

## Factors Related to Deaths in Nursing Homes and not in Hospitals in Japan

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### Abstract

**Objective:** To analyze the factors related to deaths in nursing homes and not deaths after being transferred to hospitals in Japan in the context of the current policy.

**Method:** Three questionnaire surveys were made on 653 randomly selected nursing homes in 2009. The first was on facility characteristics. The second was on the characteristics of residents who had died in the facility or had died in hospital after being transferred. The third was on the quality of care as evaluated by the family members of decedents.

**Results:** There were 371 (57%) responses in the first, 241 (37%) in the second and 92 (14%) in the third. The facility variables related to a higher proportion of deaths in nursing homes were the physician being based in designated home care supporting clinics and the facility's policy to provide EOL care. The resident variables were pneumonia not being the cause of death, family's preference and agreement among family members on the nursing home as the site of death. However, being a designated EOL care facility, which is the condition to bill for the EOL bonus, was not significant. The quality of end-of-life care in nursing homes was generally better than in hospitals.

**Conclusion:** The percentage of residents' deaths within the facility has continued to increase. Financial incentives by the Japanese government appear to have had an effect. Our results may be relevant for the "housing with assistance" which is currently being promoted by the government.

**Keywords:** Nursing home; End-of-life care; Japan; Long term care insurance; Site of death; EOL care bonus; Quality of care; Assisted housing

### End of Life Care in Japan

In this article, we first review the current policy moving end-of-life care from hospitals to other sites in Japan. Next, we reinterpret the results of the two questionnaire surveys we had made on nursing homes [1,2]. Both surveys were approved by the institutional review board of our medical school which we were both based at that time.

Three-quarters (75%) of all deaths occur in hospitals in Japan, probably the highest proportion in the world. In contrast, only 5.8% occur in nursing homes in 2014 [3]. The government has been trying to move the site of death from hospitals. Hospitals in Japan provide not only post-acute care, but also a substantial proportion of chronic care. In particular, one-fifth of the hospital beds are categorized as "convalescent" with average lengths of stay of 176 days [4]. In contrast, Japanese nursing homes have played minor role was because they were first established in 1963 as a social welfare institution for elders who are of low income and/or without family support. Coverage by physicians is "as needed", which usually takes the form of contractual arrangements to make scheduled visits on a weekly basis. These standards were have not been revised. However, since the implementation of the public long-term care insurance (LTCI) in 2000, the applicant's eligibility level based on their functional status has come to be given greater weight [5]. As a result, residents have become progressively frailer. 68% of the residents were in Levels 4 and 5, the two most severe eligibility levels of the LTCI [6]. For every 100 residents, there must be 3 or more nurses, 31 or more care staffs and 1 or more social worker. Each resident must have an individual care plan and a daily activity program. About two-fifth of the residents were in single rooms [6]. The average size of the facility was 68.7 beds [7]. Nursing homes have been very popular. There are long waiting lists, averaging longer than 1 year to be admitted [8]. One reason why they are so popular is because the LTCI used to pay for 90% of the care costs, and, for low-income elders, also most of their hotel costs. Those with middle to high income used to pay about

US \$700 (rate of 120 Yen to dollar) monthly for a shared room with 4 beds and \$1300 for a single room. Those with low income used to pay only \$400 with the rest covered by LTCI. These benefits led to serious fiscal consequences. To mitigate the burden, from 2015, the copayment of the care costs was increased to 20% for those with above average income, and the elders' assets, not just income, came to be assessed for the reduction in hotel costs. However, these measures are not likely to mitigate the increase in demand because even with increases in hotel costs they would still be generally lower than those in special housing being promoted by the government.

In order to promote end-of-life (EOL) care in nursing homes, the government has been relying mainly on a method long used in healthcare: financial incentives in the fee schedule [9]. That is, by establishing new fees, the government indicates its policy goals and provides a financial basis for achieving them. When doing so, measures are also taken to assure quality by setting conditions for billing the new fee. In 2006, the LTCI fee schedule set a per diem bonus payment to encourage. The conditions for billing the EOL care bonus, first, the nursing home must meet the standards of a designated EOL care facility: employing a full-time registered nurse, having a 24 h on call system for nurses (who could be employed either by the nursing home or be based in hospitals or visiting nurse agencies), having a policy on EOL care that is explained to residents and their families on admission,

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holding seminars on EOL care for the staff, and having a private room available for EOL care. The government policy has had some effect. The number of deaths in nursing homes has doubled from 16,788 in 1999 to 36,814 in 2009, which is more than the 50% increase in the number of nursing home beds from 291,631 to 432,284. When the annual number of deaths in nursing homes is divided by the number of nursing home beds, the annual rate of increase was 0.2% between 1999 and 2005, and 0.7% after the introduction of the EOL care bonus in 2006 [10].

## Overview of Our Studies

To clarify the facility characteristics and residents' characteristics that are associated with a greater likelihood of deaths in nursing homes, we conducted a national survey of nursing homes in 2009 [1]. Our study is the first to be conducted after the introduction of the EOL care bonus payment and to address the last issue.

We mailed questionnaires to an 11% random sample of 653 nursing homes. We respectively received responses on facility characteristics from 371 (response rate: 57%) and on individual resident characteristics from 241 (response rate: 37%). The latter responses totaled 1158, which included those who had been transferred to hospitals and died there within 3 months, and not just those who had died within the facility. The percentage of deaths in nursing homes of the resident survey (47.3%) were somewhat higher than that from the facility survey (44.9%). The percentages of facilities meeting standards for EOL care was somewhat higher, 64.7% in the facility survey and 67.6% in the resident survey, compared with 60.3% in the national dataset. 94% were owned by social welfare organizations, which was the same as the national average. For-profits are prohibited from owning nursing homes. When compared with a similar survey conducted in 2002, the proportion of nursing home residents who had died in the facility has increased from 28.6% to 44.9% [11].

In the resident survey, the average age of residents who had died in nursing home was 89.2 (SD: 7.7) and the average length of stay was 4.2 (SD: 3.8) years, both of which were somewhat higher than those who had died in hospitals. The preference for the place of death was known in only 16.4% of total residents. Multiple logistic regression analysis showed the following significant factors. Facility characteristics related to deaths in nursing homes were their policy of providing end-of-life care (OR=1.57, 95% CI=1.13-2.16), and physicians being based in home care supporting clinics (OR=2.05, 95% CI=1.26-3.33). Resident characteristics related were not having pneumonia as the cause of death (OR=4.54, 95% CI=3.12-6.67), the family's preference of the nursing home as the site of death (OR=16.62, 95% CI=11.38-24.27) and agreement within the family (OR=1.73, 95% CI=1.18-2.52). Some factors significant in bivariate analysis are excluded in multivariate step-wise model. The resident's age, levels of dementia and eligibility, and hospital admission 3 months prior to death were not selected. Being designated as an EOL care facility was not a significant variable even when the variable was forced entered.

For the third study [2], we compared the nursing homes' quality end of life care with hospitals, and with their counterparts in the United States, using the Toolkit questionnaire, consisting of items, such as response to pain, appropriateness of physician's communication, and overall satisfaction [12]. The questionnaire was mailed by the facility to the decedent's family. For nursing homes, requests to do so were included in the 2009 study already described. Of the 653 nursing homes, 92 (14.1%) cooperated. For hospitals, the questionnaire was part of another survey conducted in 2008 at all 5 hospitals in a city [13].

In Japan, nursing homes were evaluated as providing better care when compared with hospitals for most items, including emotional support for residents, communications with physicians and emotional and informational support for the family. One reason could be differences in expectations. Families of hospital patients may have had higher expectations because a physician is always physically available, which is not the case in nursing homes. Among bereaved family members, transfers to hospitals at EOL have been reported to result in less satisfaction. This tendency is likely to be more so in Japan because the quality of nursing home care is generally perceived to be of high [12].

## Discussion

Following the implementation of the bonus incentive for nursing homes to have their residents die within the facility in 2006, there have been consistent increases in their proportion: from 3.2% in 2009 to the current level of 5.8% in 2014. The change in the nursing homes' policy was probably the main reason. The risk of nursing homes not transferring residents who would have preferred to die in hospitals in order to obtain the EOL care bonus is probably not high. Nursing home ownership is generally restricted to either local governments or to the heavily regulated social welfare organizations which are much less driven by financial incentives than healthcare organizations. If the government wishes to further increase the proportion of the nursing home as a site of death, the focus should be on the quality, and not just the presence of nurses, and on redefining the function of nursing homes from that of a social welfare organization providing an asylum for low income elders to that of providing EOL care to those who prefer not to receive aggressive treatment. The managers in the facility should make effort to improving the skills and the motivation of the staff. Recently studies focusing on the stress of the care workers providing end-of-life care have increased in Japan [14]. Further studies on how to better coordinate physicians practicing in clinics and other professionals in the community should be made.

The fact that only the preferences of the families, and not on those of the residents, had impact was probably due to the fact that residents were already too debilitated by the time they were admitted to the nursing home and had not revealed their preferences when they were still able to do so. Advance directives have not been legislated in Japan, and according to one report, less than 3% of the general population have actually written a living will [15]. Advanced care planning which has started to be implemented in Japan may be more effective in confirming preferences [16].

However, the first problem is that even if the proportion deaths in nursing homes were to increase from 44.9% in our facility survey to two-thirds (which was the ratio for residents staying three or more months in US nursing home in 2005 [17]), the proportion of deaths in nursing homes would only increase a few percentage of all deaths. The reason why the percentage will continue to remain at this level lies in the low turn-over rate. Our survey showed that the annual number of discharges due to death within the facility was only 7.5 per 100 beds and their average length of stay was over 4 years.

The second problem is that there have never been enough nursing homes. Despite the increase in beds, waiting lists have not shortened. The government has recently shifted its policy to encourage other new types of facilities, such as "housing with care" [18]. Since they are technically categorized as "housing," LTCI benefits are limited to care services, and do not cover any of the bed and board charges (which are set by the facility and paid wholly by the resident). Thus, these new

types of facilities are preferable for the government because they are less expensive than nursing homes. However, if residents could not afford to pay the bed and board charges, they would have to be funded by public assistance. Thus, the net decrease in government expenditures may not be as great as the government expects.

## Conclusion

In order to shift the site of death from hospitals to nursing homes and “housing with care”, the bonus payment would not be enough. The role of nurses is particularly important. Their contributions should be acknowledged not just by their staffing level, but also by their role in improving the quality of care. Our study comparing those who died within the facility and those transferred to hospitals among nursing home residents should provide a basis to decide which aspects would have impact on quality.

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