developing prospective recommendations regarding essential interventions that can be performed in a disaster.

Keywords: emergency preparedness; guidelines; pediatrics; resource utilization
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(G59) Medical Aid to Children Injured in Traffic Crashes in the Moscow Area

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Introduction: In 2008, 2,106 traffic crashes involving children occurred in the Moscow region. The burden of damages in the Moscow area is higher than in the city of Moscow due to the high speeds of automobiles on country roads. Children in the Moscow area have received medical aid at small municipal hospitals.
Methods: Since 2004, children have been evacuated from the crash site to municipal hospitals by emergency medical services. After stabilization, patients are transported by a specialized brigade of the Centre for Disaster Medicine by automobile or helicopter to the children's hospital of Moscow. The crew of medical helicopters consists of two pilots and an expert in resuscitation. The automobile is equipped with a portable analyzer of respiratory gases, electrolytes of blood, and a satellite antenna for telemedical consultations.
Results: From 2004–2008, 645 children were consulted. Of these, 592 were hospitalized in Moscow clinics; 499 were evacuated by automobile, and 97 by helicopter. Of the children, 57% were evacuated within the first day after trauma in 2004, compared to 83% in 2008. At the beginning of the program (2003), in the Moscow area, 108 of 1,331 children died (index -7.50), this index was 5. 58 in 2008.
Conclusions: The medical evacuation children from the Moscow area to pediatric clinics with disaster medicine services in the city of Moscow has lowered the consequences of traffic crashes.

Keywords: children; emergency medical aid; medical evacuation; pediatrics; traffic crashes
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Keynote 5

Psychosocial Activities with Children Impacted by War and Natural Disasters

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Armed conflicts and natural disasters affect children in many ways. In addition to their direct effects on children's physical and psychological health, wars and natural disasters cause the destruction of natural resources, health and social services, planned development, and cause increased poverty—all of which worsen children's well-being. Childrens' chances for optimal development are severely disrupted. Choice and design of psychosocial interventions must be based on the assessment of a number of factors such as: type of the event, number of individuals affected/number of responders available, victim's characteristics (their age, risk factors, cultural background), sociopolitical setting, etc.

The emphasis of the presentation will be on specific challenges in designing psychosocial interventions following a "one time event", such as most natural disasters, compared to chronic (prolonged duration) and/or cumulative (frequent and intense) traumatization, such as armed conflicts.

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Keynote 6

Keeping Abreast of Change

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We all can agree that Human Survival and Health are the objectives and the measures of success of disaster reduction and humanitarian assistance. A majority, if not all of us, also would agree that disasters and crises reflect the ways societies structure themselves and allocate their resources. With these two points in mind I would submit that any disaster, indeed, any crisis, is characterized by changes of the status quo. Change (in the weather, in the tectonic fault, in the structure of a building, et.c) is one determinant of the event, and changes are the main features of its impact: loss of lives and assets, increase in suffering, etc. Change brings risks and opportunities that must be tackled. The faster the change, the higher the risk.

There are three major drivers of epidemiological change: (1) climate and environmental changes; (2) demographic and social transition; and (3) economic and geopolitical transition. Each of these drivers carries specific factors of risk. For all three, we can recognize common (human) primary causes. Each of the three interacts with the others in patterns of increasing complexity and widening scope, e.g., the interaction between climate change, migration, and financial crisis.

Climate and environmental change brings: (1) Increases in natural and man-made hazards, such as new, extreme climatic events; loss of the environment's carrying capacity, e.g., in water and cultivable soil that result in "resource wars"); and changes in vectors' ecologies; and (2) increases in vulnerabilities, such as the absence of collective memory, greater environmental fragility, and forced movements and concentrations of people. The need for new coping/mitigating strategies is self-evident, but it meets with two primary obstacles: who will DESIGN them? and Who is READY to PAY for them?

Demographic and social transition brings: (1) Increases in man-made hazards including: accelerated social mobility,

culture clashes, frustrated expectations; and risky behaviours; and (2) Increases in vulnerabilities, including: greater cumulative exposure to all hazards – from storms to trans-species infections; migration; overcrowding in unsafe areas; political/social disenfranchisement; and higher dependency rates. The need for new coping/mitigating strategies is underlined, for instance, by the epidemiological shift from acute to chronic conditions (i.e., an overall increase in poor health.

Economic and geopolitical transition brings: (1) an Increase in man-made hazards such as violent conflicts, financial meltdowns, and toxic spills; and (2) an increase in vulnerabilities including: higher degrees of dependency on more complex lifelines, lower disaster thresholds, and evolving, unclear or shifting lines of authority and responsibility, both in individual societies and globally. New coping/coping strategies must take into account a range of factors including: changes in global governance; growth in awareness and expectations; the CNN/Katrina effect; stronger public demand for accountability; and tension between economic growth and environmental safety.

In the 19th Century, the birth of Public Health as an applied science helped the transition from Poor Laws to Welfare State. In the 21st Century, can Public Health help the transition from Humanitarian Assistance to Global Human Security?

Indeed, some already postulate that the modalities of response as well as the responders will change significantly over the next decade. Far greater reliance will be placed on insurance-based health and food assistance, on remittance-based support and upon indigenous relief institutions.

THE WAY FORWARD: substantiating the central role of public health in humanitarian work: In general terms, I would call for:

1. A paradigm shift from Disaster to "Crisis" or "Change-management"—ANY change brings risk;
2. Keep (improve) documenting evidence of linkages between crises and human choices, e.g. resource allocation and relations with the natural environment—There is no such a thing as a Natural Disaster. An epidemiological reading of the natural history of disease helped bridging from individual medicine to collective public health—the same model applies to disasters and crisis management;
3. Accept the fact that public health is an applied science and it is legitimized by its results: (1)while consolidating evidence, accept to plan for, and manage in uncertainty and complexity;
4. Stick to the Do no Harm principle: foster professional performance and accountability;
5. Support research in and the application of effective and sustainable technologies: not only in the delivery of care, e.g. triage, chlorination, measles vaccination, ORS, and Plumpynut, but also in programme management: surveys/surveillance, coordination, operational planning, and security.

As far as WADEM is concerned, I would suggest three threads for discussion:

1. *Advocacy*—(a) re-wording of the WADEM mission statement that explicitly acknowledges that "Medicine is Humanitarian"; (b) Identifying ways to expand the constituency among peers and partners; and (c) Collaborate in the International Disaster Response Code;
2. *Knowledge management*—(a) Building science and identifying best public health practices in humanitarian operations and in the delivery of care. (b) encouraging situational awareness: Health Intelligence and the Three Drivers; the worst is the Unknown;
3. *Provision of services*—(a) provide mentors/facilitators to the Health Cluster – for coordination, training, surveys, etc.; (b) Conduct evaluations; and (c) Define competences and set standards for accreditation.

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Oral Presentations—Communication and Information

Space-Based Solutions for Disaster and Emergency Medicine

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The global vulnerability to natural disasters, vector-borne diseases, and epidemics of weather- and climate-sensitive infectious diseases is likely to increase as the impact of climate change and land degradation processes continue to rise along with rapidly growing populations.

Early warning systems based on space-based technologies such as remote sensing satellites, communication satellites, and global navigation satellites systems, contribute to the availability and dissemination of information to support the response to such disasters. Space-based solutions also have been used to improve risk-mapping and prediction models of epidemic diseases. However, approaches still are limited due to the complexity of the problem, the knowledge gap between medical experts and space experts, and the fact that no single institution or country has all the needed capacities.

Keywords: climate; disaster medicine; early warning systems; emergency medicine; space-based; vulnerability
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Emergency Communication Inter-Operability Planning for Disaster Response

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Recently, the world has been affected by man-made and natural disasters of a level not previously experienced. This demonstrates the importance of communication for the efficient and rapid response of First Responder Community members in the field.

The resilience of the communication infrastructure is vital for the well-being of any country. It is essential to build a robust and interoperable information and communication technology infrastructure before a disaster.

Overviews for most currently available information and communication technology standards will be introduced in order to define emergency communication interoperability plans.