into the environment.

Results: Effective emergency responses require that exposures for all involved populations be quickly and accurately assessed, interpreted, and communicated so that it can integrated into the decision-making process.

Conclusions: The threat of biological and chemical terrorism continues to be real and possible. The occupational hygienist can contribute significantly in the planning and execution of disaster responses.

Keywords: assessments; biological; disasters; exposure; hygienist, occupational; planning; response; terrorism

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Comparison of Effectiveness of Disaster Drill Methodologies: Table Top vs. Simulation Exercise

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The escalation of terrorism events in the world has prompted many healthcare systems to increase activities towards disaster preparedness. Included in these activities is the conduct of a variety of different types of disaster drills and exercises. Significant resources in terms of personnel time and effort are consumed for planning, conduct, and evaluation of these activities. In the hospital setting, money spent on these activities usually is diverted from another program. Thus, it is important to establish which activities are the most cost-effective. To date, little research has been published that compares the effectiveness of different types of disaster drills.

This paper presents the findings of a study that was conducted at the Columbia University Center for Public Health Preparedness Center at the Mailman School of Public Health, and funded in part by the Achelis Foundation. A comparison was made between table-top and simulation drill exercises in terms of gains in knowledge, cost, and participant perception of usefulness.

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Keywords: cost-effectiveness; disaster; drills; exercises; simulation; table-top; terrorism

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Symposium: Assessment of the Public Health Effects of Complex Emergencies

Chair: Dr. Les Roberts

Director of Health Policy, International Rescue Committee

Measuring Mortality in Cross-sectional Surveys: Which Methods Are Best and Why?

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In emergency situations, mortality rates are critical indicators of a population's health status. When surveillance systems are not yet functioning or cannot be implemented, rates can be derived from data collected in population-based, cross-sectional surveys.

Unfortunately, such data collection methods are neither validated nor standardized, though three methods have been used widely. These methods include: (1) Past household census; (2) Current household census; and (3) Prior birth history. The past household census method lists all persons, along with their age and gender, who lived in sampled households at an easily remembered time point in the past, and then determines what has happened to each person since that time. The current household census method determines how many persons currently live in sampled households, and how many have died since a time point in the past. The prior birth history method asks women in sampled households about births and deaths during the previous five years.

These methods are subject to various biases and limitations. In some cultures, survey respondents may be reluctant to answer questions from strangers about family deaths, leading to an underestimate of the number of deaths and, ultimately, the death rate. Survey respondents also may recall deaths as occurring more recently than they actually did, thus overestimating the number of deaths during the time period of interest. The past-household census method allows calculation of different age- and gender-specific death rates, while the prior birth history method collects data only on children <5 years of age. These limitations and recommendations for additional validation studies will be discussed during the presentation.

Keywords: biases; births; brief history; census; cultures; data collection; death rates; indicators; limitations; measurements; past-household; surveys

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Food Security Surveillance in the Palestinian Territories

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Introduction: A two-year military confrontation between the Israeli Defence Forces and the Palestinian population has severely depressed the West Bank (WB) and Gaza Strip (GS) economies with restricted freedom of movement for civilians, prompting the likelihood of household food insecurity and the use of coping strategies to provide food.

Purpose: To determine the extent of food insecurity in the Palestinian population by using ongoing household surveillance.

Methods: Twenty households were surveyed every two weeks in each of 16 districts in the WB and GS. The survey queried: (1) Decreases in household food consumption; (2) Decreases in consumption of specific types of food; (3) Reasons for those decreases including selling assets for food; and (4) Households borrowing money for food.

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Results: Of the 4,480 cumulative households surveyed from 31 May until 01 December 2002, 57.0% reported a decrease in the amount of food consumed in the two weeks prior to the survey; 67.3% ate less high protein foods (meat, fish); 62.5% ate less fruits/vegetables; 44.3% ate less dairy; and 26.4% ate less basic grains. There were no significant differences in food consumption between WB and GS. The GS households had a greater prevalence of borrowing money and selling assets (57.2% and 25.2%, respectively) than the WB (49.4% and 16.2%, respectively). Lack of money was the primary reason for these activities in the GS (95.8%) and the WB (60.7%), although the imposed curfew was the reason given in 27.8% of the WB households. Markets were functional throughout the collection period.
Conclusion: Food insecurity in the WB and GS is mostly due to a depressed economy and diminished household purchasing power.
Keywords: assets, curfew; economy; food; Gaza Strip; households; insecurity; markets; money; West Bank
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Nutrition Survey in Mauritania

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Background: The Islamic Republic of Mauritania has been affected most by the drought in the Sahel region, as a result of the delayed rains and a low cumulative rainfall. World Vision conducted nutrition surveys in the Assaba and Tagant regions between 12 October 2002 and 02 November 2002, in order to estimate the levels of malnutrition among children age 6 to 59 months.
Methodology: The two regions were divided into four agro-pastoral zones, namely, Aftout, Kankossa, Kiffa/Guérou, and Tagant. Surveys were conducted in each one of the four zones using a two-stage cluster sampling methodology. A total of 3,619 children were measured.
Results:

Zone	Severe Acute Malnutrition		Global Acute Malnutrition	
	(%)	95% CI (%)	(%)	95% CI (%)
Aftout	(2.4)	(1.0–3.8)	(14.1)	(10.9–17.3)
Kankossa	(4.1)	(2.3–5.9)	(13.2)	(10.1–16.3)
Kiffa	(2.2)	(0.9–3.5)	(12.1)	(9.1–15.1)
Tagant	(2.4)	(1.0–3.8)	(10.9)	(8.1–13.7)
Total	(2.8)	(2.0–3.6)	(12.6)	(11.1–14.1)

The crude mortality rate in the survey sample was 0.47 deaths per 10,000 populations per day or 1.40 deaths per 1,000 per month, while the under-five mortality rate was 0.67 per 10,000 per day or 2.02 deaths per 1,000 per month.
Conclusion: The nutrition status of children in Mauritania is a concern, and requires the response of the international community. The current levels of malnutrition demand targeted food aid, in addition to therapeutic and supplementary feeding programs.
Keywords: children; crude mortality rate (CMR); food; Mauritania; nutrition
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Case Study: Bali: Lessons Learnt

Challenges in Victim Handling at the Sanglah Hospital after Bali Bombing

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Objective: To identify the challenges in the handling of victims after the explosions in Bali, and to develop strategies to address these problems.
Methods: Observations and review of experiences, reports, news, and other materials from organizations attending the victims of the bombing were summarized.
Results: First-aid provided at the site of the bombing area was poor, transportation to hospitals was limited, and preparedness for handling of massive numbers of casualties at the hospital was minimal.
Conclusions: The challenges created by the bombing in Bali included the lack of a prehospital disaster plan and intra-hospital disaster organization. Therefore, it is important to develop strategies for improving the prehospital and hospital disaster plan.
The Bali Blast Disaster

Time:	12 October, 2002, 23:15 hours
Location:	Kuta Beach Area, Bali, Indonesia
Type:	Terrorism bombing
Casualties:	138
Deaths:	183
Missings:	46

Keywords: Bali; bombing; disaster; explosion; first aid; hospital; prehospital; plans; victims
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International SOS Mass Casualty Evacuation - Bali 12 Oct 2002

Erika Nishimoto

Currently, International SOS is the largest medical assistance company worldwide, and has been involved in crisis management during international disasters, both natural and manmade, that have occurred during the last 28 years. International SOS works on behalf of its clients in an effort to ensure that medical care meets appropriate international standards, and that if such care is not available, these persons can be transported safely to the nearest centre of medical excellence, either by charter or commercial means. Dedicated air ambulances are stationed throughout the world, and access to charter aircraft is provided for mass evacuations.

Local medical support is provided on-site in locations such as Bali, to expatriates, tourists and locals, and a detailed knowledge of the local culture and medical capabilities is maintained.

Its role in the Bali disaster was a significant one, and, as the only privately run company involved in mass evacuation of casualties working alongside the Australian military efforts, provided a learning experience in planning and a

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