OUR MISSION

- To conduct and facilitate research on the causes, treatment and prevention of unintentional and violence-related injury;
- To promote collaboration across academic, research, clinical, practice and policymaking organizations relative to injury prevention;
- To foster engagement in injury research and practice among students, clinicians and researchers through education, research and advocacy; and
- To serve the people with programs, counseling and other resources for preventing injuries.
Dear Friends,

It is our pleasure to present the inaugural report of Boston Medical Center’s Injury Prevention Center. Under the leadership of Executive Director Jonathan Howland, PhD, MPH, MPA, the Center brings together the Department of Emergency Medicine, the Division of Trauma Surgery and many Boston Medical Center and Boston University School of Medicine faculty and staff for the combined mission of injury prevention research, education and advocacy. During its short tenure, the Injury Prevention Center already has demonstrated the benefits that pooled resources, skill and expertise can bring for grant acquisition, scholarly activity and, most importantly, patient and community well being.

Sincerely,

Jonathan S. Olshaker, MD
Peter A. Burke, MD
Chief, Department of Emergency Medicine, Boston Medical Center; Professor and Chairman of Emergency Medicine, Boston University School of Medicine

A UNITED VISION

The Boston Medical Center (BMC) Injury Prevention Center (IPC) was created in July 2010 with support from the Department of Emergency Medicine and the Division of Trauma Surgery. Their joint investment reflects a commitment to expand the missions of each to develop a viable, self-sustaining, long-term institution for injury prevention research and practice. The IPC was founded on the shared beliefs that:

• Many of the injuries treated at BMC are preventable;
• Treatment should include intervention to prevent subsequent injury;
• Increasing evidence supports the effectiveness of ED-based brief behavioral interventions; and
• BMC’s Emergency Medicine Department is positioned to become a nationwide leader in injury prevention research and intervention.
LEADERSHIP COMMITTED TO IMPROVING LIVES

The IPC staff brings together a wealth of combined experience to create a world-class center for research and training in the field of injury prevention and education. The leadership team of the IPC includes the following individuals:

Jonathan Howland, PhD, MPH, MPA — Professor of Emergency Medicine, Boston University School of Medicine and the Executive Director of the BMC Injury Prevention Center. Dr. Howland has 25 years of experience in injury research, with emphasis on traffic safety, older adult falls and alcohol's contribution to error in safety sensitive occupations. His research includes epidemiological studies of risk factors for burns, falls (with emphasis on older adults), traffic injuries, drowning, non-combat military injuries and experimental trials of interventions for traffic safety. His work also includes randomized alcohol administration trials on the acute occupational and neurocognitive effects of low-dose alcohol consumption and next-day effects of intoxication. Dr. Howland has published many peer-reviewed papers and book chapters, primarily focused on injury causation and control. For 20 years, he taught program evaluation research methods at the Boston University School of Public Health.

Lisa Allee, MSW, LICSW — IPC Director of Programs and Education. Ms. Allee also is the Injury Prevention Coordinator for BMC’s Level-1 trauma center, where she develops, monitors and maintains evidenced-based injury prevention initiatives. Her clinical background spanned 10 years as the Pediatric and Pediatric Intensive Care Unit (ICU) Social Worker at BMC where she specialized in the care of trauma patients and their families during their time in the ICU as well as end of life care. Lisa also is on the faculty of the BNI-ART Institute, where she provides training on SBIRT. Her clinical research interests involve lifelong injury prevention. Current projects include research on older adult driving and safe sleep for infants and toddlers. Projects on PTSD and depression among trauma/acute care surgical patients and injury recidivism are under development.

Ed Bernstein, MD — IPC Director of Research. Dr. Bernstein also is Director of the Section of Public & Global Health in Emergency Medicine at BMC and Professor and Vice Chair for Academic Affairs in Emergency Medicine at BUSM. He founded the BNI-ART Institute, which provides training and technical assistance to health care researchers and practitioners for implementing screening and brief intervention and referral behavior change strategies. He is a founding member of the National Network of Hospital Violence Intervention Programs (NNHVIP), the New England Violence and Injury Research Collaborative Network and the BMC Injury Prevention Center.

Maura Harrington, MIM — Senior Grants Officer for BMC’s Foundation Relations and Government Grants Team in the Development Office. In the past three years, she has raised millions of dollars in grant money for projects funded by NIH, HRSA, Massachusetts Department of Public Health, Massachusetts Department of Higher Education, Avon Foundation, Susan G. Komen for a Cure Massachusetts Affiliate and other private foundations and government sponsors. With more than 20 years of professional writing and grant management experience, Maura has managed her own grant funded projects overseas, working in the fields of Human Rights, humanitarian assistance and education.

Thea James, MD — IPC Director for Community Outreach and Assistant Professor of Emergency Medicine at BUSM; Director of VIAP. She is a founding member of NNHVIP and in 2008 was awarded the Boston Public Health Commission’s Mulligan Award for Leadership and Public Service. Her humanitarian efforts include international medicine, educational outreach and disaster relief efforts in Haiti, India and Ghana. Dr. James is a Supervising Medical Officer on the MA-DMAT 1 team. In October 2011 Dr. James was selected as a member of the Attorney General’s National Task Force on Children Exposed to Violence which is part of a broader Defending Childhood Initiative.

Laura F. White, PhD — IPC Statistician. Dr. White is an Associate Professor of Biostatistics at the Boston University School of Public Health (BUSPH). In addition to her own research pursuits, Dr. White provides statistical support to investigators in BMC’s Department of Emergency Medicine and at BUSPH. She received her PhD in Biostatistics from Harvard University in 2006.
EXPERTISE AT THE CORE

The IPC core faculty represents a wide range of disciplines and medical specialties. Their combined skills form a foundation for the advancement of the Center’s mission. The IPC faculty includes the following individuals:

Suresh Agarwal, MD, FACS, FCCP, Chief of Surgical Critical Care, BMC; Associate Professor of Surgery, BUSM.

Peter A. Burke, MD, FACS, Chief of Trauma Services, BMC; Professor of Surgery, BUSM.

Tracey Dechert, MD, Attending Surgeon, Division of Trauma Surgery, BMC; Assistant Professor of Surgery, BUSM.

William DeJong, PhD, Professor of Community Health Sciences, Department of Community Health Sciences, BUSPH.

Elizabeth Dugan, MSW, LICSW, Program Manager, BMC Violence Intervention Advocacy Program (VIAP).

K. Sophia Dyer, MD, FACEP, Attending Physician, BMC Department of Emergency Medicine; Associate Professor of Emergency Medicine, BUSM; Medical Director, Boston EMS, Police and Fire; Associate Medical Director, Boston MedFlight.

James Feldman, MD, MPH, Attending Physician and Vice Chair of Research, BMC Department of Emergency Medicine; Professor of Emergency Medicine and Chair of the Institutional Research Board, BUSM.

Hani Mowafi, MD, MPH, Attending Physician and Co-Director, Section of Public and Global Health, BMC Department of Emergency Medicine; Assistant Professor of Emergency Medicine, BUSM.

Ward Myers, MD, MPH, Attending Physician and Clinical Instructor, Department of Emergency Medicine, BMC.

Timothy Naimi, MD, MPH, Associate Professor of Medicine, BUSM; Associate Professor, BUSPH.

Jonathan Olshaker, MD, Chief, Department of Emergency Medicine, BMC; Professor and Chairman of Emergency Medicine, BUSM.

Matthew Pecci, MD, Director of Primary Care Sports Medicine, BMC Department of Family Medicine; Assistant Professor of Family Medicine, BUSM.

Emily Rothman, PhD, MPH, Associate Professor, Department of Community Health Sciences, BUSPH; Visiting Scientist, Harvard Injury Control Research Center (HICRC); Research Advisor, Massachusetts Governor’s Council to Address Sexual Assault and Domestic Violence.

Robert Sege, MD, PhD Chief of Ambulatory Pediatrics and Medical Director of the Child Protection Team, BMC; Professor of Pediatrics, BUSM; Member, American Academy of Pediatrics Committee on Child Abuse and Neglect.

Joanne Brewer Timmons, MPH, BMC Domestic Violence Program Coordinator; Member, Governor’s Council to Address Sexual and Domestic Violence; Co-Chair of the Conference of Boston Teaching Hospitals’ Domestic Violence Council.

Alexander Y. Walley, MD, MSc, Attending Physician, Department of Medicine, BMC; Assistant Professor of Medicine, BUSPH; Medical Director, Massachusetts Department of Public Health Opioid Overdose Prevention Program.
Evaluation of Massachusetts Core Injury Prevention Grant (Howland): Jonathan Howland, IPC Director, has been selected by the Massachusetts Department of Public Health to be the external evaluator for the State’s most recent CDC-funded core injury prevention grant. This five-year project began in August 2011.

Violence Intervention Advocacy Program (VIAP) (James): VIAP was created in September of 2006 in collaboration with the Boston Mayor’s Office, the Boston Public Health Commission, the Massachusetts Department of Public Health, and the Boston Foundation. VIAP is directed toward people who sustain violently inflicted penetrating traumas. Program goals are to:

- Assist the injured in their emotional and physical recovery from violent trauma;
- Empower them with skills, services and opportunities so they can return to their communities;
- Make positive changes in their lives;
- Support others affected by violence; and
- Contribute to building safer and healthier communities.

The program employs community residents who are trained as violence intervention advocates.

Brief Motivational Interview for Older Adult Drivers (Allee, Burke, Howland): With funding from the Eastern Association for the Surgery of Trauma (EAST), the IPC is conducting a randomized trial of a brief motivational interview to encourage older adult patients at BMC to reduce risky driving. Telephone follow up over three months will aim to assess the effectiveness of the intervention in terms of actions taken to reduce driving risks.

MASSPORT Falls Study (Dyer, Howland): Each year approximately 220 falls at Logan Airport require airport EMT response. At the request of MassPort EMS and administrators, IPC investigators are conducting an epidemiological study of fall incidents to determine demographics and circumstances of the fall events. The aim of this study is to provide data for a falls mitigation intervention that will be implemented by MassPort and evaluated by the IPC.

Screening and Brief Intervention in the ED among Mexican-origin Young Adults (Bernstein, Cherpitel): This study is a trial of an ED-based brief motivational intervention to reduce alcohol abuse. The intervention is conducted in Spanish by Outreach workers.

Project DuLce: The Developmental Legal Collaboration (Sege, Allee): Child maltreatment disproportionately affects infants and very young children, particularly those who live in poverty. Prior prevention efforts have taught specific skills to parents — e.g., how to respond to a crying baby. In this study, a Developmental Legal (DuLce) specialist will reach infants and families through their routine health care visits and provide them with support for basic needs; screen infants for developmental problems and families for mental health problems; and improve families’ knowledge of child development. The project represents core collaboration between Healthy Steps, the Medical-Legal Partnership | Boston, East Boston Neighborhood Health Center, and Boston Medical Center. The DuLce intervention aims to reduce family risk factors, increase resilience, foster optimal child development and reduced maltreatment. The target population is infants in East Boston.

Safe Sleep Study (Allee, Douglass): This is a surveillance study looking at Sleep Practices of Caretakers of children age 2 and under. The goal is to determine where intervention techniques can be best implemented to increase safe sleep practices, reduce co-sleeping and reduce preventable infant/toddler deaths.

Underage Drinking and Dating Abuse (Rothman): This study investigates the relationship between underage drinking and dating abuse and develops and tests a brief motivational interview-style intervention to reduce youth drinking and dating abuse in an urban emergency department setting.

Impact of overdose prevention education and intranasal naloxone on fatal and non-fatal overdose in Massachusetts (Walley): One novel approach to opioid overdose prevention is education about overdose with naloxone distribution (OEND) programs. Among 18 Massachusetts communities with high
numbers of opioid overdoses, the proposed INPEDE OD - Intranasal Naloxone and Prevention EDucation’s Effect on OverDose study will determine the impact of OEND programs using an interrupted time series analysis to examine changes in annual fatal and non-fatal overdose rates over the period from 2002 and 2009 in those communities where an OEND program was implemented compared to those where it was not. The results of this study will be directly relevant to the overdose reduction efforts of public health entities nationwide. This R21 grant is supported by the National Center for Injury Prevention and Control of the Centers for Disease Control and Prevention (9/30/09-9/29/11).

Evaluating State Falls Coalitions (Howland):
This project is developing an evaluation manual for state fall coalitions under the auspices of the National Council on Aging.

PROJECTS GOING FORWARD

The IPC staff and faculty have pooled their skills and resources to submit the following grant applications.

CDC Injury Prevention Center: In collaboration with the Injury Prevention Center at Rhode Island Hospital and the Department of Emergency Medicine at Brown University School of Medicine, the IPC is submitting an application to the CDC for a 5-year injury prevention center grant. If funded, the center will include research, education and training and community outreach activities and research across Massachusetts, Rhode Island and Connecticut.

VIAP Evaluation (Howland, James): In collaboration with the Massachusetts Department of Public Health, IPC investigators have applied to the US Department of Justice Office of Juvenile Justice and Delinquency Prevention to conduct a mixed quantitative and qualitative methods study to evaluate the impact of the Violence Intervention Advocacy Program (VIAP) based at the BMC ED (see program description on page 4). The study will use a prospective cohort design to assess the three-year follow-up effects of VIAP on:
- ED visits and hospitalizations for intentional injury;
- Arrest for violent crime; and
- Mortality.

The College Health Education Project (DeJong): This project features an alcohol survey completed by over 350,000 first-year college students assigned to take AlcoholEdu for College, an online alcohol course. The survey has two parts — a set of questions about alcohol-related beliefs, attitudes and behavior, followed by a supplemental question set to which students are randomly assigned. Several analyses will be conducted that will help elucidate the predictors of heavy alcohol and its consequences, including injuries to self and others. Examples of specific topics include:
- Predictors and consequences of alcohol energy drink use;
- Predictors and consequences of pre-gaming;
- Changes in drinking behavior among abstainers entering college; and
- Changes in sexual assault-related beliefs and attitudes as a function of increased drinking among college students.

The study will use qualitative structured interviews with VIAP participants to explore the impact of the program on their lives.

Effects of Caffeinated vs. Non-Caffeinated Alcohol on Risk-Taking (Howland, Rohsenow): Along with colleagues at Brown University, one of the IPC investigators has applied for NIH funding to compare effects of caffeinated alcoholic beverages (CAB) vs. non-caffeinated alcoholic beverages (NCAB) on a number of safety-related outcomes. The study will use a randomized alcohol-administration trial in which young adult participants are randomly assigned CAB or NCAB in sufficient quantity (by weight and sex) to raise breath alcohol concentration to .12g%. The beverages will be compared on:
- Perceptions of intoxication
- Alertness
- Stimulation
- Self-rated fitness-to-drive
- Sexual risk-taking
- Demand to drink more alcohol.
**Effects of Community Policing on Physical Activity (Calise, Howland):** IPC investigators, in collaboration with colleagues at John Snow Institute (Tamara V. Calise), have submitted a grant application to the Robert Wood Johnson Foundation to conduct a quasi-experimental evaluation of the effects of a new police substation on residents’ perceptions of neighborhood safety and their levels of physical activity. This proposed study will be conducted in New Bedford, Mass, in a low-income housing development.

**Objective Assessment of Signs to Improve Safety (Sege):** Approximately one-third of abused children seen by a clinician for concerns related to abuse are not reported as abused or maltreated to the state. This study aims to improve the reporting rate of suspected child maltreatment and reduce racial disparities in reporting. It will employ a randomized design involving 300 U.S. clinicians who will each document their experience of reporting child maltreatment over the course of one year. Participating clinicians will also complete visit encounters for 50 consecutive visits before and after training. The intervention will consist of:

- Education – an evidence and case-based interactive long distance program;
- Training – guided practice of clinical examination emphasizing the recognition of bruises typically caused by abuse;
- Decision support – real-time support delivered through a mobile platform application.

**SERVING LOCAL COMMUNITIES**

While the work of the IPC benefits victims of injury and violence worldwide, the Center is keenly aware of local needs and applying its mission to improve the lives of people of the Boston area. Working closely with several Boston Medical Center departments, the IPC has developed the following initiatives:

**Child Protection Team (Allee, Sege):** The Injury Prevention program works closely with the Child Protection Team (CPT) at Boston Medical Center. Part of the Department of Pediatrics at Boston Medical Center, the CPT addresses issues of child abuse and maltreatment including identification, prevention, safety and protection.

**Domestic Violence Program (Timmons):** Although domestic violence is highly under-reported and difficult to measure, awareness is increasing across all races, genders and backgrounds. Yet, we see the effects of domestic violence daily in our Emergency Department. Boston Medical Center’s Domestic Violence Program works to improve and coordinate the institution’s response to domestic violence, both as a health care provider and as an employer, through:

- Training, education and awareness initiatives;
- Policy and protocol development;
- Consultation and technical assistance;
- Direct advocacy/support for survivors of abuse and violence; and
- Connection to community resources.

The advocacy services are free, voluntary, confidential and open to any member of the Boston Medical Center community — patients, staff, students and faculty — who has been hurt by an intimate partner. Anyone who is looking for help for themselves or someone else can call for more information and for referrals to other community resources.

**Low Cost Helmet Program (Allee):** Boston Medical Center works in collaboration with the Boston Public Health Commission and the Play Safe Campaign to provide low-cost helmets to the people of Boston.

**Child Passenger Safety (CPS) Program (Allee):** Massachusetts state law requires that all children under age 8 and less than 57 inches tall be properly fastened and secured in a federally approved car seat or booster seat. BMC recognizes the CDC’s Child Passenger Safety recommendations and requires that an approved and properly installed infant car seat be in place before newborns are discharged from the hospital.
The Division of Trauma partners with the BUSM Public Safety Office to provide patients with:

- CPS Inspection Station – open events are held throughout the good weather months and any time by appointment.
- Assistance with newborn car seat fit and installation upon discharge.
- Car Seat Installations – for patients, families, staff and community members by appointment.
- Education for Families – our informational brochure on car seat safety and how to obtain a child's car seat is provided at 28-week prenatal appointments in the Women’s Center.

“Heads Up” Concussion Program (Allee): As the topic of sports concussions is becoming increasingly prevalent in the news, BMC is committed to educating patients about the risks involved and helping them cope with injuries. High school athletes’ recovery times for a sports concussion are longer than those of college athletes. Plus, those in high school who sustain a sports concussion are three times more likely to suffer a second one before graduation. Lack of proper diagnosis and management of concussion may result in serious long-term consequences, including the risk of a coma or even death.

The IPC has joined the Centers for Disease Control and Prevention (CDC) “Heads Up” campaign; has partnered with Family and Sports Medicine Departments at Boston Medical Center; and works with the Boston Public Schools Outreach Program in Sports Medicine.

BMC patients admitted with a concussion receive bedside education on what to expect, the recovery process, how to prevent future injuries and concussion follow-up referrals.

Violence Intervention Advocacy Program (VIAP) (Dugan, James): The VIAP mission is to:

- Assist victims of violence to recover from physical and emotional trauma;
- Empower victims with skills, services and opportunities so they can return to their community, make positive changes in their lives, strengthen others who have been affected by violence and contribute to building safer and healthier communities.

VIAP advocates work with patients and their families at all six sites to:

- Provide crisis intervention and low-impact case management;
- Intervene in the cycle of violence to prevent retaliation;
- Reduce morbidity and mortality;
- Prevent re-injury;
- Avoid entry into the criminal justice system;
- Facilitate access to continuing health care and local community resources, including housing, jobs and education; and
- Promote positive role models and positive alternatives to violence.

Community Violence Response Team (Allee, Dugan, James): In Massachusetts, homicide is the second leading cause of death of young people 15 to 24 years old. Beginning in 2006, the Violence Intervention Advocacy Program (VIAP) at Boston Medical Center has worked to connect victims of violence with resources in the community through intensive case management by our Violence Intervention Advocates. Through these resources and education, our young people will be better equipped to make good choices in preventing and avoiding further high-risk situations.

BMC was recently awarded an American Recovery and Reinvestment Act Victims of Crime Act (VOCA) grant. The grant, Specialized Intervention Services for Victims of Violent Crime within a Healthcare Setting, supports two full-time clinicians to build capacity for serving Greater Boston area victims of homicides or attempted homicides and their families. Clinicians provide crisis intervention, advocacy, case management and short-term, trauma-focused counseling to adults, adolescents and children.

VOCA also provides funding for state and community based organizations to offer free mental health counseling and a range of other specialized services for crime victims. The Massachusetts Office of Victim Assistance (MOVA) is the designated administrator of VOCA funds for programs across the state, distributing more than $7 million annually. The funds assist survivors of homicide victims, children who witness violence, and victims of child abuse, domestic violence, sexual assault, drunk driving, hate crimes and elder abuse.
SUCCESS THROUGH EDUCATION AND TRAINING

The IPC works with the Boston University Schools of Medicine and Public Health to offer injury prevention education to MPH and GMS candidates and multiple residency programs at BMC.

Physicians in Training: Throughout the year as part of regular trainings and weekly conferences, IPC faculty provides lectures and trainings on injury prevention topics including SBIRT, violence intervention and childhood injury to emergency medicine, surgical and pediatric residents.

GMS/MPH Internship/Practicum: BUSPH students participate in research practicum experiences on various injury prevention topics each semester where they gain knowledge of conducting pilot studies and intervention evaluation. Courses offered as part of the MPH curriculum include “Preventing Intimate Partner Violence” and “Sexual Violence: Public Health Perspectives in Intervention and Prevention.” In addition, Graduate Medical Science students at BU are offered full-year Injury Prevention internships for thesis development.

Trauma Registry in Zambia: BMC partners with University Teaching Hospital (UTH) at Lusaka and the BUSPH in a program aimed at lowering trauma morbidity and mortality rates in Sub-Saharan Africa. Trauma and injury represent the fourth most common presenting complaint as well as the fifth leading cause of death in the country. This multi-stage project will pilot a facility-based trauma registry to “map” injuries, develop the first epidemiologic view of trauma and injury, and introduce injury prevention strategies.

PUBLICATIONS 2010-2011


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