Trauma Systems as the Framework for the National Disaster Healthcare System: A Call for a National Trauma System

Eileen M. Bulger, MD
Chair, ACS Committee on Trauma
Pillars of a Modern Trauma System

- Prevention
- Acute Care
  - Bystander intervention
  - Communications systems
  - EMS
  - Trauma Centers
- Rehabilitation
- Framework for Emergency Care Systems & Disaster Preparedness

Requires timely, structured cooperation and communication.

Committee on Trauma
Everyday Events
Terrorism

272 patients in 2.5 hours

Madrid Train Bombings
Mass Shootings

Need to engage all Hospitals
Integrated, Learning Healthcare System: Public Health Approach

Model Trauma System Planning and Evaluation HRSA 2006
A National Evaluation of the Effect of Trauma-Center Care on Mortality

Ellen J. MacKenzie, Ph.D., Frederick P. Rivara, M.D., M.P.H.,
Gregory J. Jurkovich, M.D., Avery B. Nathens, M.D., Ph.D.,
Katherine P. Frey, M.P.H., Brian L. Egleston, M.P.P., David S. Salkever, Ph.D.,
and Daniel O. Scharfstein, Sc.D.

25% Increased chance of Survival if cared for at a Level I or II Trauma Center
The Inclusive System

• Public health model
  – Addresses the entire spectrum of injury
  – Model Trauma System Planning and Evaluation document released by HRSA 2006, ACS Trauma System Resource document

• All hospitals care for injured patients
  – System works to match patient to appropriate center
  – Triage and transfer based on injury severity
  – Trauma Center designation based on need

• Regionalization not centralization

• A network of hospitals working together
Washington State Trauma system
Trauma System Design Impacts Mortality

Brown et al, J Trauma Acute Care Surg 2016
A NATIONAL TRAUMA CARE SYSTEM

Integrating Military and Civilian Trauma Care Systems to Achieve Zero Preventable Deaths After Injury

Committee on Trauma
The Vision: A National Trauma Care System

A national strategy and joint military–civilian approach for improving trauma care is lacking. **A unified effort is needed** to ensure the delivery of optimal trauma care **to save the lives of Americans** injured within the United States and on the battlefield.

A national learning trauma care system would **ensure continuous improvement of trauma care best practices** in military and civilian sectors.

“**Military and civilian trauma care will be optimized together, or not at all.**”
Top Ten List

• The trauma system should address the continuum of care & the needs of special populations.
• Statutory authority for implementation: a lead agency with sufficient authority
• A trauma advisory committee with broad stakeholder representation.
• Creation, adoption, and regular update of a Trauma System Plan.
• A process and criteria to designate trauma centers based on system need.
• Funding mechanism for basic system infrastructure including data collection/analysis
• Authority to collect and analyze injury surveillance data, at minimum EMS and trauma registry data from all acute care facilities.
• Provisions for trauma system evaluation and Performance Improvement
• A trauma information management system with capacity to generate reports on system operations, quality metrics, and injury epidemiology.
• Integration with military facilities, disaster, and mass casualty networks.
Four key domains

- Communication
- Triage
- Transport
- Training

The Impact of Trauma Systems on Disaster Preparedness: A Systematic Review

Bauchman, Upperman et al, 2015
Trauma Systems are the Backbone for Disaster PLANNING

• Multidisciplinary governance
• Integration across healthcare systems
• Integration with EMS for Air and Transport
• Established Communication and Patient tracking strategies
• Experience with patient triage
• Hospital capabilities known
Next steps?

• National Trauma Action Plan: Federal leadership to establish minimal trauma system standards w/regional governance & implementation
• Support for trauma system development as part of disaster preparedness funding (PHSA no appropriation since 2005, needs to be reauthorized)
• Optimize engagement between trauma systems and Healthcare coalitions
• Facilitate movement of licensed healthcare providers across state lines
• Trauma centers to provide support to non-trauma centers to facilitate response to mass shooting events & other mass casualty events
• Support for efforts to integrate military teams into civilian centers: Mission Zero Act
• Support strategies for rapid assessment/debriefing of major events to promote rapid communication of lessons learned to all HCCs.