
Violence Prevention in the Emergency Department: Future Research Priorities

Debra Houry, MD, MPH, Rebecca M. Cunningham, MD, Abigail Hankin, MD, MPH, Thea James, MD, Edward Bernstein, MD and Stephen Hargarten, MD, MPH

Abstract

The 2009 *Academic Emergency Medicine* Consensus Conference working group session participants developed recommendations and research questions for violence prevention in the emergency department (ED). A writing group devised a working draft prior to the meeting and presented this to the breakout session at the consensus conference for input and approval. The recommendations include: 1) promote and facilitate the collection of standardized information related to violence victimization and perpetration in ED settings; 2) develop and validate brief practical screening instruments that can identify those at risk for perpetration of violence toward others or toward self; 3) develop and validate brief practical screening instruments that can identify victims at risk for violent reinjury and mental health sequelae; and 4) conduct efficacy, translational, and dissemination research on interventions for violence prevention. The work group emphasized the critical need and role of ED-based research to impact surveillance and prevention of future violence-related injury.

ACADEMIC EMERGENCY MEDICINE 2009; 16:1089–1095 © 2009 by the Society for Academic Emergency Medicine

Keywords: violence, prevention, research, public health

This article is a product of a breakout session on injury prevention from the 2009 *Academic Emergency Medicine* Consensus Conference on “Public Health in the ED: Screening, Surveillance, and Intervention.” The overall conference examined different aspects of public health in the emergency department (ED) and ways providers can identify and intervene with several

different health risk behaviors. During our breakout session on injury, we acknowledged that injury was a multifaceted and complex topic that could not be adequately covered in the allocated time, so we limited our session’s research agenda focus to intentional injuries with respect to screening, surveillance, and interventions in the ED.

From the Department of Emergency Medicine, Center for Injury Control, Emory University (DH), Atlanta, GA; the Department of Emergency Medicine, Injury Research Center, and the Department of Health Behavior and Health Education, School of Public Health, University of Michigan (RMC), Ann Arbor, MI; the Department of Emergency Medicine, University of Pennsylvania (AH), Philadelphia, PA; the Department of Emergency Medicine, Boston Medical Center (TJ, EB), Boston, MA; and the Department of Emergency Medicine, the Injury Research Center, and the Firearm Injury Center, Medical College of Wisconsin (SH), Milwaukee, WI.

Received June 18, 2009; revisions received June 28 and July 3, 2009; accepted July 4, 2009.

Address for correspondence and reprints: Debra Houry, MD, MPH, Department of Emergency Medicine, Center for Injury Control, Emory University, 49 Jesse Hill Jr Dr SE, Atlanta, GA 30303; E-mail dhoury@emory.edu.

This work is the output from a consensus workshop conducted during the May 2009 *Academic Emergency Medicine* Consensus Conference in New Orleans, LA: “Public Health in the ED: Surveillance, Screening, and Intervention.”

Violence is important to study across the life span, from child maltreatment to elder abuse. Although much of the ED research to date has focused on each type of violence separately, it is important to consider the overlap between types of violence, such as suicidality and intimate partner violence (IPV), and to understand the differences between survivors of violence and those who are aggressive toward others.

Violent (intentional) injuries are among the top three causes of death for persons between the ages of 10 to 34 years and ranks in the top 10 causes of death for persons between the ages of 1 and 64 years.¹ Violence accounts for more than 2 million visits to EDs in the United States each year.² The magnitude of this number masks the diversity of populations and circumstances that violence research and prevention encompasses.

Victims of violence vary by age, sex, ethnicity, and geographical setting. Additionally, while many patients present with clinically obvious violent injuries, many victims of violence present with medical complaints or are hesitant to disclose the true etiology of their injury. Early recognition of victims of violence in the ED

creates the opportunity to refer patients to community- and hospital-based prevention and treatment programs or to provide a brief intervention.

To many emergency physicians, adding “one more thing” to screen for or to conduct a brief intervention and referral may seem unrealistic. However, the ED is already the site of considerable violence prevention. ED providers are trained to carefully consider a patient’s safety after discharge when treating a young woman with a black eye caused by a partner, to contact child protective services for a suspicious burn in a young child, or to refer a patient with a self-inflicted wound to psychiatric care. Beyond the social and ethical considerations, in many cases, physicians are mandated to report suspected abuse to the proper authorities.

With this in mind, we developed recommendations and research questions for violence prevention in the ED. In addition, given the number of injuries that result in ED visits, we recognize that data collected in the ED or abstracted from ED records provide an opportunity to describe the magnitude and characteristics of injury events (unintentional and intentional) and collect data that can be used to assess prevention efforts. For example, Vyrostek et al.³ used data collected in EDs through the National Electronic Injury Surveillance System All Injury Program (NEISS-AIP) and the National Vital Statistics System (NVSS) and reported that in 2001 over 150,000 people were fatally injured, and nearly 30 million people were treated in EDs for an injury.

RECOMMENDATION 1: PROMOTE AND FACILITATE THE COLLECTION OF STANDARDIZED INFORMATION RELATED TO VIOLENCE VICTIMIZATION AND PERPETRATION IN ED SETTINGS

Background

The ED serves a unique role, standing both as the entry point into the health care system for many patients and as the health care provider of last resort. The ED is also where people go for treatment of an acute injury regardless of their background. Given this role, implementation of ED-based surveillance programs has potential to both serve individual patients and provide important data about the population to inform prevention and intervention efforts.

Currently, several surveillance systems utilize ED data for the purpose of tracking violent injuries. The Centers for Disease Control and Prevention’s (CDC) National Center for Injury Prevention and Control (NCIPC) oversees the National Violent Death Reporting System, a state-based surveillance system that links data from law enforcement, medical examiners and coroners, and vital statistics and crime labs in 17 states. Some of these states include ED data in their reporting. In addition, the U.S. Consumer Product Safety Commission and NCIPC sponsor the NEISS-AIP in a nationally representative sample of 66 EDs, which tracks assault-related injuries in addition to unintentional injuries. The National Hospital Ambulatory Medical Care Survey (NHAMCS) includes information about

injuries in EDs. NHAMCS uses a national probability sample of visits to the EDs in all 50 states.

One concern with the current surveillance systems is the validity of information in the charts. For a system like NEISS, the surveillance data are abstracted from the ED record and thus are only as good as what is documented in the records. In addition, U.S. hospitals are not linked to a single electronic medical record system—many hospitals still do not even use an internal electronic medical records system, relying instead on paper charts.

Current State

External cause-of-injury codes (e-codes) are assigned to medical records of injury patients. Only 26 states and the District of Columbia have mandates that require the routine collection of external cause-of-injury data.⁴ Although e-coding is subject to human error and documentation, and thus misclassification or incomplete data, increasing the number of states that mandate routine e-coding would result in greater data collection on violent injuries in U.S. EDs.

Coben and colleagues⁵ found that 86% of injury records in the Healthcare Cost and Utilization Project hospitals had e-codes and the states that enforced e-coding averaged 97% completeness. If states mandate e-coding, hospitals will be more likely to routinely code injury medical records. This will allow researchers and practitioners to track trends and obtain detailed information around violent injuries.

Annest and colleagues⁶ published recommendations to improve the quality of e-coding data collected in hospitals. They suggested that the CDC should develop uniform quality assurance practices for e-codes, and state injury prevention programs should conduct regular evaluations on e-code data to review the completeness, accuracy, and usefulness of the information being collected. The authors also suggested establishing training curricula for health care providers on how to document circumstances of injury events in the ED medical chart.

To assist with standardization of surveillance data, NCIPC published recommended definitions and data elements for IPV, sexual violence, and child maltreatment surveillance.^{7,8} Yet these definitions and elements are not always used in research and surveillance. For example, definitions of IPV vary widely between studies, as do the screening questions used.⁹ Another concern for violence surveillance is that documentation of violent injuries and other important data elements is suboptimal. Houry and colleagues¹⁰ reviewed ED charts of patients injured by assault and found that in two-thirds of charts, the identity of the assailant was not documented, and for 13% of cases the object or force used in the assault was not noted. However, Langlois et al.¹¹ reviewed medical records for which no e-codes were submitted and found that over two-thirds had enough information in the medical record to assign a general e-code. Consistent with CDC recommendations, we need improvements in e-coding quality and consistency to conduct surveillance, and uniform definitions should be employed.

The ultimate long-term goal we should move toward is to establish a national surveillance system that

captures e-codes from electronic medical records across states. As a first step, some states developed their own surveillance systems. An example of this is in Michigan, where the Michigan Department of Community Health established the Michigan Emergency Department Community Injury Information Network, composed of 23 randomly selected EDs stratified by size.¹² E-codes are captured from electronic records. For the Intimate Partner Violence Surveillance System, a data collector at each participating hospital conducts chart reviews to abstract additional information regarding the ED visit. Learning the scale and nature of the burden of violence-related injuries can guide the development of prevention and intervention efforts and health services to assist victims, and ongoing surveillance provides a means by which to evaluate the success of these measures.

Research Questions

1. How can EDs collect and report on violently inflicted injuries in a standard way?
2. Is there enough information in medical records to abstract data using standard definitions and to obtain basic data elements, or do secondary systems need to be in place?

RECOMMENDATION 2: DEVELOP AND VALIDATE BRIEF PRACTICAL SCREENING INSTRUMENTS THAT CAN IDENTIFY THOSE AT RISK FOR PERPETRATION OF VIOLENCE TOWARD OTHERS OR TOWARD SELF

Background

Most prior research has been conducted on ED screening for victims of violence. However, to truly implement prevention and to prevent victimization from recurring violence, ED research should also focus on identification of those at highest risk of future aggression, and perpetrators of violence, understanding that perpetrators after detailed assessment are sometimes themselves victims of prior violence. In addition, ED visits for suicide attempts and self-injury have increased over the past decade and currently account for 150 visits per 100,000 U.S. population.¹³ This statistic does not include patients with occult, undiagnosed suicidal ideation.^{14,15} Screening instruments to detect those at risk for self harm are also needed. It is important to recognize that screening in itself is not the end point; however, interventions cannot be successfully conducted without good research on identification of those experiencing violence.

Current State

Being a victim of violence during adolescence increases the odds of being an adult perpetrator or victim of violence.¹⁶ For example, exposure to firearm violence doubles the probability that a youth will commit violence within 2 years.¹⁷ Cunningham et al.¹⁸ reported that patients who either perpetrated or experienced violent assault were more likely to report alcohol use, marijuana use, cocaine use, and prescription drug use. In another study, alcohol and marijuana use and carrying a knife in the past year were associated with self-

reported perpetrated severe violence against another youth.¹⁹ With these data in mind, youth presenting to the ED with violence-related injuries or substance abuse issues need to be considered at high risk for future violence and subsequently assessed with a comprehensive history.

Lipsky and Caetano²⁰ found that IPV perpetrators are 1.5 times more likely to use the ED than nonperpetrators. Several risk-taking factors, alcohol and substance use and mental illness, were also positively associated with IPV perpetration.²⁰ Another survey administered to men at a batterer treatment program in a metropolitan region revealed that 42% of these perpetrators had received medical care within the preceding 6 months, and the majority went to the ED for this treatment.²¹ By identifying perpetrators in the ED and referring them to community resources, practitioners may be able to prevent future violent acts toward others. Specific validated questions need to be developed for use in ED settings. Currently, there are few screening tools for perpetrators in the health care settings, and those that do exist need to be validated in larger populations before they can be disseminated and implemented.

The ED also is a venue to identify those at risk for harm toward themselves. In Texas, a computerized health program in the ED screened over 1,500 patients who were not presenting for suicidal ideation and revealed that 12% of these unselected ED patients acknowledged suicidal ideation and 2% reported planning to kill themselves. Chart review found that only 6 of the 31 patients who were planning suicide were detected during their index visit.¹⁴ Kembell et al.¹⁵ conducted a similar study and reported that of the ED waiting room patients who endorsed suicidality on a computer assessment, only 25% of patients had suicidal ideation or other mental health issues noted on the ED chart, and the majority of patients were discharged home. The ED is an important portal to recognize and intervene with these patients, because many do not disclose suicidality as their presenting complaint and will be missed if patients are not universally screened for suicide. The reader is referred to the mental health work group paper in this issue for further research recommendations.

Research Questions

1. What screening questions can identify those at risk for future perpetration of interpersonal violence?
2. What screening questions can identify those at risk for self-directed violence?
3. Are interventions and referrals from the ED effective in preventing future perpetration of violence?

RECOMMENDATION 3: DEVELOP AND VALIDATE BRIEF PRACTICAL SCREENING INSTRUMENTS THAT CAN IDENTIFY VICTIMS AT RISK FOR VIOLENT REINJURY AND MENTAL HEALTH SEQUELAE

Background

The U.S. Preventive Services Task Force found insufficient evidence to recommend for or against routine

screening of parents or guardians for the physical abuse or neglect of children, of women for IPV, or of older adults or their caregivers for elder abuse.²² Yet more than 766,000 youth ages 15 to 24 years received medical care in 2007 for nonfatal violent injuries, of which 9% required hospitalization,¹ and repeat visits among this injured cohort are common. In the pediatric setting, much work has been done to look for clinical patterns that suggest intentional, rather than unintentional, injury. Some of these studies suggest that specialized physician training, combined with a high index of suspicion for abuse, could prevent child injury and even abuse-related deaths.²³ The geriatric patient presents similar challenges and necessity for screening. As many as 1 to 2 million elder Americans are believed to be victims of abuse each year, with an incidence as high as 3% of all elderly people in some urban areas.^{24,25} Despite these concerning numbers, only one ED-based protocol for the identification of elder abuse has been published,²⁶ and none have been validated. Thus in response to the U.S. Preventive Services Task Force recommendation, more research on screening is still needed, particularly so that research can progress to studying the efficacy and effectiveness of interventions in these identified patients.

Victims of violence routinely use the ED for medical care, and many of them do not have access to regular health care providers. Without identification in the ED, many of these patients will have continued abuse and injuries and experience sequelae from the abuse such as mental health illnesses and drug and alcohol abuse.

Current State

Studies on youth violence indicate that readmission rates for youth treated in the ED for violent injuries are as high as 44% for injury due to another assault, and some studies find a subsequent death by homicide rate of 20% among the subset whose index visit required admission to a trauma service.^{27–32} Urban adolescents seen after a gunshot injury are more likely to die from a subsequent and similar injury than from any other illness or condition for which they seek care,^{33,34} and the mental health sequelae (posttraumatic stress disorder [PTSD], depression) directly related to the traumatic event are just beginning to be studied. A study conducted in an urban ED found that women who disclose IPV victimization are at risk for future IPV over the next few months, including injuries that require medical attention.³⁵ Lipsky and colleagues³⁶ found that the odds of a violence-related injury treated in the ED was increased threefold among persons with a history of IPV victimization. These studies all suggest that there are victims who can be identified in the ED who are at risk of incurring future injuries. Implementation of a comprehensive ED health and safety survey instrument is an opportunity to capture and identify patients at risk and to intervene. It is important to remember that screening for those at risk should not be limited to those with injury, as patients may be seen for an injury at one visit and for a sore throat another time, particularly in populations with minimal access to health care.

Victims of violence are at risk for mental and physical health issues. Houry et al.³⁷ found that patients were

more likely to experience severe depression, PTSD, and suicidality if they reported more than one type of abuse (e.g., physical, emotional, and sexual IPV). Houry and colleagues interviewed IPV victims with and without suicide attempts and found that IPV victims who attempted suicide scored higher on all depressive items queried, including four items in particular: sadness, self-dislike, suicidal thoughts, and feelings of worthlessness. Each of these items demonstrated a moderate effect and may be useful as an ED-based brief screening tool for detecting IPV victims risk for suicidal behavior.³⁸ Researchers in another study tested mental health scales for depression, PTSD, and suicide to develop a brief mental health screen to identify IPV victims at risk for mental illness. They found that asking four questions about sadness, experiencing a traumatic event, the desire to live, and the desire to commit suicide were associated with moderate to severe mental health symptoms in IPV victims.³⁹ Validating this work in other ED and clinic settings and expanding this to other categories of violence is needed.

What is the best way to identify violence victims in the ED? The ED is a busy and often chaotic environment, and health care providers do not always have sufficient time to screen for sensitive issues in all patients. Rhodes et al.⁴⁰ reported that computer screening for IPV resulted in increased chart documentation of IPV compared to usual care. Computer screening also allows for anonymity and may increase patient reporting of private issues, particularly among adolescents and young adults who are increasingly tech savvy. Linking computer screening with referrals has been demonstrated to be safe and effective. Houry and colleagues screened male and female IPV victims and perpetrators and did not find any immediate adverse events around screening. In addition, victims received referrals linked to their screening results, and one-third had contacted community resources during the 3-month follow-up period.⁴¹ A randomized controlled trial conducted in Canada revealed that women preferred self-completed approaches (written screens or computer kiosks) to face-to-face questioning. Computer-based screening did not increase detected prevalence of IPV in this study.⁴²

Research Questions

1. Are there specific ED presentations or subgroups of patients who are at particular risk for injury?
2. What questions can identify victims of violence at risk for mental health sequelae?
3. What is the best mechanism to screen for victims of violence in the ED?

RECOMMENDATION 4: CONDUCT EFFICACY, TRANSLATIONAL, AND DISSEMINATION RESEARCH ON INTERVENTIONS FOR VIOLENCE PREVENTION

Background

Recent literature has demonstrated some promising interventions for violence prevention. For example, Zun et al.⁴³ described a program that successfully referred

victims of youth violence from the ED to a case manager at a social service agency. Most (81%) of the individuals made contacts with their case manager and used services, such as education (22%) and job readiness (19%). On a larger scale, several Philadelphia EDs have collaborated in the development of the Pennsylvania Injury Reporting and Intervention System, which provides an intervention for gunshot victims. This program assigns a counselor to victims and their families to aid in recognition of conditions that may have contributed to their exposure to violence. Together, they develop individual and family plans for victims focusing on preventing further violence. However, both of these programs have yet to report if contact with services reduces repeat violence.

Prior studies evaluating a similar case management approach with an inpatient trauma population found that the intervention group was three times less likely to be arrested for a violent crime, two times less likely to be convicted of any crime, and four times less likely to be convicted of a violent crime.⁴⁴ Other hospital-based programs have undergone evaluation, demonstrating a decrease in arrest rates and intentional reinjuries by program participants.^{45,46} Specifically, youth who had participated in the intervention were 70% less likely to be arrested and 60% less likely to have any criminal involvement.⁴⁵ As with all promising interventions, these projects require replication and further evaluation. Given the context of youth violence, which includes the complexity of their environments and the reality of what these youth face daily, even if patients are not reinjured or are not rearrested, there are smaller steps they make that can be an important outcome of intervention programs, such as improved mental health functioning and interactions with family and friends.

Physicians also have used the Brief Negotiating Interview (BNI) to address public health problems, through surveillance and brief interventions⁴⁷ such as at-risk and dependent alcohol consumption and drug use.^{48,49} The BNI has been recommended by the American College of Emergency Physicians on its continuing medical education website and has been disseminated widely in EDs across the country.⁵⁰⁻⁵² This model has also been used for seat belt safety,⁵³ and it could be adapted for violence prevention in EDs.^{54,55}

Current State

ED-based studies have demonstrated the effectiveness of brief counseling *at the time of ED care* for prevention of other injury-related risk behaviors, such as at-risk alcohol use and abuse.⁵⁶⁻⁶¹ Similar brief motivational techniques may be applicable to ED violence prevention initiatives at the time of ED care, especially in combination with active referral to community resources. One preliminary study found universal computerized screening for violence and brief intervention during an ED visit is feasible, well-received, and effective at changing violence and alcohol attitudes at posttest.⁵⁵ Given the intrinsic difficulty in contacting high-risk patients for follow-up evaluations, initiating the intervention during the ED visit may be a critical component in this endeavor. Strategies that can promote and enhance this evaluation and

linkage include the use of trained peer volunteers (as is done for support of many IPV and sexual assault victims), less resource-intensive interventions that utilize computer- or Web-based technology earlier along the spectrum of problem behavior, and using existing or additional funded social workers to provide linkages with community-based programs.^{57,62,63}

Despite considerable gains in knowledge in school and community settings of violence prevention, the evidence base for violence clinical preventive services in the ED is still at a nascent stage. Research to identify effective components of current programs, cost-effectiveness, and reproducibility in other systems is needed to better understand the best approaches to risk assessment and intervention within the ED setting and to evaluate the impact of these actions on the long-term outcomes of violently injured patients.

Research should focus on the most effective elements of the intervention, its appropriate dose and duration, and the client characteristics that are associated with stronger effect sizes, as an intervention for IPV will likely need to have different components or delivery than an intervention for youth violence. It is also important to consider specific types of trained interventionists (i.e., paraprofessionals, social workers, physician, and psychologists) to determine who is appropriate to deliver which elements of the intervention. As each ED is unique, it is also paramount to study ED staff and system barriers and facilitators to the implementation of violence intervention programs. Multisite studies, although less controlled and more challenging, can offer greater generalizability across regions, age, culture, ethnicity, race, and socioeconomic classes and therefore provide more robust knowledge translation on both process and outcomes.

Research Questions

1. What is the efficacy of interventions such as brief interventions, case management, and referrals to enhance conflict resolution and decrease risk for victimization?
2. What measures are needed to move interventions from the research setting to clinical practice?
3. How can interventions be implemented and sustained across different ED settings and patient populations?
4. Are interventions cost-effective and feasible to administer in varied ED settings?

CONCLUSIONS

Emergency departments can be critical sites for surveillance, screening, and selected focused interventions. National surveillance with electronic medical records and e-codes, standardized definitions, and quality control is necessary to provide information to researchers and policy makers and to assess intervention and prevention efforts. Expanding screening to include perpetrators as well as those at risk of self-harm requires further study. Finally, violence prevention interventions in the ED will require additional research to determine efficacy and effectiveness.

The authors thank Robin Ikeda, MD, MPH, for her assistance with the conceptualization of this research agenda.

References

- Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS). Available at: <http://www.cdc.gov/injury/wisqars/index.html>. Accessed Apr 28, 2009.
- Nawar EW, Niska RW, Xu J. National Hospital Ambulatory Medical Care Survey: 2005 Emergency Department Summary. Adv Data. 386. Hyattsville, MD: National Center for Health Statistics, 2007.
- Vyrostek SB, Annest JL, Ryan GW. Surveillance for fatal and nonfatal injuries—United States, 2001. MMWR Surveill Summ. 2004; 53:1–57.
- Abellera J, Annest JL, Conn JM, Kohn M. How states are collecting and using cause of injury data: 2004 update to the 1997 report. A survey by CSTE, APHA-ICEHS, and STIPDA. March 2005. Available at: http://www.cste.org/pdffiles/newpdffiles/ECODE_Final3705.pdf. Accessed Aug 1, 2009.
- Coben JH, Steiner CA, Barrett M, Merrill CT, Adamson D. Completeness of cause of injury coding in healthcare administrative databases in the United States, 2001. Inj Prev. 2006; 12:199–201.
- Annest JL, Fingerhut LA, Gallagher SS, et al. Strategies to improve external cause-of-injury coding in state-based hospital discharge and emergency department data systems: recommendations of the CDC Workgroup for Improvement of External Cause-of-Injury Coding. MMWR Recomm Rep. 2008; 57(RR-1):1–15.
- Saltzman LE, Fanslow JL, McMahon PM, Shelley GA. Intimate Partner Violence Surveillance: Uniform Definitions and Recommended Data Elements, Version 1.0. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, 1999.
- Leeb RT, Paulozzi L, Melanson C, Simon T, Arias I. Child Maltreatment Surveillance: Uniform Definitions for Public Health and Recommended Data Elements, Version 1.0. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, 2008.
- Rabin RF, Jennings JM, Campbell JC, Bair-Merritt MH. Intimate partner violence screening tools: a systematic review. Am J Prev Med. 2009; 36:439–45.
- Houry D, Feldhaus KM, Nyquist SR, Abbott J, Pons PT. Emergency department documentation in cases of intentional assault. Ann Emerg Med. 1999; 34:715–9.
- Langlois JA, Buechner JS, O'Connor EA, Nacar EQ, Smith GS. Improving the E coding of hospitalizations for injury: do hospital records contain adequate documentation. Am J Public Health. 1995; 85:1261–5.
- Birosack BJ, Smith PK, Roznowski H, Tucker J, Carlson G. Intimate partner violence against women: findings from one state's ED surveillance system. J Emerg Nurs. 2006; 32:12–6.
- Larkin GL, Smith RP, Beautrais AL. Trends in US emergency department visits for suicide attempts, 1992–2001. Crisis. 2008; 29:73–80.
- Claassen CA, Larkin GL. Occult suicidality in an emergency department population. Br J Psychiatry. 2005; 186:352–3.
- Kemball RS, Gasgarth R, Johnson B, Patil M, Houry D. Unrecognized suicidal ideation in ED patients: are we missing an opportunity? Am J Emerg Med. 2008; 26:701–5.
- Menard S. Short- and Long-term Consequences of Adolescent Victimization. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention, 2002.
- Bingenheimer JB, Brennan RT, Earls FJ. Firearm violence exposure and serious violent behavior. Science. 2005; 308:1323–6.
- Cunningham RM, Murray R, Walton MA, et al. Prevalence of past year assault among inner-city emergency department patients. Ann Emerg Med. 2009; 53:814–23.
- Cunningham R, Walton M, Trowbridge M, et al. Correlates of violent behavior among adolescents presenting to an urban emergency department. J Pediatr. 2006; 149:770–6.
- Lipsky S, Caetano R. Intimate partner violence perpetration among men and emergency department use. J Emerg Med. 2008; [Epub ahead of print] doi:10.1016/j.jemermed.2008.04.043.
- Coben JH, Friedman DI. Health care use by perpetrators of domestic violence. J Emerg Med. 2002; 22:313–7.
- Agency for Healthcare Research and Quality. US Preventive Services Task Force. Screening for Family and Intimate Partner Violence. Available at: <http://www.ahrq.gov/clinic/uspstf/uspstfamv.htm#summary>. Accessed May 1, 2009.
- King WK, Kiesel EL, Simon HK. Child abuse fatalities: Are we missing opportunities for intervention? Pediatr Emerg Care. 2006; 22:211–4.
- Galusha BL. Testimony before subcommittee on health and long term care, select committee on aging, United States House of Representatives. Federation Bulletin/Federation of State Medical Boards of the United States. 1985; 72:233–7.
- Pillemer K, Finkelhor D. The prevalence of elder abuse: a random sample survey. Gerontologist. 1988; 28:51–7.
- Jones J, Dougherty J, Schelble D, Cunningham W. Emergency department protocol for the diagnosis and evaluation of geriatric abuse. Ann Emerg Med. 1988; 17:1006–15.
- Sims DW, Bivins BA, Obeid FN, et al. Urban trauma: a chronic recurrent disease. J Trauma. 1989; 29:940–6.
- Reiner DS, Pastena JA, Swan KG, et al. Trauma recidivism. Am Surg. 1990; 56:556–60.
- Morrissey TB, Byrd CR, Deitch EA. The incidence of recurrent penetrating trauma in an urban trauma center. J Trauma. 1991; 31:1536–8.
- Goins WA, Thompson J, Simpkins C. Recurrent intentional injury. J Natl Med Assoc. 1992; 84:431–5.

31. Poole GV, Griswold JA, Thaggard VK, et al. Trauma is a recurrent disease. *Surgery*. 1993; 113:608–11.
32. Pennsylvania Health Care Cost Containment Council. Hospital performance report 2002 - news release. Pennsylvania Health Care Cost Containment Council Web site. Available at: <http://www.phc4.org/reports/hpr/02/nr102903.htm>. Accessed Apr 8, 2008.
33. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. National Summary of Injury Mortality Data, 1987–1994. Atlanta, GA: CDC, NCIPC, 1996.
34. Prothrow-Stith DB. The epidemic of youth violence in America: using public health prevention strategies to prevent violence. *J Health Care Poor Underserved*. 1995; 6:95–101.
35. Houry D, Feldhaus K, Peery B, et al. A positive domestic violence screen predicts future domestic violence. *J Interpers Violence*. 2004; 19:955–66.
36. Lipsky S, Caetano R, Field CA, Bazargan S. Violence-related injury and intimate partner violence in an urban emergency department. *J Trauma*. 2004; 57:352–9.
37. Houry D, Kembal R, Rhodes KV, Kaslow NJ. Intimate partner violence and mental health symptoms in African American female ED patients. *Am J Emerg Med*. 2006; 24:444–50.
38. Houry D, Kaslow NJ, Thompson MP. Depressive symptoms in women experiencing intimate partner violence. *J Interpers Violence*. 2005; 20:1467–77.
39. Houry D, Kembal RS, Click LA, Kaslow NJ. Development of a brief mental health screen for intimate partner violence victims in the emergency department. *Acad Emerg Med*. 2007; 14:202–9.
40. Rhodes KV, Lauderdale DS, He T, Howes DS, Levinson W. “Between me and the computer”: increased detection of intimate partner violence using a computer questionnaire. *Ann Emerg Med*. 2002; 40:476–84.
41. Houry D, Kaslow NJ, Kembal RS, et al. Does screening in the emergency department hurt or help victims of intimate partner violence? *Ann Emerg Med*. 2008; 51:433–42.
42. MacMillan HL, Wathen CN, Jamieson E, et al. McMaster Violence Against Women Research Group. Approaches to screening for intimate partner violence in health care settings: a randomized trial. *JAMA*. 2006; 296:530–6.
43. Zun LS, Downey LV, Rosen J. Violence prevention in the ED: linkage of the ED to a social service agency. *Am J Emerg Med*. 2003; 21:454–7.
44. Cooper C, Eslinger DM, Stolley PD. Hospital-based violence intervention programs work. *J Trauma*. 2006; 61:534–7.
45. Becker MG, Hall JS, Ursic CM, et al. Caught in the crossfire: the effects of a peer-based intervention program for violently injured youth. *J Adolesc Health*. 2004; 34:177–83.
46. Marcelle DR, Melzer-Lange MD. Project UJIMA: working together to make things right. *World Med J*. 2001; 100:22–5.
47. Bazargan-Hejazi S, Bing E, Bazargan M, et al. Evaluation of a brief intervention in an inner-city emergency department. *Ann Emerg Med*. 2005; 46:67–76.
48. Bernstein E, Bernstein J. Effectiveness of alcohol screening and brief motivational intervention in the emergency department setting. *Ann Emerg Med*. 2008; 51:751–4.
49. The Academic ED SBIRT Research Collaborative. An evidence based alcohol screening, brief intervention and referral to treatment (SBIRT) curriculum for emergency department providers improves skills and utilization. *Subst Abus*. 2007; 28:79–92.
50. The American College of Emergency Physicians. The Emergency Practitioner and the Unhealthy Drinker. Available at: <http://www.cmedownload.com/store/index>. Accessed Mar 8, 2009.
51. The American College of Emergency Physicians. Alcohol Screening and Brief Intervention in the Emergency Department. Available at: <http://www.acep.org/WorkArea/DownloadAsset.aspx?id=9034>. Accessed Mar 31, 2009.
52. The American College of Emergency Physicians. Selected presentations.com. Available at <http://cmedownload.com/acep>. Accessed Mar 28, 2009.
53. Fernandez WG, Mitchell PM, Jamanka AS, et al. Brief motivational intervention to increase self-reported safety belt use among emergency department patients. *Acad Emerg Med*. 2008; 15:419–25.
54. Hillsdon M, Thorgood M, White I, Foster C. Advising people to take more exercise is ineffective: a randomized controlled trial of physical activity promotion in primary care. *Int J Epidemiol*. 2002; 31:808–15.
55. Cunningham R, Walton MA, Zimmerman MA, et al. SafERTeens: Computerized screening and brief intervention for teens at-risk for youth violence [Abstract 264]. *Acad Emerg Med*. 2007; 14(Suppl 1):S106–7.
56. Monti PM, Colby SM, Barnett NP, et al. Brief intervention for harm reduction with alcohol-positive older adolescents in a hospital emergency department. *Consult Clin Psychol*. 1999; 67:989–94.
57. Gregor MA, Shope JT, Blow FC, et al. Feasibility of using an interactive laptop program in the emergency department to prevent alcohol misuse among adolescents. *Ann Emerg Med*. 2003; 42:276–84.
58. Johnston BD, Rivara FP, Droesch RM, et al. Behavior change counseling in the emergency department to reduce injury risk: a randomized, controlled trial. *Pediatrics*. 2002; 110(2 Pt 1):267–74.
59. Maio RF. Alcohol and injury in the emergency department: opportunities for intervention. *Ann Emerg Med*. 1995; 26:221–3.
60. Monti PM, Barnett NP, Colby SM, et al. Motivational enhancement of alcohol-involved adolescents. in: Monti PM, Colby SM, O’Leary TA (eds). *Adolescents, Alcohol and Substance Abuse: Reaching Teens Through Brief Interventions*. New York, NY: The Guilford Press, 2001, pp. 145–82.
61. Strecher V, Wang C, Derry H, et al. Tailored interventions for multiple risk behaviors. *Health Educ Res*. 2002; 17:619–26.
62. Strecher VJ, Kreuter M, Den Boer DJ, et al. The effects of computer-tailored smoking cessation messages in family practice settings. *J Fam Pract*. 1994; 39:262–70.
63. Skinner HA. *Promoting Health through Organizational Change*. San Francisco, CA: Benjamin Cummings, 2001.