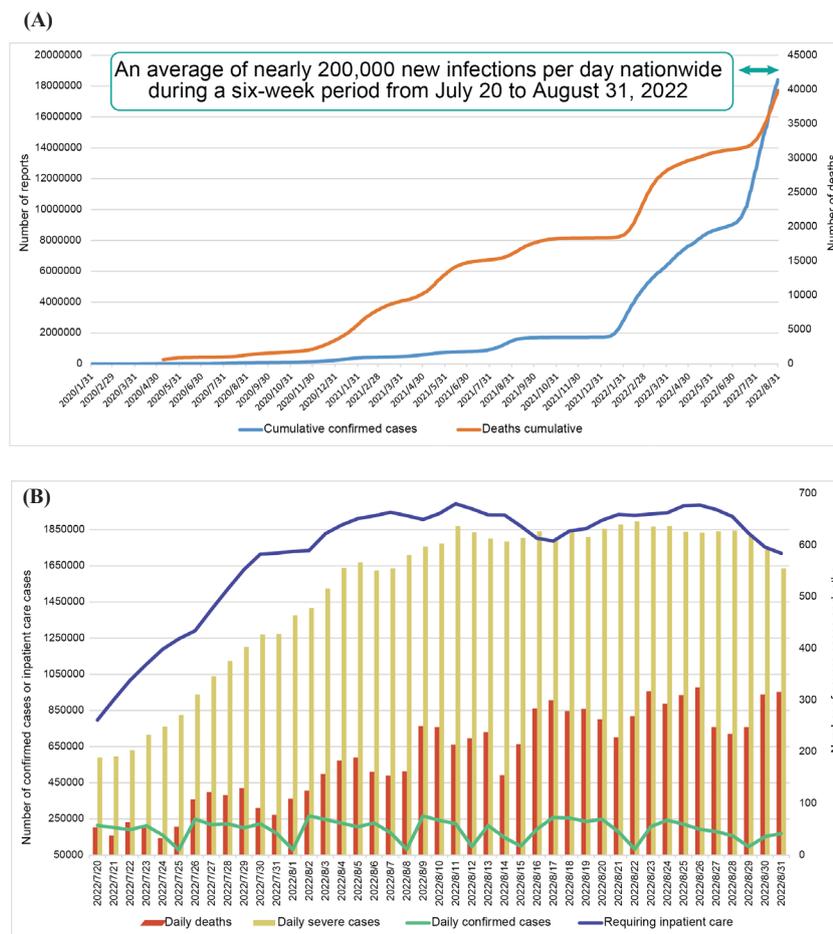


Figure 1. Number of COVID-19 cases reported in Japan. (A) Number of cases reported from 2020-2022; **(B)** Number of cases requiring inpatient care, severe cases, and deaths from July 20-August 31, 2022. Data source: <https://www.mhlw.go.jp/stf/covid-19/open-data.html> (Calculations are based on data made public by the Ministry of Health, Labor, and Welfare on September 6, 2022).

reported during a six-week period.

Japan's basic policy on COVID-19 is to curb the outbreak of infection, maintain the medical system, and focus on dealing with the severely ill (7). Based on this policy, Japan declared a state of emergency during peaks accompanied by a call for the public to change their behavior patterns to minimize the risk of being infected; it allocated hospital beds and at-home care depending on the symptoms of the infected, and it preferentially supplied vaccines to the elderly. As a result of these combined efforts, the past six waves of the pandemic have been effectively contained nationwide, but the unprecedented increase in the number of infections due to the current spread of the Omicron variant has placed a significant burden on the healthcare system.

Although the number of new infections per day has decreased since September, with 112,175 newly confirmed cases reported on September 6, 2022 (3), hospital bed occupancy, the number of severe cases, and deaths remain high nationwide. In addition, the number of close contacts and patients receiving at-home care are still increasing in many regions. Coupled with increased instances of difficulty obtaining an emergency hospital admission and shortages of healthcare workers (8), the current pandemic continues to impose a significant burden in terms of both COVID-19 treatment and on the medical system in general.

In the face of the current COVID-19 pandemic,

efforts including vaccination campaigns, domestic surveillance, and routine infection control measures based on the varied knowledge that the Japanese public already has should be thoroughly implemented to reduce the number of the infected in order to avoid an increase the number of serious cases and deaths. Further efforts such as use of telemedicine should be made to reinforce the medical system and reduce the burden on medical facilities and public health centers.

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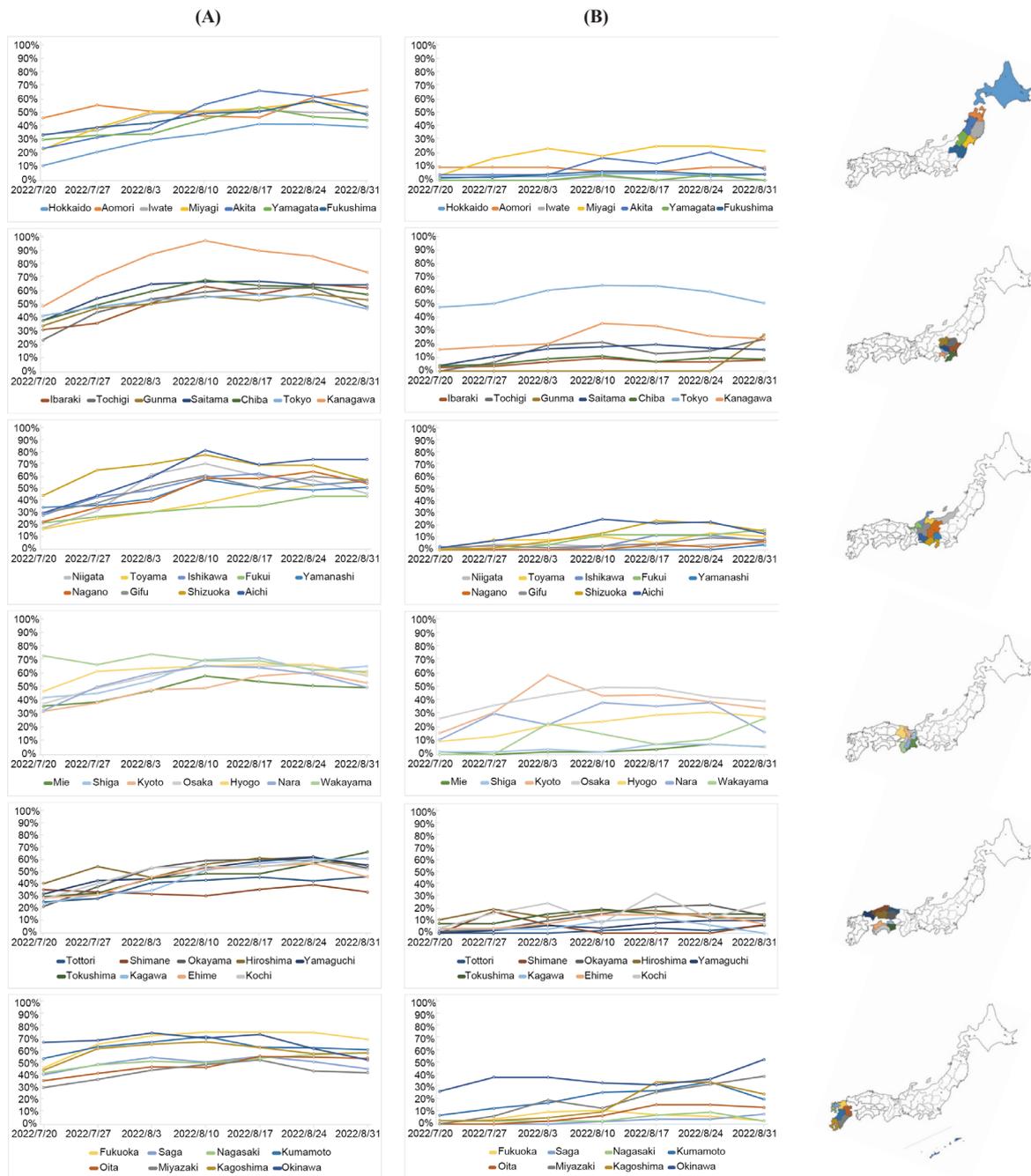


Figure 2. (A) Hospital bed occupancy and (B) bed occupancy by patients with severe COVID-19 in Japan from July 20-August 31, 2022. Data source: https://www.mhlw.go.jp/stf/seisakunitsuite/newpage_00023.html

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