

Elderly may face increased dementia risk after a disaster

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Elderly people who were uprooted from damaged or destroyed homes and who lost touch with their neighbors after the 2011 tsunami in Japan were more likely to experience increased symptoms of dementia than

those who were able to stay in their homes, according to a new study from Harvard T.H. Chan School of Public Health. The study was the first to look at dementia as a potential health risk in the aftermath of a disaster.

The study will appear online October 24, 2016 in an Early Edition of the *Proceedings of the National Academy of Sciences* journal (PNAS).

"In the aftermath of disasters, most people focus on [mental health issues](#) like PTSD," said Hiroyuki Hikichi, research fellow at Harvard Chan School and lead author of the study. "But our study suggests that cognitive decline is also an important issue. It appears that relocation to a temporary shelter after a disaster may have the unintended effect of separating people not just from their homes but from their neighbors—and both may speed up cognitive decline among vulnerable people."

The Harvard Chan researchers, working with colleagues in Japan, were able to conduct a "natural experiment" among a group of elderly residents of the coastal city of Iwanuma, located about 80 kilometers west of the earthquake epicenter, where nearly half the land area was inundated by the tsunami. Seven months before the disaster, elderly residents of Iwanuma had been surveyed about their health as part of an ongoing study of aging called the Japan Gerontological Evaluation Study (JAGES). Two-and-a-half years after the tsunami, the researchers conducted a follow-up survey among the same group.

Out of 3,566 survivors of the tsunami disaster aged 65 or older—some who were able to remain in their homes and some who were forced out—38.0% said they lost relatives and/or friends and 58.9% reported property damage. In the pre-tsunami survey, 4.1% of respondents had been assessed with dementia symptoms; after the tsunami, the percentage jumped to 11.5%. The prevalence of stroke increased, from

2.8% to 6.5%, as did the prevalence of hypertension (54.0% to 57.2%). The percentage of people who reported not interacting with their neighbors—not even with greetings—nearly doubled, from 1.5% to 2.9%.

Those who wound up in temporary housing after their houses were either destroyed or sustained major damage had the highest levels of cognitive decline. There was a strong dose-response association: People whose houses were more severely damaged experienced more [cognitive decline](#). Depression and declines in informal social interactions with friends and neighbors appeared to play a role in the link.

By contrast, loss of relatives and/or friends did not seem to impact cognitive abilities.

More information: Increased risk of dementia in the aftermath of the 2011 Great East Japan Earthquake and Tsunami, *PNAS*, www.pnas.org/cgi/doi/10.1073/pnas.1607793113

Provided by Harvard T.H. Chan School of Public Health

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