

Improving the Realism of Radiological-Nuclear Training Exercises: Results of a New Study

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Introduction: Disasters and emergencies involving radiation can produce numerous social and behavioral impacts, including shadow evacuations, seeking of medical attention by large numbers of people fearful of potential contamination, and stigmatizing of individuals, products and communities perceived to be associated with the incident. Indeed, these, and related impacts, can constitute some of the most important and challenging public health effects of a radiological-nuclear incident. At the present time, it is unclear whether or how such issues are being addressed in preparedness training exercises.

Methods: With support from the Radiation Studies Branch, Centers for Disease Control and Prevention (CDC), a study (2006–2008) was performed by researchers at the University of Alabama at Birmingham. The aim was to determine how social and behavioral issues are addressed in radiological-nuclear exercises. Radiological-nuclear exercise reports, guidance materials, and related items were gathered, and a systematic review and analysis of the documents was conducted.

Results: Initial findings from the study suggest that only about half of radiological-nuclear exercises deal with key social and behavioral issues. Where such issues are included, they tend to receive relatively little attention, components are typically small in scope, and the most difficult challenges often are “assumed away.”

Conclusions: Even though social-behavioral issues are central in radiological-nuclear incidents, opportunities to practice coping with them in training exercises are quite limited. If preparedness training is to be realistic and useful, this problem urgently needs to be addressed. The present study provides a series of recommendations toward this end.

Keywords: behavioral; nuclear; preparedness; radiological; social; training

Prehosp Disast Med 2009;24(2):s156

Designing a Medical Preparedness Model for Responding to Radiological Emergencies

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Introduction: The medical system has an important role in response to a radiological emergency. Although the Radiation Emergency Medical Preparedness and Assistance Network (REMPAN) exists, every country must provide elements of preparedness of a national medical system for managing radiological emergencies.

Methods: A research group consisting of experts reviewed the literature and related plans; International Atomic Energy Agency (IAEA) standards also were considered.

Based on a three-level approach, preparedness elements of the national medical system were determined.

Results: An emergency medical services (EMS) team for each district is to be trained. The competence of the team members, requisite equipment, procedures for rapidly preparing an ambulance, triage, and decontamination procedures were compiled. For each province, a prepared general hospital and its teams should develop: (1) radiological assessment capability; (2) triage; and (3) decontamination preparedness intervention. A radiation emergency receiving area, equipment list, personal protective equipment, and cooperation with specialized centers were considered. Each country must have a specialized hospital for medical management, training, and connection with REMPAN. All specialized departments, unique instruments, specific drugs, and necessary procedures were defined. Also, the development of a mobile medical support team that could be accessed from the region.

Discussion: Although radiological emergencies are rare, a national medical system must provide a comprehensive emergency management plan and be prepared for incidents.

Keywords: chemical, biological, radiological, nuclear, or explosive; emergency; model; preparedness; radiological emergency

Prehosp Disast Med 2009;24(2):s156

Chemical, Biological, Radiological, and Nuclear Preparedness Training for Prehospital Providers

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Introduction: This study assessed the self-reported theoretical and practical preparedness training of Canadian prehospital providers in chemical, biological, radiological, or nuclear events (CBRN).

Methods: A survey was designed to address the theoretical and practical CBRN training level of prehospital providers. emergency medical services (EMS) staff in British Columbia and Ontario were invited to complete the online survey.

Question	Yes n (%)	Total Responses
Practice performing procedures in PPE	463(58)	803
Mask fit-tested (other than N-95)	411(51)	801
Ever used gas mask with live agent	152(19)	800
Use PPE in exercise involving communication	263(33)	800
Use PPE in exercise with radio or telephone communication	201(25)	801
Called to provide care at contaminated scene	319(40)	797