

Seed Projects

The Harvard Injury Control Research Center (HICRC) has a long and successful history of providing funding for small projects or "seed grant" research efforts as well as large-scale research projects. Since 1998, HICRC has given 29 seed grants, typically ranging from \$4-5,000. Areas of focus include: violence, alcohol, firearms, treatment settings, and unintentional injuries.

Criteria for making Seed Grant money awards are: (a) scientific merit of the project, (b) potential of the inquiry for reducing the burden of injuries, (c) likelihood of the project generating publications and future external funding, (d) probability of increasing collaboration between HICRC and other centers or institutes or of bringing outstanding researchers into the injury field, and (e) consistency with the HICRC's basis areas of focus and concern for protecting vulnerable populations.

Selected Seed Grants 1998-2003

[Archives](#)

TRANSPORTATION and OTHER UNINTENTIONAL INJURY:

Title of Project: Airbag Effectiveness

Project Director: Maria Segui-Gomez, M.D., Sc.D.

Institution(s): HICRC

Accomplishments: Segui-Gomez M. Driver air bag effectiveness by severity of crash. *American Journal of Public Health*. 2000; 90:1575-81.

Air bag deployment in frontal crashes decreases the probability of having severe and fatal injuries. However, air bag deployment in low-severity crashes increases the probability that a driver (particularly a woman) will sustain minor injuries. Air bag deployment exerts a net injurious effect in low-severity crashes and a net protective effect in high-severity crashes. The level of crash severity at which air bags are protective is higher for female than for male drivers.

Title of Project: Effect of Helmet Laws in Taiwan

Project Director: M.C. Tsai, M.P.H. candidate and David Hemenway, Ph.D.

Institution(s): HICRC

Accomplishments: Tsai MC, Hemenway D. Effect of the mandatory helmet law in Taiwan. *Injury Prevention*. 1999; 5:290-91.

Taiwan passed a mandatory motorcycle helmet law in June 1997. Comparing June-November 1996 with June-November 1997, motorcycle fatalities decreased 14% (head injury fatalities fell 22% while fatalities from injuries to other bodily areas rose 20%). Non-fatal motorcycle injuries fell 31% (non-fatal head injuries fell 44%). The study documents the large, immediate public health benefits that resulted from the helmet law.

Title of Project: Injuries and the Bicycle Messenger

Project Director: Jack Tigh Dennerlein, Ph.D.

Institution(s): Harvard Education and Research Center [ERC]

Accomplishments: Dennerlein JT, Meeker JD. Occupational injuries among Boston bicycle messengers. *American Journal of Industrial Medicine*. 2002; 42:519-525.

BACKGROUND: Urban bicycle couriers may have a high incidence of injuries. Most messengers work as contractors and hence their injuries are not well documented. **METHODS:** To quantify injury rates and severity among urban bicycle couriers a convenience sample of 113 couriers in the city of Boston completed a two-page self-administered survey. **RESULTS:** Most working couriers have suffered at least one injury resulting either in days lost from work (70%) and in visits to a health-care professional or hospital (55%). Collisions and avoiding collisions with motor vehicles, including being "doored," and collisions with pedestrians accounted for the majority (66%) of events leading to injury. Twenty-four percent of messengers reported wearing a helmet on a regular basis, and 32% have health insurance. **CONCLUSIONS:** Urban bicycle messengers are a poorly documented, largely unstudied workforce who suffer a very high rate of occupational injury

Title of Project: Effects of Neurological Impairment on Second Offender DUI Program Outcomes

Project Director: Roberta Glass, M.S., G. Chan

Institution(s): Harvard Center for Risk Analysis, Division of Public Health Practice Brigham & Women's Hospital, Cognitive and Behavioral Neurology Massachusetts Brain Injury Association

Accomplishments: Glass RJ, Chan G, Rentz D. Cognitive impairment screening in second offense DUI programs. *Journal of Substance Abuse Treatment*. 2000; 19:369-73.

Patients enrolled in alcohol treatment programs for driving under the influence (DUI) offenders are at elevated risk of cognitive impairment, but are not systematically screened. We developed a 30-min screening battery that can be administered in a group setting. Testing of 134 volunteers identified 73% as having one or more clinically significant cognitive deficits. A majority of subjects scored below the 50th percentile on tests of word fluency, vocabulary, sustained attention, memory, executive functioning, and impulse control. The prevalence of cognitive impairment in the repeat DUI offender population is extremely high, making DUI treatment programs an ideal venue for screening and referral. Treatment programs should be responsive to the special needs of this population, incorporating teaching techniques that address short attention span, poor memory, lack of verbal fluency, and lack of impulse control.

Title of Project: Use of Insurance Data in Evaluating Seat Belt Effectiveness

Project Director: Richard Derrig, Ph.D., Maria Segui-Gomez, M.D., Sc.D.

Institution(s): Automobile Insurers Bureau of Massachusetts and HICRC

Accomplishments: Derrig RA, Segui-Gomez M, Abtahi A, Lui LL. The effect of population safety belt usage rates on motor-vehicle-related fatalities. *Accident Analysis and Prevention*. 2002; 34:101-110.

The effectiveness of safety belt usage in reducing mortality and morbidity among traffic crash victims has been well established. Population safety belt usage rates have been increasing from 11% in 1980 to 68% in 1995. Models applied to these 14 years of data show that the rates of population safety belt usage are associated with little effect on reducing fatality rates. On the other hand, higher safety belt usage rates arising from

states with primary enforcement laws indicate reductions in fatality rates. Such results call into question the NHTSA policy of basing incentive programs on overall safety belt usage rates.

Title of Project: Infant Water Safety

Project Director: Kimberly M. Thompson, Sc.D.

Institution(s): HSPH, Harvard Children's Initiative

Accomplishments: Thompson KM. The Role of Bath Seats in Unintentional Infant Bathtub Drowning Deaths. *Medscape General Medicine*. March 26, 2003. Available at: <http://www.medscape.com/viewarticle/450989>

Risk analysis of bathtub drowning deaths for infants aged 6-10 months using fatality data from the Consumer Product Safety Commission (CPSC) and the National Center for Health Statistics, and bath seat ownership from the American Baby Group and industry sales. From 1994 through 1998, 40 infant drowning deaths were associated with bath seats, and 78 were not. Based on available data on sales and use that suggest approximately 45% of infants use bath seats, the existing data do not support a the hypothesis that bath seats increase the risk of drowning for infants. The analysis suggests that the CPSC made the appropriate decision not to ban bath seats in response to petitions it received in 1994 and 2001.

VIOLENCE

Title of Project: Development of a Screening Tool for the Identification of Intimate Partner Violence in Greek Medical Settings

Project Director: Eleni Petridou, M.D., Angela Browne, Ph.D. and Erika Lichter, M.S.

Institution(s): Center for Research and Prevention of Injuries-University of Athens, HICRC

Accomplishments: A protocol for intimate partner violence was developed and tested successfully in Athens, Greece. This protocol is being used as a model for protocols in European Union countries.

Petridou E, Browne A, Lichter E, Dedoukou X, Alexe D, Dessypris N. What distinguishes unintentional injuries from injuries due to intimate partner violence: A study in Greek Ambulatory care settings. *Injury Prevention*. 2002; 8:197-201.

Compared to those receiving an unintentional injury, intimate partner violence (IPV) victims are disproportionately rural, younger women (and for men, older men). The relative frequency of IPV increases in the late evening and night. Multiple facial injuries, and presentation of the injured person by themselves at the emergency department are predictive of IPV.

Title of Project: Markers for Suicide

Project Director: Matthew Miller, M.D., M.P.H.

Institution(s): HICRC

Accomplishments: Miller M, Hemenway D, Bell NS, Yore MM, Amoroso PJ. Cigarette smoking and suicide: A prospective study of 300,000 male active-duty Army soldiers. *American Journal of Epidemiology*. 2000; 151:1060-63; Miller M, Hemenway D, Rimm

E. Cigarettes and suicide: A prospective study of 50,000 men. *American Journal of Public Health*. 2000; 90:768-73.

Among 300,000 male soldiers, and 50,000 men in the Harvard Health Professionals Study, the risk of suicide increased significantly with the number of cigarettes smoked daily. Factors accounted for included race, alcohol consumption, education, exercise, marital status, and cancer.

Title of Project: Epidemiology of Suicide-Related Hospital Admissions in the State of Illinois

Project Director: Edmond Shenessa, Sc.D.

Institution(s): Harvard School of Public Health

Accomplishments: Shenessa ED, Catlin SN, Buka SL. Lethality of firearms relative to other suicide methods: A population based study. *Journal of Epidemiology and Community Health*. 2002; 57:120-124.

Data on suicides and attempted suicides that resulted in hospitalization in Illinois from 1990-1997 show that firearm attempts were significantly more lethal than the other methods of suicide.

DATA QUALITY

Title of Project: Criminals and Gunshot Wounds

Project Director: David Hemenway, Ph.D., John May, M.D.

Institution(s): HICRC and Prison Health Services, IN.

Accomplishments: May John P, Hemenway D, Oen R, Pitts KR. Medical care solicitation by criminals with gunshot wound injuries: A survey of Washington D.C. jail detainees. *Journal of Trauma*. 2000; 48:130-132.

Estimates of nonfatal gunshot wounds come from hospital emergency room data and may miss, among other things, wounded individuals who do not seek medical treatment. Criminals may be those least likely to rely on professional care for their wounds. A case series of 79 detainees at a Washington D.C. jail who had previously been shot were interviewed by medical personal. In 92% of the incidents, respondents reported going to the hospital; one third were hospitalized for more than one week. More than half had been shot in the head or torso and 40% had a current disability attributable to the wound. Virtually all respondents reported that they were the victims (e.g. 24% of robbery, 21% shot in a cross-fire, 21% shot during assaults, 18% shot in retaliation). Twenty-eight percent admitted being high on drugs during the shooting. The results suggest that statistics on nonfatal gunshot wounds do not miss most criminals who are shot.

Title of Project: Hospital trauma registries

Project Director: David Clark, M.D., M.P.H.

Institution(s): HICRC, Maine Medical Center

Accomplishments: Clark DE, Hahn DR. Hospital trauma registries linked with population-based data. *Journal of Trauma*. 1999; 47:448-54.

BACKGROUND: We sought to obtain more reliable population-based data for injury

epidemiology and trauma system evaluation by linking several sources. **METHODS:** In the state of Maine, probabilistic computer methods were used to link data from hospitals contained in a trauma registry for 1995 to 1996 to data from the same years contained in death certificates, ambulance run reports, and hospital discharge abstracts. **RESULTS:** Close to 9,000 cases of serious injury were identified; only 74% of the trauma center cases and 33% of the cases overall were contained in the registry. Only 84% of fatal hospitalized cases matched to a death certificate. **CONCLUSIONS:** Combining sources of data for injury victims can produce a resource more descriptive than any single source alone.

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