

Injury prevention in the emergency department: An ongoing challenge

Reference to: Emergency Physicians as human billboards for injury prevention: A randomized controlled trial by Emily Sullivan et al.

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Almost 2 million people visited Canadian emergency departments (ED) with injuries in 2013, accounting for 10% of ED visits. Only 4% of these were admitted. With injury being the number one killer of young people in Canada and a huge burden on our health care system, there is no doubt that Canadian emergency physicians must play a role in injury prevention. Yet, in the heat of a shift, all of us find it hard to fit in the counselling that may potentially help that patient avoid a future injury or even death. Finding effective injury prevention tools that will not impact our productivity, yet potentially decrease the numbers of patients coming to our ED, is difficult.

In this month's *CJEM*, Dr. Emily Sullivan and colleagues present a study on a novel ED-based prevention program to improve counselling on the use of bicycling helmets. The randomized control trial tested the hypothesis that if a physician wears a scrub top with the injury prevention message, "Put me out of work: wear your bike helmet," time spent at the bedside counselling on injury prevention would increase. They also tested whether this would change bike helmet wearing behaviour. The results were negative in all outcomes. There was a minimal change in length of injury prevention counselling among those who were treated by a scrub-wearing physician versus a non-scrub-wearing physician and no change in helmet-wearing behaviour.¹

This is likely disappointing to the authors and to others who are looking for quick opportunities to provide injury prevention counselling in the ED. The authors humbly note many limitations to their study

such as the small sample size and high loss to follow-up. Would education of physicians on how to effectively counsel on bike helmet use have changed their results? Would only targeting those with cycling injuries change their results? Importantly, this study raises questions on how we can better advocate as emergency physicians in injury prevention.

Our job doesn't end at shift change. I am not alone in perseverating at home after seeing too many injuries caused by various risk-taking activities. As emergency physicians, we have a powerful voice in our community – both locally and nationally. Injury prevention can take many forms. Commonly, injury prevention practitioners acknowledge the importance of change in environment and legislation that will affect entire populations, and many physicians have been successful in initiating major changes.

In the 1940s, Dr. Jay Arena saw a second child die from an aspirin (acetylsalicylic acid or ASA) overdose. He contacted the head of the pharmaceutical company that manufactured ASA, and both brainstormed ways to make the product safer – including tops that are hard for children to remove. Twenty years later, these closures became mandatory and have saved many lives.² Canadian emergency physicians have lobbied for legislative change in drinking and driving, cell phone use while driving, and gun control.³⁻⁵

Yet all of the engineering and legislation cannot eliminate unsafe behaviours and resultant visits to the ED. What can we do in the ED during that teachable moment – that moment when a patient is often reflective on their risky behaviour and receptive to change?

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We must be properly equipped with the tools to deliver appropriate injury prevention messages. *Simply telling someone to change his or her behaviour rarely works.* The question of how to change behaviour is the career work of many behavioural scientists. We must learn from their expertise and involve them when we design injury prevention initiatives in the ED. Understanding the links between the health outcome we want to change (e.g., brain injuries), behaviour change (e.g., helmet use), and their target constructs (e.g., knowledge, beliefs, norms, and attitudes about that behaviour) is key to developing successful interventions. Perhaps the knowledge gap is related to efficacy of helmet use in adults – yet a Cochrane review demonstrated that helmets reduce the risk of head, brain, and severe brain injury for all cycling ages by 63% to 88%.⁶ Perhaps they believe that, as adult, regular cyclists (or rare cyclists), they are exempt from harm. Relaying your experience treating cyclists in the trauma room may help patients re-evaluate their vulnerability. Perhaps the norm in the community is that helmets are too expensive for many and therefore the intervention is to give out a free helmet. Perhaps your patients are of the attitude that they would be embarrassed wearing a helmet; would reminding them of the effect of a head injury on their ability to function in their family, with their friends, or at work or school change their minds? Interventions require input and testing with all stakeholders prior to implementation and evaluation to ensure that they are actually working.⁷ In reality, very few studies with a behavioural science approach have been completed in the ED, and therefore we continue to have minimal evidence thus far to guide these discussions.

In Winnipeg, we have implemented an Emergency Department Violence Intervention Program for youth injured by violence. We bring support workers to the bedside of youths at the time of injury and work with them for the next year to address the risk and protective factors for repeat intentional injury. Importantly, we have demonstrated a decreased length of stay of 40 minutes for this initial visit (the support worker was integral to safe discharge planning), and the pilot randomized controlled trial suggested that a significant magnitude of effect in decreasing repeat violent injuries may be realized with an appropriate sample size trial. In this model, we removed the role of counselling from the ED physicians and registered nurses and put in place the most appropriate injury prevention counsellor – a support worker with lived experience of violence.⁸

Finally, injury prevention must be informed by proper data. Most data that we have on injury in Canada come from vital statistics – that is, those who die from their injuries. Fortunately, we in the ED know that is the rare outcome of injury. Yet, we in the ED collect a wealth of data in our clinical encounters that are never used for public health due to a lack of coordinated collection. Other countries have taken advantage of the information that EDs collect and developed injury surveillance systems that have gone on to inform policy. The Cardiff model provides monthly, anonymized ED data to a joint health-justice committee that then develops targeted policing and public health interventions on violence and substance-related events. ED data were used to identify hotspots for violent assault, changed policing strategy, and subsequently led to decreased visits for violent assaults and substantial cost saving for both the health and criminal justice systems.^{9,10} At the Princess Margaret Hospital in Hong Kong, an injury surveillance system based on data collected from ED charts was used to review elderly patient falls. They identified that a small number of residential care homes were responsible for a large proportion of elderly patients with falls, and interventions at those homes were implemented with decreased rates in falls noted.¹¹

Over 10% of our patients present with injuries. For many of those patients, we are the only health care practitioners that they will see. No matter how challenging, injury prevention is incredibly important in the ED. We have an enormous amount of work to do to figure out how to do it successfully. Dr. Sullivan and her team have attempted to increase injury prevention counselling in their department with a unique method. Although this approach showed no benefit, Dr. Sullivan and her team's creative approaches combined with behavioural science and ongoing legal and environmental change have the potential of largely impacting injury rates in Canada.

Keywords: injury prevention, intervention, emergency medicine

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