



## Emergency medicine and injury research: challenges and opportunities

Brendan G Carr and Michael J Mello

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## Emergency medicine and injury research: challenges and opportunities

Of the 119 million annual visits to US emergency departments, 42 million are related to injury.<sup>1</sup> The enormous clinical burden of caring for injuries has led to increased recognition of the importance of injury research among emergency care providers, and this represents an important opportunity for injury researchers and emergency medicine to develop partnerships that will advance the field. Our goal is to briefly describe the challenges and opportunities that exist at the intersection of these related and interdependent fields.

Whereas much of traditional medical research is defined by organ systems or disease processes consistent with the structure of the National Institutes of Health (NIH), injury research and emergency care research are much broader and, as a result, share similar challenges. One important challenge is to clearly articulate the scope of such a broad and diverse field of research. Injury control research has been described as 'one of the most interdisciplinary fields in all of medicine',<sup>2</sup> and emergency medicine encompasses at some level almost every specialty of medicine. An effective definition would be inclusive for the intersection of the fields and would need to capture the broad potential without being vague. A second important challenge is to ensure adequate financial support for training and research. Only 0.05% of NIH training grants awarded to medical schools are directed to departments of emergency medicine, representing US\$51 per graduating resident compared with US\$5000 per graduating resident in internal medicine.<sup>2</sup> The organisational structure and research agenda of the Centers for Disease Control & Prevention<sup>3</sup> highlight the importance of injury control and response, and injury has surpassed heart disease as the most expensive category of medical treatment.<sup>4</sup> Injury research, however, receives US \$0.10 per year of potential life lost, compared with US\$3.51 for HIV/AIDS and US\$1.65 for cancer.<sup>5</sup>

Many of these challenges represent opportunities as well. In 2006, the Institute of Medicine's *Future of emergency care*<sup>2</sup> report emphasised the importance of increasing the pool of researchers in the domains of trauma research and injury control research. As emergency medicine has matured as a specialty, the number of academic departments has grown as well. Academic emergency departments have an increasing number of emergency medicine researchers obtaining federal funding for their work, and some have developed research fellowships. These factors have led to

the creation of a growing pool of junior researchers, but these trainees and junior faculty require mentorship and represent an opportunity to broaden the pool of injury researchers. Rather than be limited by the lack of a single funding source, emergency care and injury researchers have used their collective breadth of interest to broadly seek funding for injury research across the NIH and other federal funding agencies. In fact, many emergency care researchers are injury researchers, although they may not identify themselves as such. Investigators exploring the role of alcohol misuse, substance misuse and intimate partner violence as well as advocates of Screening, Brief Intervention and Referral to Treatment (SBIRT) have much in common with injury researchers. Others exploring the role of protocols in evaluating and treating injured patients, the physiological response to an acute injury, or the basic science work exploring the effect of acute injury at the cellular level may all primarily identify themselves by their narrow area of research, but many fall under the umbrella of injury researchers. Substantial progress has been made at the intersection of emergency care and injury research, but many challenges and opportunities lie ahead. Emergency medicine and injury prevention and control research are natural partners and should be continually vigilant about collaborating in research to reduce the burden of injury.

**Brendan G Carr,<sup>1</sup> Michael J Mello<sup>2</sup>**

<sup>1</sup>Department of Emergency Medicine & The Leonard Davis Institute for Health Economics, University of Pennsylvania, Philadelphia, Pennsylvania, USA; <sup>2</sup>Injury Prevention Center, Department of Emergency Medicine, Alpert Medical School of Brown University, Rhode Island, USA

**Correspondence to** Brendan G Carr, 929 Blockley Hall, 423 Guardian Drive, Philadelphia, PA 19104, USA; [carrb@upenn.edu](mailto:carrb@upenn.edu)

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