



LETTER

Response to Letter by Yu

Dear Editors:

We appreciate Yu's comments on our article, which give us an opportunity to clarify the methodology and elucidate the findings of our study. Yu's concerns about the suitability and reliability of applying the ICD-9 system to our study are legitimate. However, we would like to assure the readers that we have taken several careful and necessary procedures to ensure the quality of mortality data in this study. First, medical professionals, insurance agencies, and governments in Taiwan have used the ICD-9 system to code death certificates to fulfill legal requirements, determine compensation, and make public policy for many years. All the death certificates were issued by doctors and then sent to the Taiwan Department of Health, Office of Statistics, for tabulation. Each death certificate's underlying cause of death (UCD) was selected and verified by coders in the Office of Statistics according to the ICD-9 selection rules. Second, the Taiwan Department of Health formed a special task force of doctors and coders to re-evaluate the earthquake-inflicted deaths after the 1999 Taiwan Earthquake. The task force confirmed a total of 2347 deaths attributable to the 1999 Taiwan Earthquake and published these death certificates with an E909 code and UCD codes. The other governmental agencies then used this list to distribute medical as well as social welfare compensations to the victims' families and relatives.

It is, however, possible that some of these 2347 deaths could have already had pre-existing diseases. Unfortunately, we are not able to obtain such information from a population-based study. Additionally, it is not practical to measure the reliability of ICD-9 codes in a disaster as large as 2347 deaths at the same time. In general, the rescue work is too difficult to code mortality completely at the time of the earthquake. We agree that some people with invisible impairment and physical impediment may have higher probability of death at the time of the earthquake. But lack of data on pre-existing diseases in death certificates limits our investigation on vulnerability to gender and age in this article.

We do not think the generality is a problem for our findings of the earthquake's prolonged effects on mortality. Even though there were 13 other counties and cities affected by the 1999 Taiwan Earthquake, the majority of deaths and injuries occurred in Nantou and Taichung counties, which together accounted for 85% of the deaths and 69% of the injuries (1). Therefore, our results should be applicable to earthquakes where disaster areas are defined by the

similar criteria as we did for the 1999 Taiwan Earthquake, which are two most severely damaged counties surrounding the epicenter.

As an important life event, earthquakes may have adverse effects on psychological health, chronic diseases, and quality of life for residents in the disaster areas (2–4). Currently, we have submitted another article for publication which describes the effects of earthquakes on quality of life. We have also completed a study on suicide after an earthquake which is being prepared for publication. As stated in the last paragraph of our article, we have also established cohorts of public employees and survivors in Nantou County for long-term follow-up of earthquake-related health effects. We would like to update readers on our findings once we have completed the first phase follow-up by the end of 2004.

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