

# Reports and Session Summaries of the 17<sup>th</sup> World Congress on Disaster and Emergency Medicine

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## Editor's Introductory Note

This section of *Prehospital and Disaster Medicine (PDM)* presents reports and summaries of the 17<sup>th</sup> World Congress on Disaster and Emergency Medicine (WCDEM) held in Beijing, China in May and June of 2011.

Abstracts of Congress oral and poster presentations were published on September 1, 2011 as a supplement to *PDM (Volume 26, Supplement 1)*. The 17<sup>th</sup> WCDEM was attended by 1,600 representatives from more than 57 nations, and the Congress included 315 oral and 211 poster presentations.

Certain reports and summaries from the Beijing 17<sup>th</sup> World Congress were published in Volume 27, Issue 3 of *PDM*. The editorial staff of *PDM* is pleased to present the following additional reports and session summaries.

Reports and session summaries of the 17<sup>th</sup> World Congress on Disaster and Emergency Medicine. *Prehosp Disaster Med.* 2013;28(1):69-75.

## Psychosocial (1): Innovations in MHPSS Interventions (Session BR04)

Report submitted by Chair/Moderator: James M. Shultz, MS, PhD

### Introduction

The following papers were presented during this session:

- (1) From a Helpless Victim to a Coping Survivor: Innovative Mental Health Intervention Methods during Emergencies and Disasters (M. Farchi, Upper Galilee, Israel);
- (2) Psychosocial Support Services in Disasters – Indian Experiences (K. Sekar, Bangalore, India); and
- (3) Trauma-Signature Analysis: Evidence-Based Guidance for Disaster Mental Health Response (J. Shultz, Miami, Florida USA; Y. Neria, New York, New York USA; Z. Espinel (Miami, Florida USA; F. Kelly (Dublin, Ireland).

### Issues Raised

Innovative approaches to providing mental health and psychosocial support (MHPSS) interventions were presented from three complementary perspectives: individual, community, and operational. The extent of psychosocial impact post-disaster requires involvement of non-mental health professionals in the provision of MHPSS services for survivors, frequently conducted at a group level. The need to enhance the scientific evidence base was echoed throughout the presentations.

### Principal Findings

Dr. Farchi presented applied techniques for use by rescue personnel that facilitate active coping and infuse survivors with a sense of control.<sup>1</sup> The pacing and leading exercise, demonstrated in the session, involves guiding the survivor from the disaster scene to safety that places the survivor physically ahead of the helper to give the impression that the survivor is leading the procession. The helper strongly clasps the survivor's hand and directs the survivor as needed with the other hand on the survivor's shoulder. Bringing the cognition into play while simultaneously assessing the survivor experience, the helper also maintains ongoing interactive conversation as the survivor-helper pair proceeds to safety.

Dr. Sekar provided a panoramic overview of India's diversity, vulnerability to disasters, and encounter with a broad spectrum of disaster events. He described a succession of 12 disasters occurring over 20 years to chronicle the evolution of community-level public health models for providing MHPSS services. Based on direct experience, national MHPSS guidelines have been formalized for India that may be applicable throughout Southeast Asian countries.

After description of the challenges inherent in early coordination and focusing of MHPSS services in the early aftermath, Dr. Shultz described an operational framework for providing rapid post-impact/pre-deployment MHPSS response guidance based on risk factor assessment, and Trauma Signature (TSIG) analysis. The premise is that each disaster presents a unique profile of exposures to the forces of harm, described in terms of hazard, loss, and change. Consequently, the salient psychological risk factors are also event-specific. Dr. Shultz illustrated this with an overview of ongoing 2011 disaster events, followed by a point-by-point contrast between two prominent

2010 disasters, the Haiti earthquake and the Deepwater Horizon oil spill in the Gulf of Mexico.<sup>2,3</sup> The complete TSIG analysis sequence was briefly described. Ideally, MHPSS response can be tailored and timed to the defining features of each disaster event.

#### *Implications for Best Practices*

The recognition of the importance and primacy of psychosocial consequences in disasters needs to be matched with the provision of science-guided, evidence-based MHPSS services. Recently, international guidelines for MHPSS services have been promulgated<sup>4</sup> and, as presented, India has introduced country-specific guidance. There remains a constant need to rigorously test a range of field-level actions and interventions such as those illustrated by Dr. Farchi. Moreover, there is compelling need to incorporate evidence-based approaches to define the MHPSS service needs and to apply pragmatic and ethical standards to the selection/deployment of MHPSS response assets and the conduct of interventions. The current, unstandardized and unevaluated, free-for-all approach to MHPSS service delivery is not tolerable.

#### *Pertinent References*

1. Bleich A, Kutz I. Chemical and biological terrorism: psychological aspects and guidelines for psychiatric preparedness [in Hebrew]. *Harefuah*. 2002;141:111-118.
2. Shultz JM, Marcelin LH, Madanes S, Espinel Z, Neria Y. The trauma signature: understanding the psychological consequences of the Haiti 2010 earthquake. *Prehosp Disaster Med*. 2011;26(5):353-356.
3. Shultz JM, Kelly F, Forbes D, et al. Triple threat trauma: evidence-based mental health response for the 2011 Japan disaster. *Prehosp Disaster Med*. 2011;26(3):141-145.
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## Psychosocial (2): Models, Guidelines, Frameworks (BR14)

Report submitted by Chair/Moderator: James M. Shultz, MS, PhD

#### *Introduction*

The following papers were presented during this session:

- (1) Stress and Trauma Studies Program (STSP): Theoretical and Practical Emergency Mental Health Intervention Studies for BA Social Work Students (M. Farchi, Upper Galilee, Israel);
- (2) Integration of Psycho-social Social Support and Mental Health Services into National Disaster Management Guidelines (J. Christy, New Delhi, India);
- (3) Empowerment Model for Community Disaster (EMCD) (M. Farchi and E. Shahar, Upper Galilee, Israel); and
- (4) 7 Options for Evolving the Concept of Disaster Health (A. Allen, Miami Shores, Florida USA; J. Shultz, Miami, Florida USA; Z. Espinel, Miami Shores, Florida USA).

#### *Issues Raised*

The papers in this session coalesced around the theme of making mental health and psychosocial support (MHPSS) more systematic in concept and execution through the use of models, guidelines, and frameworks. While psychosocial consequences are widespread and pervasive in the early aftermath of disaster, the limited availability of mental health professionals, coupled with survivors' immediate needs for practical support rather than formal mental health intervention, together suggest that MHPSS response must be shared broadly across the ranks of responders

and volunteers. Responders will likewise be affected psychologically, so ideally, MHPSS services should do "double duty," serving both survivors and responders. Overarching guidelines and frameworks should reflect these needs.

#### *Principal Findings*

Dr. Farchi described the training of undergraduate social work students enrolled in the Stress and Trauma Studies Program (STSP); students-in-training transform into a community resource of psychosocial first responders when disaster strikes. This 20-credit curriculum is embedded directly into the social work studies major and involves a combination of theoretical, practical, simulation, and community volunteer components. Enrolled students have been enlisted and have responded in real-world crises and disasters, providing proof of concept. In this role, STSP students have worked effectively alongside professional responders and the Israeli Defense Forces. The Stress and Trauma Studies Program has effectively created an ongoing cadre of psychosocial "staff extenders" by tapping into a continuously-renewable resource of social work students.

One of the theoretical underpinnings of the STSP training program was presented in a separate talk focusing on the Empowerment Model for Community Disaster (EMCD). This model evolved from Israeli international disaster responses to the 2004 tsunami in Sri Lanka, the 2007 civil war in Georgia, and

the 2010 Haiti earthquake. In each disaster, investigators identified a disaster-affected community, met with stakeholders, conducted assessments, and worked with communication strategies to build community empowerment and “resilience.” At each stage in disaster response, EMCD has counterpart components that operate at the individual and the community level.

Dr. Christy described the creation of national MHPSS guidelines for the nation of India under the aegis of the National Management Authority (NDMA). The impetus for establishing Indian national guidelines was the triplet of impacts from a major cyclone, earthquake, and tsunami within a five-year period. The aims of the NDMA guidelines are to develop an institutional framework for MHPSS support that (1) incorporates all phases of the disaster cycle; (2) details the sequence of implementation steps from mobilization through evaluation; and (3) provides standardization of MHPSS measures across all phases.

WADDEM has championed the disaster health theme since its origin. Dr. Shultz highlighted WADDEM’s leadership in promoting and formalizing the concept of “disaster health” through expert symposia and PDM publications. Among the suggested future directions for evolving the concept of disaster health, Dr. Shultz emphasized the balanced integration of the mental health and psychosocial dimension (currently underdeveloped), the efficiencies that derive from optimizing disaster health simultaneously for disaster survivors and responders, and

the expansion of disaster health to encompass community resilience and disaster resistance. Dr. Shultz briefly described the SAFETY FUNCTION ACTION (SFA) framework that was devised specifically for training disaster health to a wide spectrum of professionals with a disaster response role. SAFETY FUNCTION ACTION explicitly incorporates each of the seven suggested options for evolving the concept of disaster health discussed in the presentation. The complete SFA framework was presented at WCDEM 17 in a separate two-session workshop.

#### *Implications for Best Practices*

WADDEM plays an integral role in promoting the science of disaster medicine and disaster health and was early in recognizing the importance of the psychosocial dimension. However, in practice, what currently masquerades as MHPSS response subsumes a loose web of actions performed by a myriad of unregistered “players;” actions that are typically not grounded on science, not evaluated empirically, not systematized through expert consensus guidelines, and not bound by a unifying framework. Mental health and psychosocial support in disasters needs to be catapulted forward through quantum advances in the scientific evidence base, the establishment of national and international guidelines, and the ratification of a framework (SFA is a candidate) that can help solidify the field. Going forward, these would be the defining features of “best practices.”

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3. Allen A, Shultz JM. *SAFETY FUNCTION ACTION: Current and Future Directions*. Abstract presented at: 17th World Congress on Disaster & Emergency Medicine, Beijing, China, June 1, 2011, Beijing, China. *Prehosp Disaster Med*. 2011;26(Suppl. 1):s136-s137.

## SAFETY FUNCTION ACTION (Part 1, Session BR26 and Part 2, Session BR36)

Report submitted by Chair/Moderator: James M. Shultz, MS, PhD

#### *Issues Discussed*

A two-part workshop was conducted by Dr. James M. Shultz and Dr. Andrea Allen to introduce “SAFETY FUNCTION ACTION” (SFA) to interested WADDEM members and WCDEM 17 attendees. SAFETY FUNCTION ACTION is a framework for training on the theme of “disaster health.” Within this framework, “disaster health” is defined as “maximal safety, optimal function, and effective action in preparedness for, response to, and recovery from emergencies, disasters, and extreme events.” The backbone of SFA is a set of six strategies, with two strategies each for SAFETY (Safeguard and Sustain), FUNCTION (Comfort and Connect), and ACTION (Advise and Activate).

Using plain language, and merging concepts from disaster medicine and disaster behavioral health, SFA integrates physical health and safety with psychological well-being and resilience. The six broad strategies can be put into continuous practice by disaster responders to optimize disaster health within

their organizations. The same six strategies create a structure for effectively responding to survivors from a disaster-affected community. At the tactical level, disaster response actions are tailored to the unique characteristics of the disaster event, the population affected, the type of responder, and the type of response. Yet, at the strategic level, the six-strategy framework reflects the common dimensions of disaster health, shared by disaster responder and disaster survivor alike.

To date, SFA has been trained to more than 4,000 public health, public safety, healthcare, mental health professionals; NGO staff members, and community-based disaster volunteers throughout the United States, Canada, Latin America, the Caribbean, and Europe.

#### *Conclusions/Recommendations*

Multiple participants commented on the elegance of the SFA framework, consisting of three “keys” and six strategies. While appearing simple in structure, SFA was seen as being

comprehensive in content and flexibly amenable for use with a wide range of disaster response personnel.

In the context of WADEM's leadership in promulgating the theme of "disaster health," participants found SFA to be both timely and practical. While more elaborate, academic schemas have been developed for "disaster health education" and "disaster health management," SFA's focus on disaster health *per se* seems to fill a critical niche, bringing disaster health to the tactical level for use by frontline responders.

An observation made during the discussion period was the apparent adaptability of SFA to a variety of languages and cultures. As a starting point, for ease of training (and ease of recall in high-intensity disaster situations), SFA's six strategies are each encapsulated as a single word. This feature also facilitates high-fidelity translation to other languages (the French version has been completed for use throughout Canada and the Spanish version is in process). From among the workshop participants, interest was expressed in having in-country, train-the-trainer SFA sessions, with adaptation and translation of materials, in France, India, and Hong Kong. These colleagues expressed a desire to promulgate SFA within their respective nations following the initial training and technology transfer.

The recommendations that flowed from the discussion were to (1) create metrics for monitoring the adoption of the SFA framework; (2) develop metrics/approaches for measuring "disaster health" for citizens/survivors prior to and after disaster impact; (3) develop metrics/approaches for measuring "disaster health" for disaster responders; and (4) integrate disaster health and resilience research.

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#### Suggested Actions to be Taken by WADEM/ Implications for Best Practices

WADEM has clear claim to the leadership role in defining and promoting the theme of disaster health. In 2004, WADEM hosted an open meeting in Brussels, Belgium, convening 51 international experts to better define the scope and purview of disaster health and disaster medicine. One outcome of the conference was the publication of *International Guidelines and Standards for Education and Training to Reduce the Consequences of Events that May Threaten the Health Status of a Community* (Archer and Seynaeve, 2007).

"Disaster health" was explicitly mentioned in Homeland Security Presidential Directive 21 – National Strategy for Public Health and Medical Preparedness (The White House, 2007), a major guidance document. As disaster health is prioritized and publicized, it may be time for WADEM to further advance the field. Disaster health was highlighted, by name, in the WCDEM 17 Opening Ceremonies, by three speakers in rapid succession: WADEM President Pyrros, China Minister of Health Zhu, and WHO China Representative O'Reilly, so the concept is certainly salient.

WADEM may wish to revisit the theme of disaster health as it has now evolved, including consideration of the utility of the SFA framework, and discussion of research priorities. One possible venue would be a pre-meeting convocation in conjunction with WCDEM18 in Manchester, United Kingdom. The issues raised under Conclusions/Recommendations, focusing on developing metrics for measuring and monitoring disaster health in both survivors and responders, might be especially germane for such a gathering of experts.

6. Shultz JM, Allen A, Espinel Z. *SAFETY FUNCTION ACTION: International Applications of a Disaster Health Framework for Citizens and Responders* [abstract]. Presented at: 1<sup>st</sup> International Preparedness and Response to Emergencies and Disasters (IPRED) Conference, January 11, 2010, Tel Aviv, Israel. *Prehosp Disaster Med*. 2010;25(1):s2.
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## Triage Discussion (Session BR17)

Report submitted by Chair/Moderator: Kristi L. Koenig, MD, FACEP, FIFEM and Rosidah Ibrahim, MD

#### Introduction

The following papers were presented during this session:

- (1) The Effectiveness of Dispatch Triage (S. Murphy);
- (2) Pediatric Mass-Casualty Triage: The New York City Approach (A. Cooper);
- (3) In Hospital Triage (D. Walter); and
- (4) Field Triage in the Developing World (N. Roy).

#### Issues Discussed

Four panelists discussed triage topics along a continuum ranging from dispatch in a developed country, to field triage in the developing world, to hospital triage, to a system for pediatric mass-casualty triage.

*Dispatch*—Dispatch is commonly the first point of contact between the patient and the health care system. Issues discussed

included the evolving roles of dispatch to address modern threats such as pandemics or chemical incidents. With scarce resource environments, non-routine methods of response must be implemented. There may also be protocols for non-response to certain types of calls. Destination decisions to optimize outcomes when there are large numbers of casualties must be based on the scientific evidence.

*Field Triage*—India does not have an EMS system; rather, the public are the first responders. Community resilience is critical in developing countries. Self-referred patients arrive to the Emergency Department (ED) first, commonly with good Samaritans or by taxi. Patients are also transported by police. Physicians may perform triage.

*Hospital Triage*—The purpose of triage must be clear. In-hospital triage differs from prehospital triage which is typically performed at a single point in time to determine who needs transport to a hospital first. Hospital triage may be used to sort patients for priority for: (1) ED treatment; (2) use of resources, eg, studies like computed tomography scans; (3) admission; (4) operating theatre; and (5) evacuation from the hospital to another site.

*Pediatric Mass-Casualty Triage*—Multiple simultaneous pediatric patients could overwhelm receiving hospital resources. Ideally, pediatric patients should be transported from the scene of a mass-casualty incident at the right time to the right place for the right care. Secondary transport can be organized via a pediatric logistics coordination center if patients need care at pediatric receiving centers, but are not initially transported there. There is a need for pediatric patient care surge capacity and training in clinical management of critical pediatric patients, including those with multi-trauma and burns.

START was the triage system used since local providers were already trained in this technique; however, a new color-coded category was added to the traditional four (green, yellow, red, and black): orange. The orange category denotes exacerbations of chronic medical conditions and falls between red and green in terms of acuity.

#### Conclusions

*Dispatch*—More data are needed to develop evidence-based approaches to dispatch systems in disasters.

*Field Triage*—Realistic solutions must consider the limited resources of developing countries. Training police and empowering the public is a cost-effective approach to improving prehospital care. It is unclear whether implementing a Western-style EMS system would be beneficial with India's high population density and social and economic constraints.

*Hospital Triage*—Triage is a continuous, dynamic process. Reprioritization, according to patients' physiologic changes, must be made at each point of care as the patient moves through a continuum of care. Triage officers must have clinical intelligence and decision making authority during crises.

*Pediatric Mass-Casualty Triage*—A model for addressing the limited resources and training in pediatric mass-casualty triage is feasible to implement in New York City.

#### Recommendations

*Dispatch*—Dispatch should use control centers, GIS technology and redundant communications. Follow-up should be in place for

“no response” protocols and to assess the appropriateness of bypassing other facilities to access specialty receiving centers.

*Field Triage*—Community resilience training should be augmented in developing countries.

*Hospital Triage*—Patients should be re-triaged on arrival to the ED. The goal of triage at each point of care should be clearly defined, and involved personnel appropriately trained. A system of “rear triage” with a senior clinician who has situational awareness of system resources compared with needs of the entire population of hospital patients is desirable, for example, in determining who gets a computed tomography scan first.

*Pediatric Mass-Casualty Triage*—The study should be expanded statewide to determine its applicability beyond New York City.

#### Suggested Actions to be Taken by WADEM

*Dispatch*—Promote further study into: (1) effectiveness of dispatch after training for various triage protocols dependent on scenario types; (2) whether poor outcomes are due to incorrectly applied triage methodologies, or to triage schemes that are applied correctly but are ineffective; and (3) the role of telemedicine in priority dispatch (particularly for hazardous scenes such as chemical, radiological or biological incidents).

Form a Priority Dispatch Committee to foster incorporation of improved databases of skilled personnel and clinical protocols into disaster management by dispatch centers.

*Field Triage*—Assist with modeling and research to determine the best systems to improve outcomes given the socio-economic environment in developing countries. Determine whether placing ambulances in India is the right thing to do. Compare field triage systems in various parts of the world to determine what modifications improve survival in different settings.

*Hospital Triage*—Expand standardized triage training protocols to be more comprehensive and dynamic and include various clinical based protocols. Clarify the various goals of triage in the context of setting and resources.

*Pediatric Mass-Casualty Triage*—Assess what models of pediatric triage for mass-casualties are most effective.

#### Implications for Best Practices

*Dispatch*—Improved dispatch systems can lead to better patient outcomes and decreased volume in crowded Emergency Departments. Bio-surveillance systems at the level of dispatch would likely mitigate threats from emerging infectious diseases. Crisis standard of care models could be implemented if triggers were identified at the time the dispatch center is accessed.

*Field Triage*—Training and equipping taxi drivers might be a better solution than implementing an expensive EMS system modeled after the developed world.

*Hospital Triage*—Until further outcomes data prove the superiority of one system over another, on a pragmatic level, systems may choose to adopt triage systems that are familiar to them and therefore require fewer training resources. An independent physician separate from the one caring for the individual patient should make resource allocation decisions. This is similar to a main principle of Crisis Standard of Care.

*Pediatric Mass-Casualty Triage*—Systems should inventory their pediatric specific resources, assess provider training, and consider implementation of a similar model.

#### Summary

*Issues Discussed*—The importance of triage in the management and prioritization of emergency care is undeniable. The concept of triage has been accepted globally, even in developing countries that lack formalized EMS systems. The reality faced by less-developed countries in which the social cultural system is still predominant among the community and where the public is the first responder in the chain of survival for emergency care remains the weakest link in the prehospital care services. Recognizing the need to build community resilience by incorporating training together with empowerment of the public in these countries is a realistic solution to compensate for the lack of organized EMS in developing countries. Increased research into triage highlights the rising awareness of the principles and purpose of triage among care providers.

*Conclusions*—Defining and understanding the concept and purpose of triage are essential. Triage is the initial sorting process for any incident and does not stop at the incident site. Triage is a continuous, dynamic process which begins from the time a call for help is received. Health care workers must continuously assess

and reassess patients at each point of care throughout the journey from prehospital to definitive care. Special considerations are necessary for situations without a fixed site (eg, a pandemic).

Triage personnel at all points along the continuum of care must be skilled with clinical intelligence and have decision making authority during the crisis.

*Recommendations*—All personnel involved in patient triage need continuing training. Training of triage must include hospital triage as well as dispatch and other prehospital triage. Standardized triage training protocols should be comprehensive and dynamic with inclusion of various clinical based protocols.

*Suggested Actions to be Taken by WADEM*—(1) Improve disaster dispatch protocols for disaster management; (2) clearly define the various goals of triage along the continuum of patient care; and (3) encourage research into determining which triage systems best reduce morbidity and mortality.

*Implications for Best Practices*—Implementation of improved triage protocols and processes will lead to improved survival outcomes for the patients and less liability for care providers. Good triage performed by trained and skilled personnel in the prehospital setting will reduce resource utilization in the hospital.

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## Psychosocial Issues (PP09)

Report submitted by Chair/Moderator: James M. Shultz, MS, PhD

#### Introduction:

The Psychosocial Issues session included the following poster presentations:

- (1) Psychosocial Tsunami – Financial Crisis (C. Saenz, Lomas De Zamora, Argentina);
- (2) SAFETY FUNCTION ACTION: Current and Future Directions (A. Allen, Miami Shores, Florida USA; J. Shultz, Miami, Florida USA);
- (3) Psychosocial Care of Children Affected by Tsunami through Child Care Activity Centers (P. Kavitha, K. Sekar, Bangalore, India)
- (4) Clinical Effectiveness of Psychosocial First Aid Training among Emergency Responders in Chinese Population: Preliminary Results of 3-Month Follow-up. (E. Cheung, E. Chan, C.L.Y. Lin, P. Lee; Shatin, Hong Kong)
- (5) Social Context of Natural Disaster (D. Matais, Chicoutimi, Canada)

- (6) Long-term Effects of a Flood on the Psychosocial Health of Victims (L. Lachance, D. Matais; Chicoutimi, Canada)
- (7) Comparative Descriptive Analysis of Post-Disaster Psychological Interventions (E. Cheung, Shatin, Hong Kong; E. Chan, NT, Hong Kong; S.H. Lee, Hong Kong)
- (8) Monitoring the Mental Well-being of B-FAST Caregivers during Disaster Relief after the 2010 Haiti Earthquake (M. Van der Auwera, M. Debacker, D. Danschutter, G. Gijis, I. Hubloue; Brussels, Belgium)
- (9) Salvage of Traumatized Extremities Restores Morale in Working Class of Society (V. Raju, Hyderabad, India)

#### Issues Raised

The series of poster presentations on psychosocial issues portrayed the diversity of themes in the field, the range of research methodologies, the promising models and frameworks that are emerging, and the state of the science. Topics ranged from the psychological consequences of the global economic crisis

to the psychological benefit of conservative surgical management of injury victims (allowing for maximal salvage of injured limbs). Three posters dealt with the psychological impact of the 2004 Southeast Asia on children, the Quebec floods on displaced victims, and the 2010 Haiti earthquake on Belgian caregivers during relief efforts. Two poster presentations focused on participant evaluation of SAFETY FUNCTION ACTION and Psychological First Aid (PFA) training programs and a related presentation reported on comparison of early psychological interventions.

#### *Principal Findings*

Dr. Saenz reported anecdotally on a public works program in Argentina to employ citizens affected by massive unemployment due to the financial crisis. These citizens were organized into teams of ten and engaged in community projects such as painting, gardening, and public facilities refurbishment. The stress and disruption of the financial crisis was buffered by the opportunity to participate with peers in productive work.

Dr. Raju described a 20-year history of surgical innovations to salvage limbs following crush injury combined with patient counseling to achieve the best possible surgical and psychological outcomes. Whenever aseptic closure of a wound to an extremity is achievable, it may be possible to forestall amputation and save the limb, thereby improving motor function and psychological outcomes for injury patients.

Dr. Cheung presented two related papers on the adaptation of a U.S. model of psychological first aid (PFA) training for disaster responders in Hong Kong, China. Among 800 disaster responders, 400 were randomized to receive PFA training while the remaining 400 were wait-listed. Training recipients increased knowledge of disaster mental health, improved self-efficacy for delivering PFA, and improved self-reported well-being. A second paper compared critical incident stress management (CISM), PFA, and Mental Health First Aid (MHFA). CISM, developed for use with responders, has been critically reviewed and found to have no benefit for preventing PTSD; under some conditions, CISM has the potential for harm due to re-traumatizing responders who have been exposed to difficult emergency call or extreme disaster events. Extension of CISM for use with survivors is especially unwarranted. Apart from several studies documenting post-training satisfaction, and knowledge and skills gains of PFA training participants, there is no evidence that PFA is efficacious for disaster survivors. One trial showed no difference between recipients of PFA and those who did not receive the intervention. MHFA has generally not been applied in disaster settings (used primarily with medical patients).

Dr. Allen presented participant evaluation data from 861 participants who received a one-day “train-the-facilitator” session in SAFETY FUNCTION ACTION (SFA). Training evaluation data showed highly favorable quality ratings for the course, materials, presenters, and all individual course components. Pre/post comparisons of the data indicated consistent gains in self-reported confidence ratings for all “facilitator skills” (recruiting, motivating, training colleagues; teaching SFA skills, working

with coaches) and 15 SFA “strategies and response skills” (applying the six SFA strategies to responders (self, family, team) and disaster survivors). Consistent gains were evident for 12 scales asking facilitators to self-report their “comfort” level in dealing with disaster survivors exhibiting distress or suffering trauma and loss.

Dr. Malthais presented two posters. One discussion poster emphasized the importance of the social context of disasters, indicating the few disasters are purely “natural” because of the interaction of forces of harm with the built environment, human settlement patterns, and human technologies. Dr. Malthais presented data collected from rural Quebec flood victims three years after the event. Compared with non-victims, victims displayed elevated rates of posttraumatic stress symptoms, somatic complaints, and depressive symptoms; and diminished self-ratings of psychological well-being.

Dr. DeBacker was not present to discuss results that were displayed on a small sheet of paper on the assigned board. The posted abstract indicated that members of the Belgian First Aid and Support Team (B-FAST) were administered a multi-scale questionnaire that allowed tracking of “mental well-being” during response to the 2010 Haiti earthquake.

Drs. Kavitha and Sekar presented a detailed poster regarding a series of interventions using “7 mediums” conducted with tsunami-affected children accessed through child care activity centers in coastal villages in India. Initial needs assessments of these tsunami-displaced children indicated a composite of emotional and behavioral problems. Using community workers, psychosocial care was provided using a series of art projects incorporating seven mediums. Authors reported modest reductions in both trauma symptoms and behavior problems following the educational intervention.

#### *Implications for Best Practices*

Recognition of the importance of the psychological dimensions of disasters has increased in recent years and the spectrum of papers presented reflects the range of applications. Nevertheless, there is an urgent need to improve the science, moving from anecdotal accounts to well-designed, empirical studies.

One of major deficits in the field is the lack of evidence for the efficacy of short-term interventions. CISM has been soundly critiqued and found to lack evidence of benefit though it remains popular and fiercely defended by its proponents. Multiple and diverse models of PFA are in circulation with some models translated into multiple languages and trained cross-culturally. PFA is promoted as “evidence-informed” and expert consensus committees have endorsed its use. Yet, as demonstrated in the review paper by Dr. Cheung, there is not evidence for its efficacy when applied to disaster survivors. The implications regarding early psychological intervention is that there are no proven “best practices.” Endorsement and consensus are not substitutes for evidence.

There is merit in developing the science of disaster health, refining a framework for disaster health (SAFETY FUNCTION ACTION provides one approach for consideration), and defining the metrics.