

health system interventions. The purpose of this study was to describe a multi-modal assessment using emergency medicine in post-conflict Serbia as a model.

**Methods:** Integrated qualitative and quantitative methodologies—system characterization and observation, focus group discussions, free-response questionnaires, and Q-methodology—were used to identify needs, problems, and potential barriers to emergency medical development in Serbia. Participants included emergency medical providers and administrators from all emergency medical institutions in Belgrade.

**Results:** Demographic data indicate a loosely ordered network of part-time emergency departments supported by 24-hour pre-hospital services and an academic emergency center. Focus group discussions and free-response questionnaires revealed significant impediments to delivery of care: poor system organization; lack of equipment, supplies, and medications; inadequate training and education; insufficient financial investment; few opportunities for professional development; and lack of incentives for emergency personnel. Q-methodology of provider perceptions and opinions supports these concerns and provides further insights by dividing respondents into distinctive types.

**Conclusions:** Combining quantitative and qualitative methodologies, this multi-modal study identified the critical needs and barriers to the development of emergency medicine in Serbia. This combined methodology may serve as a model for future health system assessments in the post-conflict, post-disaster, or development setting.

**Keywords:** assessments; barriers; conflict; emergency personnel; evaluation; funding; health; incentives; methodologies; multi-modal; needs; Q-methodologies; professional development; qualitative; quantitative; Serbia  
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### “Seven Rights” Evaluation Method of Japan Disaster Medical Team Activity

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**Background:** The Japan Disaster Relief Team (JDR) had a 20-year history and had dispatched the medical team more than 30 times. An early dispatch system was established to gather the members within 12 hours of notification. Currently, the main challenge of the JDR is to improve the quality of its activities. To improve the quality, it was important to establish a management cycle of “Plan-Do-See”, with particular emphasis on how to evaluate the quality, “See”. This evaluation method was used to test the activity of the JDR.

**Methods:** The related papers were summarized, and were discussed with experts.

**Results:** According to the standard OECD/DAC, Efficiency, Effectiveness, Impact, Relevance, and Sustainability were selected as evaluation criteria. Impact,

Relevance, and Sustainability were especially important to evaluate. However, it was difficult to evaluate these points for JDR activity because the duration of an activity was so brief. Instead, the criteria for Efficiency and Effectiveness were evaluated. To evaluate these qualities, three issues were discussed: (1) needs, (2) resources, and (3) management. From this discussion, the following seven “Rights” were selected as evaluation criteria. For the needs issue, the Right Time and Right Place were selected. For the resource issue, the Right Person, Right Materials and Right Technology were selected. For the management issue, the Right Information and the Right Coordination and Cooperation were selected.

**Discussion:** We propose using the seven “Rights” (Right Time, Right Place, Right Person, Right Materials, Right Technology, Right Information and Right Coordination and Cooperation) as evaluation criteria. These criteria had meaning for the evaluation of the process of an activity. This is an important first step in the establishment of an evaluation system of the JDR activity.

**Keywords:** Seven Rights; activities; criteria; evaluation; Japan Disaster Relief Team (JDR); quality  
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## Task Force Session: Communicable Disease Control in Disasters

*Chair: Prof. Kim Mulholland*

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### Implementation of an Extended Age-Range Mass Measles Campaign in Afghanistan

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Measles causes an estimated 35,000 deaths per year in Afghanistan, where infrastructure has been destroyed by 23 years of war. In 2001, a total of 8,762 measles cases were reported by 352 surveillance sites; 38% were among children  $\geq 5$  years of age. Guidelines recommend measles vaccination of children age six months to 12–15 years in emergencies. However, debate continues on the feasibility of implementing such campaigns on a nationwide scale during a complex emergency.

Following the events of September 11th, concerns about a potential measles outbreak against a background of poor access to healthcare, crowding, and the possible return of up to two million refugees prompted UNICEF, WHO, and NGO partners to target all Afghan children age six months to 12 years (estimated to be 9–11 million) for measles vaccination. Determining coverage is difficult owing to the absence of an accurate denominator. Preliminary results using a denominator based on the National Immunization Days for polio show an overall reported vaccination coverage of 75%, ranging from 59% in the west to 83% in the north and northeast. The number of reported measles cases fell from 8,762 in 2001 to 2,574 as of 30 November 2002, although routine measles vaccination coverage increased by only 3%. True vaccination cov-

erage will only be determined through population-based surveys, and success can only be measured by good quality surveillance. However, this campaign does suggest that implementing an extended age range measles vaccination campaign on a nationwide scale during a complex emergency is possible.

**Keywords:** children; complex emergencies; measles; polio; surveys, population-based; surveillance; vaccination

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### Modern Organization of the Work of a Tuberculosis Field Hospital for Rendering Assistance in Refugee Settlements

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In the world, practical experience of the work of tuberculosis (TB) field hospitals in emergencies is absent, and the development of main organizational regulations on rendering TB assistance is very important. In the Ingushetia Republic, the All-Russian Centre for Disaster Medicine (ARCDM), "Zaschita," established a 100-bed TB field hospital for early detection and prevention of TB in refugee settlements in accordance with WHO requirements. Its purpose was to treat patients in specialized TB institutions and to provide temporary hospitalization of seriously ill patients awaiting transport to medical institutions. A special TB team worked in the refugee settlements on early detection and prevention. A mobile fluorography unit was used and TB mycobacteria expectoration was collected from suspicious TB patients.

More than 12,000 patients were examined. Among them, according to complex examination, more than 1,500 different TB forms were revealed. By the structure of clinical TB forms the following was revealed: hematogenic disseminated TB in 23% of cases; infiltrative TB - 31%; fibrocavernous - 13%; extrapulmonary - 5%. Treatment was carried out with the complex agent Myrin-P or more than four tuberculosis agents. Drug resistance to TB mycobacterium was noticed in 5% to 7% of cases; to overcome it mycobutin was used.

An analysis of tuberculosis assistance in refugee settlements showed the possibility of using field hospitals and the necessity of integration with TB institutions of other regions.

**Keywords:** All-Russian Centre for Disaster Medicine; ARCDM; refugee settlements; TB; tuberculosis

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### Intervention in Measles Epidemics

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**Introduction:** Measles epidemics are dreaded, especially in developing countries where the disease has a far more serious course, and where the case fatality rate (CFR) is estimated at 3-4%. Even though a vaccination coverage of more than 70% has been achieved, the death toll is estimated to be 800,000-900,000 children yearly.

**Methods:** During an 18-month stay in the Yemen Arab Republic as Chief Medical Officer at Norwegian Save the

Children's Mother and Child Clinic, four rural areas reported ongoing measles epidemics. A team of four members went to the remote and poorly accessible villages to vaccinate the healthy children in the surrounding villages, and to treat the sick.

**Results:** Approximately 3,000 children were vaccinated during these vaccination campaigns. Nearly none of the children had been vaccinated before. In one village, most of the children were sick, and during two days, 70 children were treated for pneumonia.

**Conclusion:** The most common cause of measles mortality is pneumonia, but few studies have documented higher mortality in children with malnutrition. Serious complications like precipitating kwashiorkor, deafness, and blindness are frequent. The observation that survival was increased and blindness reduced when giving vitamin A, resulted in the routine administration of vitamin A in the Expanded Programme of Immunisation (EPI+).

The Global Alert Response Network (GOARN), initiated by WHO in 2000, registers and monitors epidemics worldwide. The Network also provides interventions when indicated. Acute interventions with treatment of sick children and vaccination in surrounding villages, if accessible, is needed to reduce mortality and serious complications in measles epidemics.

**Keywords:** children; epidemics; Global Alert Response Network (GOARN); measles; pneumonia; response; vaccinations

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### The Confluence of HIV/AIDS and Tuberculosis in the Philippines: A Disaster Waiting to Happen

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The interaction of AIDS and tuberculosis (TB) is a matter of great concern for many developing countries such as the Philippines. Tuberculosis kills some 25,000 Filipinos each year. The Philippine Department of Health reports that 67.3% of Filipinos are infected with the disease. The World Health Organization has determined that the Philippines is one of the 10 countries in the world that has not been able to control the infection.

While the Philippines continue to record a low and slow HIV/AIDS prevalence rate with a total of 1,967 individuals said to be infected, most of the opportunistic infections that have been treated are infected with tuberculosis. At the San Lazaro Hospital (SLH), one of the facilities in which patients with AIDS are housed, 76.5% of the admitted patients also have TB. The UNAIDS, in its 2001 Report, claimed that incidence of TB has been growing steadily, and HIV infection is believed to be the culprit. This study was conducted to determine the ill-effects of the confluence of TB and HIV in the quality of life of people living with HIV/AIDS.

It sought to address the following objectives: (1) How has education and information dissemination among patients confined at the SLH changed their behaviour both to reduce the risk of being infected with or transmitting HIV and/or TB; and (2) Determine the level of patient compliance to Directly Observed Treatment Short Course (DOTS) for the management of TB.