## LETTER TO THE EDITOR



## Challenges and future directions in breast cancer care in Fukushima prefecture in Japan: correspondence to "A survey on the current status of clinical resources for diagnosis and treatment of breast cancer in rural hospitals of the Tohoku region in Japan"

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Ishikawa et al. investigated the current status of breast cancer care in rural hospitals in Tohoku and reported that breast cancer surgeons of these hospitals who responded to the survey emphasized the importance of treating patients in their own hospitals rather than referring them to larger urban hospitals [1]. However, we are concerned that the authors do not cover all potential problems faced by rural hospitals in Tohoku currently. The lead author of this correspondence also responded to the survey.

First, the authors did not discuss the impact of the 2011 triple disaster (earthquake, tsunami, and the Fukushima Daiichi Nuclear Power Plant [FDNPP] accident) on the region. Iwate, Miyagi, and Fukushima prefectures were severely affected, and Fukushima—which houses FDNPP in its coastal area—experienced particularly devastating and longterm damage. Concretely, the proportion of symptomatic breast cancer patients who delayed their first medical consultations increased in Minamisoma City—located 10–40 km to the north of FDNPP—after the disaster, and such changes continued for 5 years after the disaster [2]. This could be potentially explained by lowered prioritization of one's own health due to post-disaster confusion and reduced support from families and friends owing to mass evacuation [2, 3]. Contrastingly, the time to treatment inception in the city was comparable before and after the disaster; additionally, the post-disaster patients were able to continue receiving post-treatment surveillance [3, 4], thus indicating the importance of local facilities and physicians providing comprehensive breast cancer care in patients' residential areas. Some survivors in Fukushima were evacuated to other prefectures in Tohoku and may have been cared for in rural hospitals. Therefore, breast cancer surgeons in areas outside Fukushima ended up having similar awareness levels; this may have contributed to the present survey findings.

Second, the authors did not provide the clinical implication of survey findings in the context of the global pandemic of coronavirus disease (COVID-19). However, the role of rural hospitals cannot be emphasized enough given the COVID-19 pandemic, which has affected many healthcare delivery aspects. Since the outbreak intensified in Japan in early 2020, it became challenging for rural hospitals in Tohoku to refer new breast cancer patients to urban hospitals owing to concerns regarding COVID-19 transmission such as contracting or transmitting the infection. Further, some rural patients who had regularly visited urban hospitals opted to receive care at rural hospitals during the pandemic, underlining the increased collaboration between urban and rural hospitals. This emphasizes the importance of preparing for organized breast cancer care in each area.

Breast cancer facilities in Fukushima have already implemented some novel approaches to mitigate these issues. Specifically, Fukushima Medical University has taken the

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initiative to conduct a remote Breast Cancer Board Meetings monthly, ensuring a system that allows easy consultation for difficult cases at rural hospitals. While these initiatives are particularly important in Tohoku because of its large area, we believe that they have important implications in other regions as well, given the difficulties faced in Japan in controlling the COVID-19 pandemic.

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## Declarations

**Conflict of interest** Dr. Ozaki receives personal fees from Medical Network Systems outside the scope of the submitted work. The other authors declare no conflicts of interest.

**Research involving human participants and/or animals** We did not obtain ethical clearance from institutional review boards since we judged that ethical review is not applicable to this work.

Informed consent Not applicable to this work.

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