

NATIONAL TRAUMA RESEARCH ACTION PLAN

Traumatic Injury is a Major Public Health Problem

An Army infantryman in Afghanistan steps on an improvised explosive device, severing his legs and concussing his brain. A drunk driver careens head-on into a car turning at an intersection, leaving a mother of two unable to care for her children. A terrorist's bomb detonates at the Boston Marathon, killing three, forcing amputations of 16 people and sending hundreds to emergency departments.

Whether sustained in military service overseas, during ever more frequent mass casualty events on U.S. soil, or in everyday tragedies that alter the lives of hundreds of thousands of families each year, traumatic injury is a major public health problem for America. Aside from the unacceptable human toll, traumatic injury is extraordinarily expensive—costing \$671 billion in 2013 for lifetime medical care and work loss.

The societal burden remains, despite dramatic advances in acute trauma care over the last several decades. Nearly 200,000 U.S. civilians suffer fatal injury each year; and for every death due to injury, another 3 to 4 people survive with life-limiting disabilities or pain. Injury is the leading cause of death in individuals up to the age of 46, including children. Moreover, trauma is the cause of virtually all combat deaths—nearly 7,000 since the start of the current Middle East conflicts, plus more than 52,000 injured.

But More People Can Survive and Thrive Following Traumatic Injury

A preventable death after injury is defined as a life that could have been saved by appropriate and timely medical care. Studies have estimated that 20% of civilian deaths after injury and 25% of U.S. battlefield deaths are potentially survivable: so **30,000 Americans may die needlessly each year.**

Research is the Key to Saving Lives and Improving the Outcome for Those Who Do Survive

The stunning decline in deaths following investment in HIV-AIDS and breast cancer research demonstrates the impact of research funding. Yet trauma has never had sustained, long-term research investments. Indeed, one study of NIH funding showed that trauma ranks last in funding compared to its burden among 27 disease categories. Unfortunately, public and private funding are diminishing at a time when scientific opportunity has never been greater.

A Strategic Approach to Trauma Research Must Be Defined

Recognizing the need to sustain improvements in trauma care in the military, military and civilian sponsors asked the National Academies of Sciences, Engineering and Medicine (NASEM) to convene a committee charged with defining the components of a health system that can enable continued improvement in military and civilian trauma care.

NASEM published its report in 2016 calling for a goal of zero preventable deaths and disability after injury. As one element of reaching this goal, the report recommends development of a National Trauma Research Action Plan (NTRAP) that would “strengthen trauma research and ensure that the resources available for this research are commensurate with the importance of injury and the potential for improvement in patient outcomes.”

The compelling conclusion of the NASEM Report is that improving civilian and military trauma systems to achieve zero preventable deaths and disabilities requires a unified effort across federal agencies. Yet the current state is disjointed, with uncoordinated research agendas and insufficient funding. Overlapping priorities between the military and civilian trauma care communities mandate a new combined research agenda with commensurate funding to improve the odds for survival as well as the long-term outcomes for those who survive.

CNTR Request

The Coalition for National Trauma Research (CNTR) was established in 2014 to bring together the major professional organizations supporting trauma research, including the American Association for the Surgery of Trauma, the Eastern Association for the Surgery of Trauma, the Western Trauma Association, the National Trauma Institute, and the American College of Surgeons-Committee on Trauma. CNTR combines the reach and expertise of more than 6,000 trauma surgeons and investigators and is well positioned to be the author and implementer of this comprehensive plan for trauma research.

CNTR requests Congress add \$9.2 million to the Defense Health Program R&D account to unify the U.S. military and civilian trauma communities around a prioritized, comprehensive National Trauma Research Action Plan and for its initial implementation. The principal elements of this plan would be:

- Performing a gap analysis of military and civilian trauma research to identify priorities across the continuum of care;
- Defining optimal metrics to assess long-term outcomes in injured patients following hospital discharge;
- Identifying current federal funding for trauma research relative to the public health burden of disease, as currently there is no source of information about the totality of research funding; and
- Identifying regulatory barriers to conducting trauma research, recommending best practices and appropriate funding levels to address critical gaps.

The creation of an NTRAP requires recruitment of stakeholders and experts across the continuum of trauma care, including lead researchers representing pre-hospital trauma care, mass casualty response, acute resuscitation, critical care, neurotrauma, orthopedic trauma, burns, geriatric trauma, pediatric trauma, injury prevention and rehabilitation. A steering committee with leaders from each of these areas would direct the project. These groups would determine the research priorities and current landscape within each area, and manage systematic reviews to identify, appraise and summarize the findings from multiple studies addressing the same topics. Such a review process will eliminate duplication of past research and preserve funding for the highest priorities.

Additional trauma investigators in each area would contribute to an agreement about the final set of research aims and priorities. The end result would be a single national trauma research agenda that investigators and national bodies agree to support.

Any remaining funds after completion of the NTRAP would fund research projects identified as the highest priority, under normal DoD competitive procedures.