

Symposium: A Research Agenda in Disaster Medicine: What Is Required for Effective Global Collaboration?

Chairs: Prof. Fatima Alvarez-Castillo; Dr. Michael Sayre

Requirements for Research into Disaster Medicine

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Introduction: In 2001, a team from the Faculty of Medicine, Health, and Molecular Sciences at James Cook University undertook a project for Defence Health Services Branch, Australian Defence Force, to examine the scope of requirements for research into the area of disaster medicine.

Methods: The review team completed a literature search, reviewed key references, examined the editorials from a peer-reviewed, international journal, *Prehospital and Disaster Medicine* (PDM), analysed the content of research papers published in the same journal over a 14-year period, completed an Internet search, and finally, made a quick, structured, e-mail survey of local and international participants in the field of disaster medicine who were members of personal or professional networks of the review team.

Results: Some key trends and high-priority conceptual areas were identified. A major trend was moving both training programs and policy development closer to the operational sphere. There is a developing perception that managerial and command functions had been over-represented in initiatives in these areas. A second trend indicated the importance of victims and local communities as first responders in the disaster setting, and the implications of this recognition for training initiatives. Important consensus conceptual areas or those emerging in importance included command control and coordination in disaster medicine preparedness and response; preparedness and rapid assessment; and the idea of individual and community resilience in preparedness and response to medical disasters.

It is argued that while identifying potential topics is important, a strategic approach to developing research must also be considered. Given the stage disaster medicine research has reached, it is argued that a permanent or semi permanent scientific secretariat is required, along the lines of the KAMEDO approach, to initiate, guide, coordinate, and communicate research findings. Further, a series of

Cochrane-like collaborative centres should be identified to focus research, and their first job should be to generate systematic reviews of the literature and other data currently available.

Conclusion: The paper reviews the need for disaster medicine research and the specific difficulties facing a systematic and scientific approach to disaster medicine research. The paper also reviews past and present approaches to disaster medicine research and assesses their various strengths and weaknesses.

Keywords: Cochrane; command; control; coordination; Disaster Medicine; first responders; KAMEDO; management; Prehospital and Disaster Medicine; research; science; strategy
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Establishment and Applications of a Nationwide Pediatric Emergency Care Applied Research Network

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The Pediatric Emergency Care Applied Research Network (PECARN)

The Pediatric Emergency Care Applied Research Network/Network Development Demonstration Project (PECARN/NDDP), a new and innovative USA-based, federally-funded research network, provides opportunities for researchers and providers to improve the emergency care of children based on scientific evidence. This multi-center network supports research across diverse demographic populations and varied geographical regions for all phases of pediatric emergency care. The infrastructure was developed to overcome inherent barriers to Emergency Medical Services for Children (EMSC) research: low incidence rates of serious pediatric emergency events and the need for large and diverse sample sizes. The PECARN network currently includes four regional node centers and a central data management center, supporting 25 Hospital Emergency Department Affiliates (HEDAs). PECARN-HEDAs provide care to 808,454 acutely ill and injured children annually, of whom more than 80,000 are admitted to a hospital. The HEDAs represent academic, community, suburban, urban, rural, general and children's hospitals.

The network has met the challenges of developing infrastructure and governance, as well as mastering human subjects protection issues for the special and complex environment of pediatric emergency care. The PECARN research agenda includes a spectrum of research projects. Those currently underway include: a GIS mapping project of asthma and long bone fractures; a head injury imaging decision rule; and a bioterrorism surveillance project. A number of other priority research projects are under development for implementation.

PECARN provides the leadership, infrastructure, and scientific know-how to promote multi-center studies, support collaboration; encourage informational exchanges among EMSC investigators and providers; and promote translating research findings into practice.

Keywords: bioterrorism; children; emergency care; infrastructure; network; research

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