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Title of the Session: Earthquake preparedness and response among local communities: the interaction of human and environmental factors and their role in human vulnerability and injury prevention.

Date: 30/03/2015 to 05/04/2015

Summary

Earthquakes are liable to become disastrous and lethal events, especially when striking dense population centers. Countries that have not yet implemented strict seismic building codes, strengthened existing structures and took measures to increase the population's preparedness might suffer severe consequences should an earthquake occur in their region. Damage to structures is considered the most important factor which causes injury and death in earthquake events worldwide; however, factors relating to human characteristics and behavior prior, during, and after the event are additional possible contributors to the increase in vulnerability of the exposed population, and thus may play an important role in earthquake risk mitigation.

Context

Earthquakes pose substantial risks for human health. Global trends toward urbanization combined with an increase in population density, poverty, and social gaps, increase the vulnerability of urban centers in the face of natural disasters, including earthquakes. One recent example of this is the 2010 Haiti earthquake which claimed the lives of more than 300,000 people. While damage to buildings is considered the most important factor causing injury and death in earthquake events worldwide, the populations that occupy buildings have various characteristics in different countries and regions, which may play a crucial part in enhancing or reducing vulnerability to earthquakes, ultimately influencing the number of casualties in a given event.

Individuals which are considered as more vulnerable to earthquakes are: women, young children and elderly persons, and physically disabled individuals; their vulnerability usually derives out of their limited or absent ability to take self-protective strategies such as fleeing collapsing structures during an earthquake or taking cover from falling objects.

Vulnerable households are usually those with low socioeconomic status (generally in terms of income), which often reside in poor housing environment that is highly vulnerable to seismic hazards. Disaster preparedness requires a great deal of material and non-material resources that may be lacking among these populations.

Communities that are implementing preparedness plans, including training of local "search and rescue" teams, providing food and shelter for displaced population and rapid medical aid for casualties may reduce earthquake related risks and consequences in their respective regions.

It is important to note that all these factors interact among them and with other environmental factors such as vulnerable housing or disaster-prone areas (e.g. location on

steep slopes which may cause landslides during an earthquake or proximity to the earthquake's epicenter) to enhance or impede the vulnerability of the affected population. A better understanding of the risk factors associated with earthquake-related injury and death and the risk attributed to environmental factors is essential for implementing effective risk reduction plans.