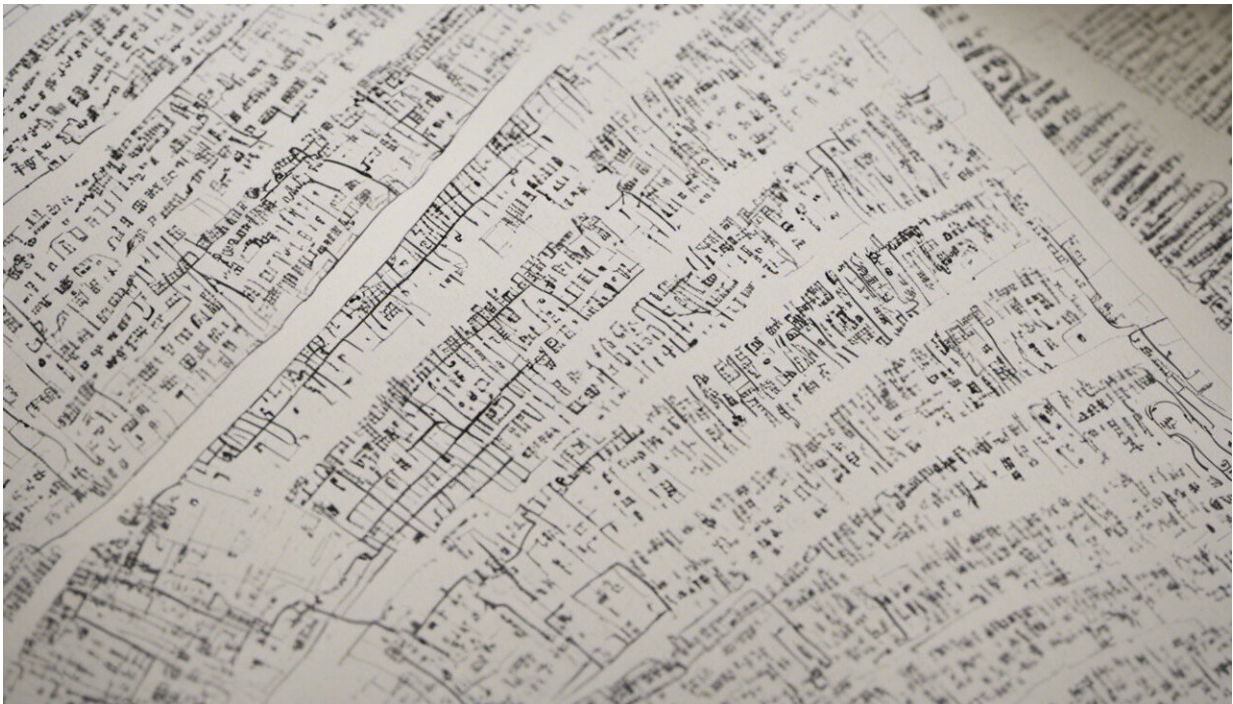


Predicting the need for frequent emergency house calls to elderly patients in Japan

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Credit: AI-generated image ([disclaimer](#))

In Japan's rapidly aging society, elderly people commonly receive medical treatment at home from doctors who make house calls instead of in a hospital setting. The doctors who provide this service are based at home support clinics and hospitals (HCSCs). In addition to making regular visits to the patients, these doctors must also be ready to make

emergency house calls on patient request—this service is available on a 24-hour basis.

In a study published this month in *BMC Primary Care*, researchers from the University of Tsukuba have revealed several key factors that can be used to predict which patients are most likely to require frequent emergency [house calls](#).

The first factor is whether a patient is receiving home oxygen therapy. The second is whether they have been classified as belonging to "care level need 4–5" under the government's long-term insurance care system (that is, the highest level of need for care). The third is whether they are receiving treatment for cancer.

"Not knowing when they will be called on to make an emergency house call is a major problem for the doctors in the HCSCs," comments lead author of the study Professor Nanako Tamiya. "We were interested in seeing if there was a way to predict which patients were most likely to require frequent emergency house calls so that the doctors could get a better sense of where they will be needed."

To investigate this question, the researchers looked at [medical insurance](#) claims records and long-term care insurance claims data for about four thousand patients over the age of 65 in Tsukuba City and Kashiwa City (both in the vicinity of Tokyo) over a four-year period from 2014 to 2018. They looked at various factors that might be relevant to the likelihood of emergency house calls being needed, ranging from various medical conditions to the need to conduct [medical procedures](#) at home, and used them to develop a risk-scoring model to assess the likelihood of emergency house calls.

"We selected 19 factors as candidates for predicting the need for frequent emergency home visits," explains Professor Tamiya. "We were

able to narrow these down to the three most significant predictors: home oxygen therapy, care level need 4–5, and cancer."

The study's findings promise to be useful in allocating medical resources. For example, [elderly patients](#) identified as being at high risk of requiring emergency house calls can be assigned to enhanced HCSCs with greater numbers of [doctors](#), thus relieving the pressure on smaller clinics.

More information: Yu Sun et al, Development and validation of a risk score to predict the frequent emergency house calls among older people who receive regular home visits, *BMC Primary Care* (2022). [DOI: 10.1186/s12875-022-01742-7](#)

Provided by University of Tsukuba

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