

# Hospital Disaster Preparedness in Osaka, Japan

Eric K. Noji, MD, MPH

Centers for Disease Control and Prevention,  
Atlanta, Georgia, USA

Correspondence: Eric K. Noji, MD, MPH,  
Disaster Assessment and Epidemiology  
Section, Centers for Disease Control and  
Prevention, Mailstop F46, 4770 Buford  
Highway, NE, Atlanta, GA 30341 USA

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Extensive disaster research during the past 30 years has shown that hospitals experience great difficulty coping with even moderate numbers of patients following a disaster.<sup>1</sup> The reasons for this difficulty include confusion, lack of planning, and lack of emergency training. Hospitals also often are not well-integrated into overall community disaster planning. I want to congratulate the authors of the excellent article "Hospital Disaster Preparedness in Osaka, Japan," Tatsuro Kai, MD, Takashi Ukai, MD, PhD, Muneo Ohta, MD, PhD, and Ernesto Pretto, MD, in Vol. 9, No. 1) who have made an important contribution to this body of literature by reporting on the state of hospital disaster preparedness in one major city in Japan. I hope to see many more such articles on the current state and development of disaster medicine in Japan reported in the English-language disaster medicine literature. Japan has taken a growing leadership role in the emerging field of disaster medicine, as evidenced by the achievements of the Japan Disaster Relief Team (JDR) and the hosting of major disaster medicine congresses in Japan (e.g., First Asian-Pacific Conference on Disaster Medicine in Osaka in 1988 and the second in 1992 in Chiba City).

The article by Kai et al is timely, especially in view of several recent catastrophes striking this island nation (e.g., the Okushiri earthquake near Hokkaido, the volcanic eruptions of Unzen and Sakurajima, severe typhoons, and the ever-present potential for industrial accidents).<sup>2,3</sup>

The questionnaire was developed by the authors to elicit information about critical resources that would be needed for adequate hospital operations during a disaster. In general, the authors concluded that hospitals in the Osaka area that completed this questionnaire are not prepared to deal with emergencies producing large numbers of casualties nor

are they able to send hospital-based medical teams to the site of the disaster.

The authors' findings were striking (and surprising)—a total of only 16% of hospitals surveyed in Osaka had an external disaster plan, with only 8.3% performing disaster drills based on these plans. Furthermore, 93% did not have a plan to accept casualties during a disaster if all beds were occupied. I agree with the authors that it is doubtful that these hospitals would be able to respond adequately to a future disaster such as an earthquake, or even a smaller mass-casualty incident resulting from a transportation accident. This lack of preparedness by hospitals for an external disaster such as an earthquake was a great surprise to me in view of the high degree of disaster preparedness that other disaster mitigation and emergency management sectors display in Japan, from the participation of whole communities in realistic earthquake drills to the mandating of strict anti-seismic building codes.<sup>4</sup>

The lack of understanding or an unwillingness to plan for hospital response in disaster by the institutions surveyed was illustrated by the fact that most of the hospitals in this survey (81%) stated that it would be impossible or unnecessary to perform disaster drills in the near future. This lack of enthusiasm for disaster planning perhaps was illustrated further by the fact that only 48% of the hospitals in the region that were sent the questionnaire actually responded to the survey. Thus, as Kai et al point out, the results obtained may not be representative of all the hospitals who actually were mailed surveys. Expanding on this latter point, I wonder if the same state of hospital disaster planning found in the Osaka region also is true in other disaster-prone urban areas in Japan such as the coastal city of Shizuoka, site of the predicted "Great Tokai Earthquake."<sup>5,6</sup>

The authors state that one of the difficulties in stockpiling drugs and medica-

tions for disasters is the uncertainty with what types and quantities of drugs and other medical supplies would be most appropriate to be stored in preparation for a medical disaster. The World Health Organization has addressed this very problem by developing a standardized list of drugs and medical supplies useful in meeting priority health needs in most types of emergencies.<sup>7</sup>

Unlike the United States, in Japan, accreditation of hospitals does not require health care facilities to have an external disaster plan (i.e., when the hospital sends medical teams to care for patients at the disaster site). Based on results of their study, the authors conclude that hospitals in the Osaka region do not see disaster preparedness as a high-priority issue. Furthermore, the authors also feel that hospitals will not remedy this situation on their own in a timely manner, and that it will be necessary for either the government to compel hospitals to develop external disaster plans or not be able to get accreditation, as is the case in the United States (manual of the Joint Commission for the Accreditation of Healthcare Organizations [JCAHO]). Regarding the latter recommendation, I would be most interested in learning about possible strategies that health professionals interested in improving hospital preparedness for disasters could use in convincing policymakers to introduce such legislation or making this a hospital accreditation requirement in Japan. Introducing and passing such legislation that would mandate regulations to which all hospitals in the country would have to comply, would be a difficult and prolonged process at a national level in the United States.

Other questions to include in future hospital disaster-preparedness surveys would be: 1) how well-integrated is hospital disaster planning with local and regional emergency planning (this is especially important regarding disaster notification and communications, transportation of casualties, and provisions for dispatch of hospital medical teams to a disaster site); 2) are there pre-arranged mutual-aid agreements with hospitals outside the immediate area should hospital capacities be exceeded; 3) does the hospital have provisions for emergency treatment and decontamination of individuals who are contaminated radioactively or chemically (particularly important for a city such as Osaka, in the heart of the Hanshin industrial belt); and 4) does the hospital have plant safety personnel or arrangements with local structural engineers to determine if the hospital itself has sustained any structural damage or loss of utility as a result of a disaster (if the hospital's structural integrity has been compromised, it may be necessary to evacuate staff and patients)?

Improving hospital disaster planning and preparedness is obviously a high priority among disaster medicine experts in Japan, since I had the pleasure of listening to several presentations on this topic at the Second Asian-Pacific Conference on Disaster Medicine in 1992.<sup>8-10</sup> In conclusion, I look forward to reading many more such excellent reports from Japan—a country that clearly has made major contributions to the development of disaster medicine during the past decade.

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