

# No Patients or Staffs with COVID-19 for 3 Years in a Nursing Home of Tokushima, Japan

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## Abstract

The COVID-19 problem has been ongoing worldwide, and cause clustering in various facilities. Authors have managed a nursing home with 90 residents and 50 staffs, where no COVID-19 cases exist for 3 years. Three important measures may contribute, where i) thorough ventilation; air conditioning throughout the year, ii) routine antigen exam; tests are conducted frequently during higher risk period, and twice a month even almost no risk period, and iii) thoroughly stop coming to work when feeling unwell; the person is not responsible at all, and resting at home is the best way to prevent clusters and save all people.

**Keywords:** COVID-19; Nursing home; Thorough ventilation; Routine antigen exam; Prevent clusters

## Introduction

The COVID-19 problem has been ongoing worldwide for several years [1]. Among them, Japan has been evaluated for the high quality of adequate managements [2]. Authors have continued reports on COVID-19 so far [3]. In fact, clusters have occurred in various hospitals and facilities for the elderly [4]. Many causes are suggested to be due to staff routes. It would be not easy to completely suppress infection control. For our nursing home in Tokushima, Japan, neither residents nor staffs have had COVID-19 for three years. Related background and perspectives are described in this article.

## Situation in Japan

Current situation worldwide is always presented from John Hopkins University [5]. The daily new cases of COVID-19 in Japan are shown in (Figure 1) [6]. A characteristic of Japan is that the excess mortality rate was negative [7,8]. During Oct 2021 to Oct 2022, 3rd to 7th waves were recognized, and the 8th wave is currently observed from Nov 2022.

## Situation in Shikoku and Tokushima

Shikoku island includes four prefectures, and the weekly average of daily new cases is shown in (Figure 2) [9]. During Jul-Aug

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2022, there were summer music and dance festivals in Shikoku, as well as the nationwide general athletic meet for high school students [10]. These factors may be involved in the acute increase in Aug 2022.

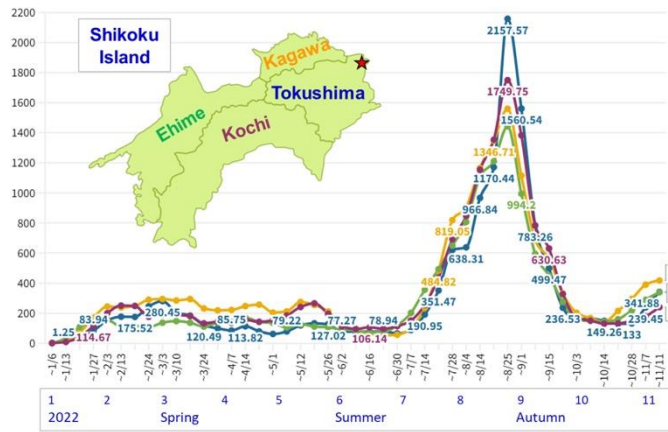


**Figure 1:** Daily total new patients with COVID-19 in all Japan for recent 3 years, there are 3rd – 8th big waves of COVID-19 infection until now.

As to Tokushima, the 4th wave (Apr 2021-) was due to alpha strain with 30-40 cases/day, and a cluster occurred at facilities for the elderly. In the 5th wave (Aug 2021-), clusters of delta strains were shown in companies and severe cases who was not vaccinated [11]. The 6th wave (Jan 2022-) with Omicron strain showed clustering in elderly facilities, workplaces, schools and

dormitories, about 100-200 cases/day. The 7th wave (Jul 2022-) with Omicron strain BA2 was characteristic for all ages, especially clustering in elderly facilities, and few severe cases [12]. Japanese government changed the management of reporting total number in statistics.

frequent testing cost much [15]. However, if the residents and staff cause the clustering, there will be a large and irreversible loss.



**Figure 3:** Tokushima prefecture has Naruto city with 3 famous related facilities.

- Honshu-Shikoku Bridge (Oh-Naruto Bridge, 1629m, from 1985)
- Otsuka Museum of Art (Ceramic board masterpiece, from 1998)
- The Nursing home “Oh-Naruto Silver Heights”, from 1989).

**Figure 2:** Daily new patients with COVID-19 in Shikoku Island (weekly average), The word “Shikoku” consists of Shi=four + koku=prefecture or country. A star-shaped sign marks the location of the nursing home.

## No resident/staff cases for 3 years

Our facility was established in 1989 and has 90 elderly residents and 50 staff members (Figure 3). Along with a standard measure across Japan, visits of family members to residents are limited, and most are only remote visits. Then, transmission through this route is unlikely. In other words, the transmission is probably brought by staffs [13]. Consequently, three important measures may contribute no cases for 3 years in our facility, which are described as follows.

### Thorough ventilation

We have continued keeping the windows open and air conditioning on at maximum level throughout the year [14]. As a result, the use of air conditioning in the summer increased the electricity bill by ¥400,000 (\$2,500) each month. In particular, it is widely known that the current Omicron strain is aerosol-infected.

### Routine antigen exam

Since the outbreak of COVID-19 three years ago, we have purchased a large amount of antigen test kits regularly. We continued regular inspections while making use of governmental supports. Antigen tests have been conducted at our own expense several times a week during higher risk period, and twice a month even almost no risk period. This recurrent inspection contributed a major change in the awareness of the staffs. In fact, it is true that

## Thoroughly stop coming to work when feeling unwell

We ensured that staff would never come to work if they felt even the slightest change in their physical condition or felt uneasy. This was the most difficult problem. The person is not held responsible at all, and resting at home is the best way to prevent clusters [16]. The explanation was repeated. We have repeated the explanation of consciousness reform that resting with courage is a wonderful judgment and action, and a good story. The opposite pattern would be observed in the field of welfare and medical care, associated with a vicious cycle of confusion, discrimination, fear and confusion [17].

## Summary

As described above, the awareness of all staff members has changed by continuing these steady activities. As a result, residents and staff have been connected without infection for three years. For adequate management, simultaneously many factors should be evaluated associated with the degree of their importance. It is crucial to recognize that COVID-19 infection is the disasters, and to share knowledge, judgments and actions is recommended with everyone [18]. The impact of COVID-19 will be hopefully to bring positive direction for medical care, society and economy.

## Conflict of Interest

None.

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