

Risk factors for injuries due to the 1990 earthquake in Luzon, Philippines*

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On 16 July 1990, an earthquake measuring 7.7 on the Richter scale struck the island of Luzon, Philippines. A case-control study was carried out to identify the risk factors for earthquake-related injuries and at the same time observations were made on the rescue efforts.

Being hit by falling objects was the leading cause of injury (34%). Those injured during the tremor were more likely to have been inside buildings constructed of concrete or mixed materials (odds ratio, 2.6; 95% confidence interval (CI), 1.7-4.1) and to have been on the middle floors of multistorey buildings (odds ratio, 3.4; 95% CI, 2.2-5.5). Leaving a building during the earthquake was a protective behaviour (odds ratio, 0.3; 95% CI, 0.2-0.8). Of the 235 survivors who were trapped and rescued alive from the rubble, 99% were rescued within 48 hours of the impact of the tremor.

These findings should prove useful in developing seismic safety codes. People should be taught proper evasive actions to take during earthquakes, and training in basic first aid and methods of rescue should be an integral part of community preparedness programmes.

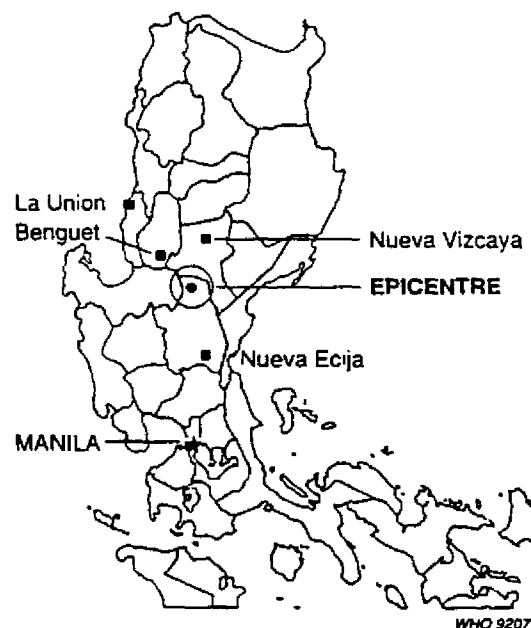
Introduction

On 16 July 1990, at 16h30, an earthquake of magnitude 7.7 on the Richter scale struck northern and central Luzon Island in the Philippines, resulting in substantial morbidity and mortality as well as widespread damage. Officially, 1283 deaths and 2786 injured survivors were reported. Many more injuries and deaths were probably not recorded, especially in remote mountainous areas where landslides occurred. Among the areas severely affected were the mountain city of Baguio, in Benguet, the coastal areas in La Union, and the provinces of Nueva Ecija and Nueva Vizcaya (Fig. 1).

Teams from the Field Epidemiology Training Program (FETP), Philippines Department of Health, in the course of relief efforts, carried out a study to determine the risk factors for injuries and deaths. Observations were made also on the rescue and

medical efforts. Knowledge about the factors associated with death and injuries in earthquakes should prove useful in formulating appropriate public health responses to similar disasters.

Fig. 1 Map of Luzon Island, Philippines.



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