ited services being available for life-saving surgery. Although the hospital's external disaster plan was not activated for this disaster, many components of it were, and contributed to both an effective disaster exercise, and contributed to both an effective response, and some valuable lessons in disaster planning.

Particular problems faced by the ACT included the absence of any large hospitals closer than Sydney, and the very limited resource of ACT Ambulance vehicles and crews which would be depleted quickly in the evacuation of patients to other hospitals. Access to interstate resources would be a vital part of the response.

014.
Role of the Department of Military Toxicology in Environmental Protection, Chemical Emergencies, and Disaster Management

O. Krs, J. Bajgar, J. Fusek
Purkyne Military Medical Academy, Hradec Králové, Czech Republic

The Department of Military Toxicology was established in 1952 as an unique, experimental, military medical institution dealing with chemical warfare agents (CWA). Our scientific work and teaching activities have been focused mainly on the mechanisms of CWA action and development of antidotes and decontamination kits for defensive use. Industrial and environmental hazards only were of marginal importance from the military point of view during the past years. We have realized some problems and demands during our involvement in a few actions concerned with civilian toxicological topics, especially in the last five years, i.e., analysis and risk assessment of unidentified substances contained in more than 200 "roving barrels," chemicals of unknown origin stored in bunkers in east Bohemia or left in some former Soviet Army's garrisons.

We provided our own expeditious and universal method of inhalation toxicity estimation in a chemical storage bins fire. For the future, we can offer closer cooperation with civilian authorities based on detailed knowledge of chemical risks in the region, organizational and educational preparedness for toxic outbreaks and spills including chemical analysis, and special therapeutic advisement provided by our Antichemical Detachment, made up of Analytical and Therapeutic Teams, in support of civilian medical response.

In conclusion, the recommended approach should be reflected in material and organizational support in the frame of planned medical rapid reaction force of the Purkyne Military Medical Academy.

003.
The Experience in the Treatment of Patients with Trauma and Shock by the Prehospital Trauma Teams

Olga Y. Kuznetsova, MD, Efim Y. Danilevich, MD, Yuri M.Michailov, MD
St. Petersburg Medical Academy of Postgraduate Studies, St. Petersburg, Russia

Prehospital Trauma Teams (PTT) was organized in St. Petersburg in 1957. They provide qualified medical aid to about 6,000–7,000 patients annually, with 70%–80% complicated by shock. The comparative study reviewing the efficacy of hyperosmolar saline solution (first group of patients) and ketamine anesthesia (second group of patients) were compared to the routine treatment also provided by PTT (controls). Haemodynamic changes were measured by mean of noninvasive reoplethismograpfy method to help define the delay of the irreversibility of traumatic shock in the first two groups of patients (according to cardiac output and pulmonary vascular resistance).

The mortality rate during the first two days of follow-up similar treatment was 48.8% and 65.7% for group 1 and group 2, respectively, compared to that of the controls ($p<0.05$).

Therefore, we consider that:

1) Prehospital trauma teams provide the effective specialized medical aid in comparison to regular teams, and they have to play the holding role during mass casualties;

2) Prehospital treatment must require the adequate amount of hyperosmolar saline solution and ketamine anesthesia to delay the irreversibility of heavy trauma complicated by shock.

025.
Does the Number of Beds Reflects Hospital's Surgical Capability in Wartime and Disaster? The Use of Simulation Techniques at the National Level

L. Levi. D. Bregman, H. Geva, M. Revach
Trauma Research Unit, Rambam Medical Center, Haifa, Israel, Israel Defence Force-Medical Corps, and College of Management, School of Business Administration, Tel Aviv, Israel

Combining previous experience with modern simulation techniques is a better method to assess the nationwide surgical capability. It was estimated that the raw number of hospital trauma beds and occupancy is a rough method to assess the current surgical capability. To determine what load of casualties it will absorb efficiently, one needs a better criterion. We used simulation software under various disasters and wartime scenarios. There was a test for each hospital parameter under different loading of "standard casualties." Length and mode of load were up to a daily load of a 10% of the hospital trauma beds for 10 days (successive or intermittent). With increasing load, there was a constant decay in the standards of care measured by the average waiting time for injured patients to enter the operation room. There were different ways unique to each hospital of optimizing these waiting periods, e.g., reducing the load by diverting lightly injured patients from the major trauma centers (either before or after triage) and/or alternate days' shifts. Combining similar techniques with real time data, is a powerful method of optimizing nationwide health care under wartime and disaster.

https://doi.org/10.1017/S1049023X00501186 Published online by Cambridge University Press