

Communication

Would society pay more attention to injuries if the injury control community paid more attention to risk communication science?

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“If a disease were killing our children at the rate unintentional injuries are, the public would be outraged and demand that this killer be stopped.” Former US Surgeon General, C Everett Koop

Whenever injury control professionals gather, it doesn't take long for the conversation to turn to one topic: “Why is it that more attention and resources aren't devoted to injuries, the leading cause of death for children and young adults?” One early hypothesis—that people think injuries cannot be prevented—has not held up to scientific scrutiny.¹⁻⁶ Another possible explanation, however, may be found in the risk communication literature.

Since the 1980s, corporate and government officials have turned to risk communication experts for help with a problem contrary to our own: why do communities “overreact” to hazards that pose minimal risk from an epidemiological perspective?⁷ In such situations, environmental engineers and safety experts characterize lay people's views as irrational or ignorant.⁸ For example, in a national (US) survey, more than twice as many parents worried about their children being kidnapped than being involved in an “automobile accident”.² Many professionals assumed that if they shared more data with the public, enlightenment would follow. The risk communication literature suggests, however, that scientists may also benefit from enlightenment.⁸

Most Americans know that injuries are a leading cause of death,^{9, 10} yet they display little concern for injury prevention. In trying to explain this disconnect between vital statistics and public support, psychometric researchers have identified *qualitative* dimensions of risk not captured by epidemiologic methods. Sandman conceptualizes Risk, as it is perceived by the public, as a function of Hazard + Outrage.⁸ His “hazard” refers to the statistical calculation of risk that professionals generally rely on. “Outrage”, on the other hand, is more

emotional and predicts an issue's ability to evoke community response. In the past few decades, numerous authors have described the components shared by threats which tend to spark public outrage. In this commentary I have drawn selectively from the work of Sandman^{8, 11} and Bennett.¹² Readers interested in a more comprehensive summary should consult Chapman.¹³

QUALITIES THAT HAVE BEEN ASSOCIATED WITH OUTRAGE

The first quality that I will discuss in relation to injury is voluntariness. Studies have shown that if two situations carry the same statistical risk, people will be more upset about hazards that are thrust upon them rather than those over which they have a choice. Most injury producing events in developed countries are unlikely to feel coercive to the general public, hence they would not generate much “outrage”.

The next factor reflects equitability: whether some members of society benefit from a hazard while others suffer from it? One example is firearms because gun control advocates argue that people who endorse easy access to weapons for self-defense put the rest of society at greater risk. Dangers judged to pose this sort of “unfair” risk are associated with more distress.

The third factor applies to threats that an individual cannot avoid by taking personal action. It differs from “voluntariness” in that it relates to who is operating the hazardous agent, not who exposes you to it. At least one (US) study has found that most adults believe they control their own destiny when it comes to avoiding injury.¹⁴ The opposite perception would be associated with increased concern.

The next component contrasts man-made with natural risks. According to

this line of reasoning, fires caused by arsonists or poor wiring would generate more distress than those caused by lightning.

Another important quality of a risk is whether it evokes memories for the public, either because of past experiences or media portrayals. It is akin to the availability heuristic. Tragedies that are easy to envision (for example, a plane crashing into a skyscraper) receive more attention.

Threats that are unusual or exotic (for example, killer bees) are more likely to arouse concern than those we encounter every day (for example, driving to work).

Socially “dreaded” consequences are perceived as riskier than other hazards. This is reflected in the fact that people will pay three times more to prevent a cancer death, for example, than a crash death.¹⁵ This may be because traumatic deaths are thought of as quick (“at least he didn't suffer”) or romantic (“he died doing what he loved”).

Catastrophic threats cause more concern than threats that occur apart from each other in time and space. Again, fatal injuries are at a disadvantage because they are relatively rare and usually kill few people in one community on any given day. Exceptions to this rule, like mining accidents and hotel fires, generally receive international attention.

Unknowable risks are those that are difficult for scientists to quantify. The public finds it unsettling when experts cannot agree about whether something is harmful (for example, electromagnetic fields). The damage caused by injury hazards is generally irrefutable, which makes their toll more predictable and less frightening.

The public can become concerned to the point of outrage when confronted with issues that are viewed as “morally relevant”. Sandman contends that slavery and child molestation, for example, are so repugnant that officials would never discuss them in terms of “trade-offs”.^{8, 11} Injuries can result when public officials and/or corporate executives value profits over human lives. Such calculations are rarely made public, however.

Hazards that pose delayed or hidden threats (for example, carcinogens in drinking water) are usually taken more seriously than threats that act acutely. Injuries generally fall into the latter category. While some events may result in drawn-out declines that ultimately prove fatal, such deaths usually occur in long term care facilities and do not make headlines.

The next issue asks whether the threat affects vulnerable populations.

Injury advocates have learned that legislative remedies are more readily accepted when they are billed as saving *children's* lives rather than adults'.

Those seeking public support also know that it is easier to rally concern for identifiable victims than for people who are represented only by statistics. This phenomenon is well documented as influencing the amount of money we are willing to spend to save lives.¹⁶ Many types of injury victims, however, are rarely shown or named in our society (for example, elderly fall victims).

When reacting to risks, the public takes into account whether a hazard carries substantial benefits. No one is calling for a ban on cars, for example, although they are associated with more injury deaths than any other product. In this domain, fires associated with cigarettes, or deaths associated with firearms might lend themselves to activist efforts because the public could perceive their mere possession as a "foolish risk".

Finally, we need to consider whether opportunities exist for collective action. Injury again falls short on this dimension because no well recognized voluntary organization exists with a general focus on "our" public health problem. This issue has been raised by parents of fatally injured children seeking avenues for injury advocacy.¹⁷

"You would be amazed. I mean these people [who raise funds in their child's name] beat the bushes looking for injury prevention programs to give money to, and we can't find any. Pretty scary, huh?" [unpublished interview excerpt]

This (albeit subjective) analysis illustrates that few of the major causes of injury are likely to be linked—in the minds of the public—to characteristics that have been shown to evoke outrage or activism. In fact, when a table was created to cross tabulate all of Sandman's primary and secondary "outrage components" (n = 20) with the leading causes of injury death (n = 8), 82% of the cells in the table were left unchecked.¹⁸ In other words, the challenge we face in raising the profile of injury prevention was revealed.

IMPLICATIONS FOR PRACTICE AND ADVOCACY

Although this commentary focuses mainly on perceptions of the lay public, its implications are relevant to how we communicate with policy makers and the media as well. We must be strategic in crafting our messages. For example, when a less hazardous product—like firesafe cigarettes—becomes technically

feasible but is not even sold in most jurisdictions, we could emphasize the involuntary nature of this risk scenario. Housefires might be framed as resulting from "negligent manufacturing" rather than "careless smoking". We could point out that radar detectors benefit their owners and manufacturers while putting others at "unfair" risk. We could emphasize scientific findings that reveal teenagers to be developmentally vulnerable, rather than irresponsibly reckless.^{19,20} People might dread injuries more if they were exposed to the experiences of bereaved parents or those of people who face recovery from disabling or disfiguring injuries. Such campaigns can be disrespectful and insensitive,^{21,22} however, so they should be approached with caution.

It is critical that all attempts to communicate about injury prevention be evaluated for intended and unintended consequences. We may find, for example, that approaches that "move" communities decrease the likelihood of individuals taking actions to protect themselves. Researchers should devote particular attention to what happens when we stress how preventable injuries are. There are red flags in the literature about negative consequences that could result from such campaigns. Risk communication findings, for example, suggest that the public is less concerned about preventable health problems, and less likely to support funding for such causes.²³⁻²⁵ Subjects have demonstrated diminished sympathy for individuals who were disabled by "controllable" causes.²⁶ Furthermore, optimistic bias (an erroneous perception of low personal risk) has been shown to operate more strongly in relation to preventable health problems.²⁷ Finally, concerns have been raised about whether parents become less vigilant once they have adopted measures that are billed as preventing (as opposed to reducing) childhood injuries.^{28,29}

Perhaps we should consider expounding on the refrain "injuries are preventable". If we don't, our message may be interpreted as operating solely at the level of the individual. Injury control professionals know, conversely, that most of our progress can be traced to population level interventions. A majority of Americans believe that allocating additional government funds to injury control would yield no benefit, and that "scientists and other experts" are unlikely to find ways to reduce the injury threat.¹⁵ This may be because a distressingly large proportion of individuals still attribute injuries to "carelessness" and "stupidity".^{9,30}

Our field might also benefit from calling attention to the many injury

problems that remain poorly understood.^{31,32} Although we have made monumental advances in recent decades, our evidence base is still quite young. We also need to call attention to the injuries that continue to take lives, despite the fact that solid solutions for them have been published in our scientific journals. We need research on translating study findings into public action. Epidemiology and engineering remain central to the field of injury control. We must look to the social and behavioral sciences, however, if we hope to overcome the political and cognitive barriers that impede our advancement.

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LACUNAE

Harry Potter (or JK Rowling) – injury prevention specialist

In the Christmas issue of the *BMJ*, doctors from Oxford’s John Radcliffe Hospital in the UK reported a retrospective review of all children aged 7–15 who attended the emergency department with musculoskeletal injuries over the summer months of a three-year period (<http://tinyurl.com/bmpnm>). Weekend admissions were counted as those occurring between 8 am on Saturday and 8 am on Monday. The researchers compared the numbers of admissions on these weekends in June 2003 and July 2005 when the two most recent Harry Potter books—*The order of the phoenix* and *The half-blood prince*—with those for the surrounding summer weekends and those dates in previous years. Met Office data were also studied and used to adjust for weather as a confounding variable if necessary. The mean weekend attendance rates to the emergency department in June and July between 2003 and 2005 for children aged 7–15 years during control weekends was 67.4 (SD 10.4). For the two intervention weekends—when the Harry Potter books were published—the attendance rates were 36 and 37 (mean 36.5, SD 0.7). This represented a significant decrease in attendances on the intervention weekends, as both are greater than two SD from the mean control attendance rate and an unpaired t test gives a t value of 14.2 ($p < 0.0001$). At no other point during the three-year surveillance period was attendance that low.

Contributed by Mima Cattan and others.