



Development and Implementation of an Interdisciplinary Emergency Medical Services (EMS) Transport Safety Innovation and Knowledge Transfer e-platform

Nadine Levick, MD MPH
 Research Director, EMS Safety Foundation
 CEO, Objective Safety
 Brookdale University Hospital, SUNY
 New York, USA

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Conflict of Interest Disclosure

- Research Director of the EMS Safety Foundation
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- CEO, Objective Safety
www.ObjectiveSafety.net

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Introduction

- Ambulance transport safety issues integrating patient, provider and the public, arch over numerous technical disciplines
- In contrast to clinical care, bridging the diverse technical disciplines involved in ambulance transport safety has had scant focus or formal infrastructure

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Why now?

- Challenges of operating optimally in a transportation environment that is largely devoid of specific safety standards for the hazards and risks present
- Bridge the gap between what technical information exists and what is accessible and applied to EMS

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Objective

- To design and implement a purpose developed platform for interdisciplinary knowledge to practice transfer in EMS transport safety

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Methods

- End users were identified by having demonstrated proactive seeking of EMS safety technical information
- Global interdisciplinary technical expertise relevant to EMS safety identified by technical publication, both scientific and operational
- Communication platform via secure 'Webinar' technology with VOIP (Voice Over Internet Protocol) with focus on lean architecture, with small footprint

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Goals

- The primary goals of bringing this unique group of folks together to:
 - Share pooled best practices
 - Integrate key technical expertise to address common challenges
 - Advance new multidisciplinary research projects
 - Translate safety technology from appropriate related technical areas to EMS
 - Knowledge transfer from research to practice

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A practical and functional model

Interdisciplinary and Operational

- Innovation
- Collaboration
- Knowledge transfer

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Results

- An electronic virtual environment was established to create an end user driven forum, linked with technical expertise in knowledge transfer and spectrum of technical fields addressing EMS transport and systems safety.
- Launched March 2008, maintained by a management team - utilizing a free standing, user friendly interactive Webinar program.
- Established as a not for profit NGO

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Results

- Operational on a small footprint with lean architecture and minimal infrastructure
- Initially North American, USA and Canada
- Its >320 participants includes:
 - End users: EMS, Medical Transport
 - Technical experts: a spectrum of disciplines
 - Corporate Partners

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Structure

- Innovation Consortium
- Technical Expert Panel
- Advisory Board
- Operational Team
- Management Board
- Corporate Sponsors
- Corporate Partners
- Interns

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Innovation Consortium

- Small volunteer rural EMS services
- Major metropolitan EMS services
- Private patient transport services
- State EMS Office
- EMS Associations
- Interns

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Technical Expert Panel

- Transport engineering
- Automotive safety
- Ergonomics and human factors
- Occupational safety
- Patient Safety
- Public Safety
- New information technologies
- Data Management
- Risk Management
- Systems safety research
- Public health

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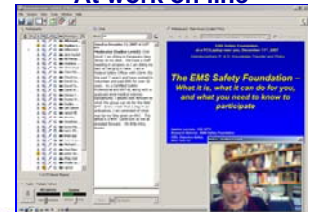
Oversight and Support

- Oversight
 - Advisory Board
 - Management Board
- Support
 - Philanthropy
 - End user Membership Dues
 - Corporate Sponsors/Partners

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The EMS Safety Foundation At work on line



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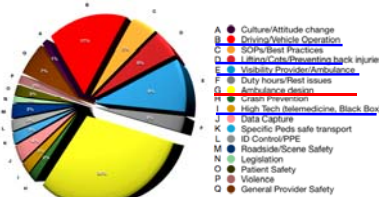
Early Steps

End User needs and Knowledge gap analysis

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End-User Key 5 Safety Priority Areas of focus n = 155



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Relative Priority Issues

- Priority Number one
 - Vehicle ops - 29%
 - Ambulance design - 27%
- Priority Number two
 - Ambulance design - 35%
 - Vehicle ops - 29%

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Big issues are

- Transport
 - Vehicle
 - Vehicle operations
 - Scene
- Patient handling
- Equipment
 - Protective and other

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Results

- Interactive and interdisciplinary secure access Webinars held every 8 weeks
- Biannual workshops addressing topic areas identified as gaps in systems safety knowledge
- Annual international interdisciplinary best practice field trips conducted x3
- Both real-time and asynchronous virtual platform access - 150,296 accesses overall from 10,031 distinct addresses.

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Web Page Access Data

5/8/2006 to 5/11/2010: Traffic by Day

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Activities

- Interactive Webinars
 - Bi-monthly interactive Webinars, using the selected intuitive Elluminate Webinar platform
- Work Shops
 - Bi-annual technical workshops with both face to face and virtual participants
- International Field Trips
 - Annual interdisciplinary delegation, Innovation Consortium and Technical Expert Panel, Advisory Board and Interns to an international EMS congress
- Innovation Development

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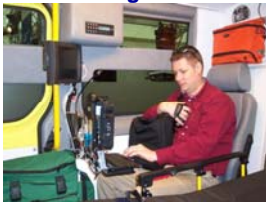
EMS Safety Foundation 2009 Webinar/Workshop Review

- January** - Transferring Technical Knowledge to Operational Practice, New Developments, and 2009 Program
- March** - Pediatric and Neonatal Transport Safety, International Approaches to Ambulance Design Specifications and Rettmobil Plans
- May** - Live from Rettmobil & Workshop
- June** - Part 1: Rettmobil 2009 Perspectives and Applications
- July** - Part 2: Rettmobil 2009 Perspectives and Applications Follow up and Standards Update
- September** - Concepts to Practice: Fleet Safety Economics, You and Detroit, Regulations and Guidelines, the Workshop and Summit
- October** Workshop - 'Design and Operational Aspects of Patient Transport Safety: Vehicles and Stretchers'
- November** - Key Lessons from the Workshop and the Summit, and EMS Safety Foundation Developments for 2009-2010

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Lessons from 2009 Rettmobil Delegation



FORWARD FACING ATTENDANT SEATS
EVERYTHING WITHIN ARMS REACH WHILE REMAINING BELTED

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Loading Patients Without Breaking EMT Backs



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“...Understanding what our goals should be and how to achieve them.”

Subject: MS, Thank you for a great experience at Rettmobil!

Hello everyone!

What a great event and “eye opening” experience. The opportunity to see the vehicles and equipment up close was certainly valuable but even more valuable was the ability to discuss innovations and current practices among the group. I can’t thank everyone enough for their willingness to share, especially the expert panel from the foundation (Chris, Gene, Ralph & Radney). With everyone’s help I have a much clearer understanding of what our goals should be and how to achieve them.

I hope every sponsor knows how much we appreciate their support and hospitality!

Mark Kessler, LP
Director - Ground Services



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Outcomes - 2009

- Based on this interdisciplinary technical input, a fleet of prototype vehicles developed, have been manufactured and implemented, with also resultant advances in safety practice and policy put in place and operational

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Texas - Careflite’s new vehicle



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New vehicle Innovation - 2009



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EMS Safety Foundation Rettmobil 2010 Delegation



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EMS Responder Rettmobil 2010 Delegation


<http://www.emsresponder.com/web/online/Safety/Live-From-RETTmobil/25513137>



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“Live from Rettmobil 2010” recording for public gratis access

<http://www.emssafetyfoundation.org/>



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TRB TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

Active Relationship with National Academies Transportation Research Board

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TRB TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

**EMS/Medical Transport Safety Summit
November 7, 2008 & October 29, 2009**

- Bridging the gap between what we do and what is known
- Technical expertise in data capture, transportation safety, vehicle safety, fleet management, human factors, standards development and EMS
- Enhancing ambulance transport safety through shared knowledge of technical data

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TRB TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

October 29, 2009 TRB Summit



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**Gratis public access to TRB Summit archives
Its out there NOW**

- www.objectivesafety.net/TRBSummit2008.htm
- www.objectivesafety.net/TRBSummit2009.htm

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**EMS Safety Foundation
Ambulance Vehicle & Ergonomics
Workshop, October 2009**



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**Automotive engineers addressing 2009
EMS Safety Foundation Workshop**



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**EMS Ergonomist Chris Fitzgerald
addressing 2009 EMS Safety Foundation
Workshop**



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**The science of stretcher
lifting & loading**



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Stretcher Load - # 1 (CNLOAD01)



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Applied and Operational Interdisciplinary Research

- Vehicle design
- Ambulance service fleet safety monitoring
- Stretcher loading and unloading operations
- Neonatal ambulance occupant protection
- Effectiveness of knowledge transfer approaches
- Technology, bystander, provider and researcher interface in CPR/AED use

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What is the result of the EMS Safety Foundation's activities??

- Networking
 - Opportunities to build relationships with like minded colleagues and also technical experts across a spectrum of safety related disciplines
- Innovation Community
 - A regionally diverse community of EMS services and providers all focused on the mission of innovation and information dissemination
- Collaborative Consortium
 - A unique opportunity to expand and optimize decision making, purchase approaches and impact regional policy
- Implementation of Technical Design Innovation
 - Operational translation of technical knowledge into practice and vehicles

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Conclusion

- Establishment of a sustained interdisciplinary forum for knowledge transfer to practice in EMS transport through a secure virtual access network has been achieved and demonstrated to be accessible to a spectrum of end users and has resulted in development of operational vehicle and policy innovation

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Thank you! Any Questions??

Electronic handout and resources available online
<http://www.objectivesafety.net>



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