
The Military Accident and Injury Prevention Challenge

Setting a Foundation for the Future

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“World-class organizations do not tolerate preventable accidents.” With these words in 2003, Secretary of Defense Donald Rumsfeld challenged the Department of Defense (DoD) to reduce its preventable mishaps by 50%.¹ In response, the Defense Safety Oversight Council (DSOC) was created to provide leadership for this effort.

Because of the obvious link between injury prevention and readiness, the DSOC was placed under the purview of the Under Secretary of Defense for Personnel and Readiness. Under the DSOC are nine task forces that are charged with exploring new ideas, policies, and technologies to mitigate accidents, injuries, and deaths. While the DoD completes dangerous tasks safely every day, we can and must improve our injury rates. This is necessary not only for the defense of this nation but also because the department has no greater responsibility than to take care of those who volunteer to serve.

For too many years, injuries were considered the “cost of doing business” and expected in an organization that handles dangerous tasks every day. With a workforce of approximately 2 million military and civilian employees, injuries are the biggest health challenge confronting the DoD.² With an estimated 25 million limited duty days annually,³ injuries have a direct and significant impact on the readiness of the U.S. Armed Forces.

The DoD has undertaken an effort to change this mindset and significantly reduce the number of preventable accidents with the ultimate goal of zero preventable mishaps. This is an ambitious effort, and new ways of thinking are needed to ensure its success. The papers in this supplement to the *American Journal of Preventive Medicine*³⁻²² present various studies that use an evidence-based process to identify trends, create solutions, and evaluate those solutions.

Despite the magnitude of this problem, the DoD is making progress toward controlling injuries. When using com-

parable data, DoD injury rates are only slightly higher than civilian rates.⁴ By far, the biggest contributor to accidents, injuries, and deaths has been private motor vehicle accidents—this is true for both the DoD and for the civilian sector. The DoD’s biggest success to date has been in reducing private motor vehicle accidents. However, in recent years, the DoD has begun to see an uptick in motorcycle-related mishaps. As this trend became apparent, the individual services and the DoD as a whole have undertaken efforts to deal with this growing problem. Another big success has been the reduction in aviation fatality rates.²³ This reduction has continued despite a high tempo of operations, and in particular, combat operations in two theaters for several years. It is important to note that the successes in motor vehicle and aviation injury prevention started with having good information systems and access to key data and having senior leaders review those data on a regular basis.

The DoD has seen significant improvement in areas where it has concentrated its efforts. Despite these successes, there is still much to be done. Some of the areas beginning to receive attention are sports injury prevention, government motor vehicle accidents, and on-duty falls. In order to be successful in addressing these emerging areas, the DoD needs improved access to data and a systematic approach to analyzing those data. One way DoD is working to improve our injury-related data availability is by working with the National Center for Health Statistics to establish nationally recognized codes for sequelae of traumatic brain injury, and additional categories of external cause of injury codes for ICD-9-CM and ICD-10-CM. By doing so, the DoD will be able to identify existing and emerging problems and monitor progress in addressing these problems.

The DSOC approaches the problem of preventable mishaps in a holistic manner with the understanding that it is not simply a safety, medical, or training issue alone. A key part of successfully addressing this challenge is enforcing accountability among leaders. As Secretary Gates has stated,

Accountability and leadership are key to an effective safety program. I urge you to continue to emphasize safety in the workplace and hold leaders accountable for their safety programs.²⁴

Preventable mishaps have a number of causal factors, and they must all be tracked and examined to get a complete picture and effectively address the problem. A central front on this battle is the ability to consolidate data from the military departments and then analyze them. The papers in this supplement to the *American Journal of Preventive Medicine* deal with the different aspects of a data-driven approach to tracking and preventing mishaps.

The articles in this supplement are divided into four parts. The first section looks at using the evidence-based approach in prioritizing injuries and rating prevention

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strategies using examples from the U.S. military. These papers illustrate how data can be used to set prevention priorities as an aid to decision making, and how integrated safety and medical data can be used to assess military training and occupational injuries.⁵

The second section deals with injury surveillance in the U.S. military. These papers examine the issue at large as well as look at specific kinds of injuries such as eye injuries, hearing injuries, and traumatic brain injuries, among others.

The third section uses examples from the U.S. Air Force Safety Center on the use of accident reports in identifying injury prevention opportunities. In particular, these papers look at the use of safety data to examine the mechanisms of specific causes of injuries.

The final section reviews the evidence for a number of specific injury causes and goes on to provide recommendations based on analysis of these data. This section is important in that it shows how systematic reviews and research and program and policy evaluation can be used to focus resources on solutions work.^{19–22}

The work that is being done at the DoD as outlined in this supplement to the *American Journal of Preventive Medicine* provides a strong foundation for success in future injury prevention. The DoD is committed to reducing the number of preventable accidents, thereby making it a safer place to work and more capable of defending the nation and its interests.

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References

- Memorandum, Secretary of Defense Donald Rumsfeld. Reducing preventable accidents. 19 May 2003.
- Jones BH, Amoroso PJ, Canham ML, Weyandt MB, Schmitt JB, eds. Atlas of injuries in the United States Armed Forces. *Mil Med* 1999;164(8S):S1–633.
- Ruscio BA, Jones BH, Bullock SH, et al. A process to identify military injury prevention priorities based on injury type and limited duty days. *Am J Prev Med* 2010;38(1S):S19–S33.
- Jones BH, Canham-Chervak M, Canada S, Mitchener TA, Moore S. Medical surveillance of injuries in the U.S. military: descriptive epidemiology and recommendations for improvement. *Am J Prev Med* 2010;38(1S):S42–S60.
- Jones BH, Canham-Chervak M, Sleet DA. An evidence-based public health approach to injury priorities and prevention: recommendations for the U.S. military. *Am J Prev Med* 2010;38(1S):S1–S10.
- Canham-Chervak M, Hooper TI, Brennan FH, et al. A systematic process to prioritize prevention activities: sustaining progress toward the reduction of military injuries. *Am J Prev Med* 2010;38(1S):S11–S18.
- Bratt GM, Kluchinsky TA Jr, Coady P, Jordan NN, Jones BH, Spencer CO. The Army Health Hazard Assessment Program's medical cost-avoidance model. *Am J Prev Med* 2010;38(1S):S34–S41.
- Hauret KG, Jones BH, Bullock SH, Canham-Chervak M, Canada S. Musculoskeletal injuries: description of an under-recognized injury problem among military personnel. *Am J Prev Med* 2010;38(1S):S61–S70.
- Helfer TM, Canham-Chervak M, Canada S, Mitchener TA. Epidemiology of hearing impairment and noise-induced hearing injury among U.S. military personnel, 2003–2005. *Am J Prev Med* 2010;38(1S):S71–S78.
- Hilber D, Mitchener TA, Stout J, Hatch B, Canham-Chervak M. Eye injury surveillance in the U.S. Department of Defense, 1996–2005. *Am J Prev Med* 2010;38(1S):S78–S85.
- Mitchener TA, Canham-Chervak M. Oral-maxillofacial injury surveillance in the Department of Defense, 1996–2005. *Am J Prev Med* 2010;38(1S):S86–S93.
- Hauret KG, Taylor BJ, Clemmons NS, Block SR, Jones BH. Frequency and causes of nonbattle injuries air evacuated from Operations Iraqi Freedom and Enduring Freedom (U.S. Army), 2001–2006. *Am J Prev Med* 2010;38(1S):S94–S107.
- Wojcik BE, Stein CR, Bagg K, Humphrey RJ, Oroscio J. Traumatic brain injury hospitalizations of U.S. Army soldiers deployed to Afghanistan and Iraq. *Am J Prev Med* 2010;38(1S):S108–S116.
- Copley GB, Burnham BR, Shim MJ, Kemp PA. Using safety data to describe common injury-producing events: examples from the U.S. Air Force. *Am J Prev Med* 2010;38(1S):S117–S125.
- Burnham BR, Copley GB, Shim MJ, Kemp PA, Jones BH. Mechanisms of slow-pitch softball injuries reported to the HQ Air Force Safety Center: a 10-year descriptive study, 1993–2002. *Am J Prev Med* 2010;38(1S):S126–S133.
- Burnham BR, Copley GB, Shim MJ, Kemp PA. Mechanisms of basketball injuries reported to the HQ Air Force Safety Center: a 10-year descriptive study, 1993–2002. *Am J Prev Med* 2010;38(1S):S134–S140.
- Burnham BR, Copley GB, Shim MJ, Kemp PA, Jones BH. Mechanisms of flag-football injuries reported to the HQ Air Force Safety Center: a 10-year descriptive study, 1993–2002. *Am J Prev Med* 2010;38(1S):S141–S147.
- Kemp PA, Burnham BR, Copley GB, Shim MJ. Injuries to Air Force personnel associated with lifting, handling, and carrying objects. *Am J Prev Med* 2010;38(1S):S148–S155.
- Bullock SH, Jones BH, Gilchrist J, Marshall SW. Prevention of physical training-related injuries: recommendations for the military and other active populations based on expedited systematic reviews. *Am J Prev Med* 2010;38(1S):S156–S181.
- Knapik JJ, Spiess A, Swedler DI, Grier TL, Darakjy SS, Jones BH. Systematic review of the parachute ankle brace: injury risk reduction and cost effectiveness. *Am J Prev Med* 2010;38(1S):S182–S188.
- Krahl PL, Jankosky CJ, Thomas RJ, Hooper TI. Systematic review of military motor vehicle crash-related injuries. *Am J Prev Med* 2010;38(1S):S189–S196.
- Knapik JJ, Brosch LC, Venuto M, et al. Effect on injuries of assigning shoes based on foot shape in Air Force basic training. *Am J Prev Med* 2010;38(1S):S197–S211.
- Wortley WH, Feierstein G, Lillibridge A, Parli R, Mangus G, Seibert JF. Chapter 3. Fatal and nonfatal accidents/mishaps: safety center data. *Mil Med* 1999;164(8S):S1–88.
- Memorandum, Secretary of Defense Robert Gates. Zero preventable accidents. 30 May 2007.