Investment in research saves lives and money

**Injury**

**Today:**

- Globally, 14,000 people die every day due to intentional and unintentional injuries, accounting for 9% of the world’s deaths.*
- In 2012, around 270,000 Americans were living with a spinal cord injury.†
- In 2013, approximately 1 in every 1,660 Americans died due to an injury. Two-thirds of these injuries were unintentional, and approximately one-sixth were due to injuries sustained in traffic accidents.*
- In 2013, 3 million Americans suffered from injuries sustained at the workplace, leading to approximately 917,000 missed days of work. More than 4,000 of these injuries were fatal.*
- Unintentional injuries were the fourth leading cause of death in the U.S. in 2013.*
- Men are disproportionately more likely to suffer from injuries, accounting for twice as many incidents as women worldwide.*

**HOW RESEARCH SAVES LIVES:**

- The Centers for Disease Control and Prevention (CDC) created evidence-supported school-based programs aimed at reducing violent behavior among high school students. Where these programs have been established, violent behavior has dropped by 29% in those communities.*
- Car seats have saved an estimated 7,000 children in the past two decades. This is due in part to the work of a multidisciplinary team of clinicians, behavioral scientists, public health professionals, engineers, and biostatisticians who have come together at the Children’s Hospital of Philadelphia’s Center for Injury Research and Prevention to better understand the most successful way to protect infants in high impact accidents. Their academic-industry partnership with State Farm Insurance Companies®, creating Partners for Child Passenger Safety, has been influencing product development, test protocols and federal motor safety standards and policy.‡

**HOW RESEARCH SAVES MONEY:**

- For every $1 spent on smoke detectors, $28 is saved in avoided medical expenses. Researchers have found the majority of house fire fatalities occur in homes without smoke detectors. * ⁹
- A study published in 2015 concluded that the total cost of injuries associated with bike use without a helmet in the U.S. was $5.8 billion. Researchers and engineers have worked to develop new materials and structures to further improve the protection helmets provide. Recent analysis shows a $10 bike helmet can generate $570 worth of benefits to society.³ ²

**The Cost:**

- The World Health Organization (WHO) estimated that the economic burden associated with traffic accidents for each country was equal to 1 to 3% of their total gross national product (GDP) every year.*
- In 2014, the total economic burden of injuries in the U.S. was estimated to be $406 billion.⁰
- The direct and indirect costs associated with a fatal injury sustained while working are estimated at over $1.3 million. ⁴
- The direct medical costs for treatment needed to address injuries sustained while working are estimated at $14,000 and $21,000 per fall.*

**patient advocate:**

NAME: Nico Clothier
AGE: 21
CONDITION: Spinal Cord Injury

Nico was a high school sophomore who loved to play soccer and spend time with his friends and family— but an unforeseen, tragic accident during a community service project in 2009 left him with a broken neck causing a spinal cord injury (SCI). He spent six months in a coma-like state only to awaken and realize he couldn’t speak, move his body below the neck, or even breathe on his own. With intensive physical therapy and determination, Nico weaned himself off the ventilator over the course of a year and regained his ability to speak. With time and more therapy, Nico regained some sensation and use of his arms. Amazingly, he graduated from high school on time with his peers.

Now entering his fourth year at UC Berkeley, Nico continues to advocate for awareness about SCIs, something he began doing in high school. “Most people don’t realize that spinal cord injuries are so prevalent. In every 50 people has some disability with paralysis, that’s a huge number,” Nico said. The disabled student’s residence program at Berkeley, which emphasizes independence, has allowed Nico to enjoy the full college experience as well as meet other young adults with similar disabilities.

He remains hopeful that scientific research may one day help him and the other 270,000 Americans with SCIs walk again. The possibility motivates him to keep his body in the best possible shape. “I want to be on the frontline for new research because I am sick of sitting down. I want to stand,” he said. Although he knows that more funding is needed before new treatments and cures can be developed, he remains confident, “I know the research is coming.”

* CENTERS FOR DISEASE CONTROL AND PREVENTION <WWW.CDC.GOV>
‡ WORLD HEALTH ORGANIZATION <WWW.WHO.INT>
§ JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH <WWW.JHSPH.EDU>
¶ NATIONAL SAFETY COUNCIL <WWW.NSC.ORG>
© NATIONAL FIRE PROTECTION AGENCY <WWW.NFPA.ORG>
★ HELMET SAFETY INSTITUTE <WWW.HELMETS.ORG>
☆ CHILDREN’S SAFETY NETWORK <WWW.PEDBIKEINFO.ORG>
Hope for the Future:

- Falls in the elderly population are fairly common, especially when individuals are suffering from other existing conditions that might affect their balance, such as Parkinson’s disease, low or high blood pressure or arthritis. The Agency for Healthcare Research and Quality (AHRQ) has developed a toolkit for hospitals to use to reduce the number of falls that take place while seniors are receiving treatment, providing clinicians and staff with a valuable resource for reducing morbidity and mortality.

- Engineers have begun to use 3D printers to create custom prosthetics for individuals who have lost their limbs to injuries sustained from accidents. By scanning the patient’s healthy limb, doctors and engineers can reproduce and print its mirror image to mimic their lost appendage, leading to a more comfortable and effective prosthetic.

- Researchers at the Rush University Medical Center in Chicago have begun a regenerative medicine clinical trial where stem cells are injected into the injury sites of individuals with spinal cord injuries. Scientists are very hopeful that the stem cells will be able to support the nerve cells and repair damage. If this novel therapy is successful, some paralyzed individuals may be able to regain feeling, function and control.

National Poll: Americans Believe Research is an Investment in the Future

How important is it that our nation supports research that focuses on improving how our health care system is functioning?

- Very Important: 45.3%
- Somewhat Important: 33.2%
- Not Too Important: 6.9%
- Not At All Important: 11.7%
- Not Sure: 2.8%

Source: Research!America Poll conducted in partnership with Zogby Analytics in January 2015

The Bottom Line:

Injury is a leading cause of death and disability in the U.S. Discovering new ways to prevent and respond to both unintentional and intentional injuries is essential to making our country a healthier, safer place to live.