

PUBLIC & GLOBAL HEALTH

Intervention and Prevention

Boston Medical Center
Department of Emergency Medicine



Chief & Chairman
Jonathan Olshaker, MD

It is an extremely exciting and productive time for our Section of Public and Global Health. This edition of the newsletter describes our many public health initiatives, and welcomes new department faculty and partners.

The BNI-ART Institute, under the leadership of Drs. Edward and Judith Bernstein, and BMC's ED Project ASSERT, continue their increased state and national impact on improving substance abuse intervention and treatment. The MA ED SBIRT program, a dissemination of the SBIRT model and BMC's Project ASSERT, is in year four of a six-year funded program from the Massachusetts Department of Public Health, Bureau of Substance Abuse Services (BSAS), recently surpassed 25,000 screenings.

The Violence Intervention Advocacy Program (VIAP), founded by the Emergency Department, now serves Massachusetts General Hospital and Baystate Medical Center's emergency departments in

addition to BMC. The BMC ED VIAP provided essential services including housing, mental health referrals, job training and legal assistance to more than 400 victims of violence during the past year. During a recent visit to BMC, Senator John Kerry called the VIAP a national best practice model.

Numerous members of our faculty have been actively involved in international healthcare and global outreach. Dr. Hani Mowafi is involved in multiple projects, one of which includes partnering with the Boston University Center for Global Health and Development, the University of Zambia School of Medicine and the University of Alabama, Birmingham Center for Injury Sciences to develop a program for the study of injury and trauma in Zambia. Dr. Thea James and Dr. David Hirsch were physician members of the Massachusetts Medical Assistance Teams (MA-1 DMAT) that traveled to Haiti immediately after the earthquake. In addition to their trip, Dr. Mowafi went to Haiti to serve a term as the Director of Operations for the Disaster Recovery Center in Fond Parisien.

The Department of Emergency Medicine recently formed an Injury Prevention Center under the leadership of our new faculty member Jonathan Howland, PhD, MPA, MPH, a renowned national leader in injury prevention and harm reduction.

Dr. Howland, who now shares his time with the BMC Emergency Department and the BU School of Public Health, is a leader in spearheading public health collaboration across New England institutions studying injury prevention.

This issue's guest commentary comes from Linda C. Degutis, DrPH, MSN, a previous collaborator with us who has been named the Director of the National Center for Injury Prevention and Control of the Centers for Disease Control Prevention (CDC).

This newsletter highlights all of these initiatives as well as other public health projects and partnerships in our department that not only have a positive impact in the Commonwealth, but also throughout the country and around the globe.

MISSION STATEMENT:

By utilizing the principals of epidemiology and public health, the Department of Emergency Medicine - Section for Public & Global Health - strives to promote and improve the health of the populations we serve. We are dedicated to excellence in emergency care through Research, Education, Advocacy, Clinical Competency and Humanitarianism – (REACH).



Linda C. Degutis, DrPH, MSN
 Director of the National Center for Injury
 Prevention and Control
 Centers for Disease Control Prevention (CDC)

Dr. Degutis joined the CDC in November, 2010 as Director of the National Center for Injury Prevention and Control. Her research interests have centered on issues related to alcohol and injury, with a particular focus on interventions and policy issues. She is working with others in New England on the development of the **New England Injury and Violence Prevention Research Collaborative (NEIVPRC)**, which brings together injury prevention researchers from various institutions, providing opportunities for collaborative research and educational efforts.

Dr. Degutis has worked with national, state, and local coalitions on various efforts that impact public health and public policy and has developed and taught programs on moving from research to advocacy. She serves on the Advisory Board of the Robert Wood Johnson Health Policy Fellowship Program and is a member of the Executive Board of Advocates for Highway and Auto Safety. Dr. Degutis is a past president of the American Public Health Association (APHA) and served two terms as chair of the APHA Executive Board. In addition, she has been active in the Society for Academic Emergency Medicine (SAEM), serving on various task forces and workgroups, the most recent being the strategic planning task force.

GUEST COMMENTARY...

Linda Degutis, DrPH, MSN

The emergency department (ED) serves as a barometer of the health of the community it serves. When prevention or intervention systems fail, the ED picks up the pieces. When violence escalates, the ED responds. If impaired driving policies are not enforced, or are lax, the ED sees the victims of alcohol or drug impaired driving. Demands on the ED staff increase as the number of ED visits increase, and the severity of illness of patients coming to the ED increases. It's no wonder that at times it seems that thinking about injury prevention in the ED is an extra – something that might put additional strain on the already stressed resources and staff, and for which it is sometimes hard to see the benefit, as it is difficult to measure what does not occur.

Do we notice that the woman who has repeatedly visited the ED because of intimate partner violence related injuries is no longer seeking treatment and, if so, do we know whether it is because she has successfully moved into a safer place, or her partner has engaged in treatment that has resulted in a decrease in violent events? Do we recognize that over the years we are seeing fewer adolescents involved in impaired driving crashes, or even involved in motor vehicle crashes in general as a result of graduated licensure laws? Often, there is too little time available to take notice of the patterns and reflect on these changes.

We do know that unintentional injuries are the leading cause of death for people between the ages of 1-44, and the 5th leading cause of death overall. All injuries combined are the leading cause of potential years of life lost before age 75. In 2007, injuries, poisoning and adverse effects of medical treatment accounted for nearly 39.4 million (33.7%) of the 117 million ED visits in the United States. The highest rates of ED visits for these problems were among adults age 75 and older, followed by adults 15-24 years of age. Interestingly, the leading primary diagnoses upon ED discharge for men age 15-64 were open wounds and contusions. The leading cause of nonfatal injuries treated in the ED is a fall. Violence also contributes to the toll that injury takes, with homicide and suicide among the 4 leading causes of death in persons ages 10-34.

Given what we know about injury and the ED environment, what is the role of the ED in injury prevention and control? Of course there is the obvious – to triage and treat patients who present to the ED with injury, and to minimize injury-related disability, whether short- or long-term. The less obvious, but important, role for ED staff is that of engaging in injury prevention activities, both on an individual and population level. On an individual patient level, prevention may take many forms, and can be incorporated into the care provided for the patient during the ED visit. Screening for risk, such as problem alcohol use, protective device use (i.e.,

seatbelts/helmets), violence in the home or school, or suicidality can identify the need for further intervention or follow-up. Research in the ED setting has demonstrated the impact of brief interventions in decreasing negative consequences of problem alcohol use. As highlighted in another article in this newsletter, interventions provided by violence intervention advocates are focusing on decreasing factors that put young men and women at risk for violent injury and health and social consequences.

At the population and community level, the ED again emerges as a critical component of a prevention system. Data collection and interpretation by experts, such as the work that is currently being done by BMC faculty in Africa, can lead to the development of effective interventions, and an evaluation of novel interventions in the field. Policy initiatives, such as graduated licensure laws and administrative per se laws for driving while impaired, benefit from the expertise of ED practitioners, who not only can interpret the population-based data, but can put a face on the numbers that are presented, so that policymakers can understand the true impact of initiatives on their communities.

As I take on the role of Director of the National Center for Injury Prevention and Control at the CDC, I see so many possibilities for linkages and collaborations between emergency medicine and public health. While much work has been done in the ED and acute care areas with respect to injury prevention, there is a great deal more that can still be done. Injury prevention research centers (ICRCs) have benefitted from collaboration with and leadership in emergency medicine, with two of the current ICRCs that are funded by the CDC headed by EM physicians (Dr. Steve Hargarten at

Medical College of Wisconsin, and Dr. Deborah Houry at Emory). Other ICRCs have strong links to emergency medicine and include EM faculty in their research efforts. Many EM faculty members have been awarded funding for their research in injury prevention, while others have collaborated on projects with faculty from other departments and schools, as well as practitioners in the community. These linkages have a great deal of value in addressing the injury problem. One of my goals as Director of the NCIPC is to ensure the continued growth of the field of injury prevention. This will require continued opportunities for collaboration, education, program implementation, and research. In addition, we need to raise the public's awareness of the problem of injury as it affects the health of communities.

Dr. Tom Frieden, CDC Director, has identified several "winnable" battles that are priorities for the CDC as a whole. One of these is motor vehicle injury prevention. CDC's work focuses on supporting and synthesizing the science in this area, and translating this information into evidence-based programs and policies to keep people safe on the road every day.

Specifically, CDC is taking a public health leadership role in increasing the use of seat belts by everyone, keeping teen drivers safe through graduated drivers licensing systems and enhanced parental involvement, and promoting the adoption of ignition interlock programs to reduce alcohol-impaired driving. I look forward to working with the emergency medicine community in these efforts, and others that will decrease the toll that injuries take on our communities.



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 Co-Director, BNI-ART Institute

Drs. Edward Bernstein, professor, BUSM, Emergency Medicine, and Judith Bernstein, PhD, associate professor, BUSPH, Maternal and Child Health, co-directors of the BNI-ART Institute, together with Dr. Thea James, director, Violence Intervention Advocacy Program (VIAP), at Boston Medical Center have been awarded funding from the Massachusetts Department of Public Health (MDPH) and the Bureau of Substance Abuse Services (BSAS) to establish a violence and substance abuse intervention program at Massachusetts emergency departments (EDs) with the largest volume of gunshot and stab wound visits.

Screening, Brief Intervention and Referral to Treatment (SBIRT):

Extending the R.E.A.C.H. (Research, Education, Advocacy, Clinical Competency and Humanitarianism)

Caitlin K. Barthelmes, MPH - BNI-ART Education Coordinator and Deric Topp, MPH, MA VIAP Program Manager

The BNI-ART Institute is a joint collaboration between the BU Department of Emergency Medicine, Project ASSERT, and the BU School of Public Health Community Health Sciences Department. "The BNI-ART Institute has trained several thousand health care providers at more than 50 hospitals in motivational interviewing and the Project Assert Collaborative SBIRT model."

The valuable lessons learned from applying public health practice in BMC's emergency department extended recently as far as the Mexican border in El Paso, Texas, to the Yukon territory in Bethel, Alaska.

SOUTHWEST TEXAS: The BNI-ART Institute trained interventionists in screening and brief intervention at Texas Tech Medical Center in El Paso as a part of a NIAAA-funded study: *Screening and Brief Intervention in the ED among Mexican-origin Youth*. The successful training included bi-lingual and culturally competent materials along with significant contribution from BMC's Project ASSERT's Ludy Young, HPA, LADC I.

BETHEL, ALASKA: At the Yukon-Kuskokwim Health Corporation (YKHC) the BNI-ART staff helped implement a system-wide SBIRT strategy through a week long training of 75 physicians, nurses, ED techs, social workers and Community Health Aides (CHAs). YKHC is one of 12 autonomous Alaskan Native Health Corporations serving as a catchment area for 44 outlying and isolated Eskimo villages. These villages have a high incidence rate of injury, suicide and sexual assault attributable to binge drinking and drug use

along with economic and cultural losses. One village reported 13 suicides in two months. YKHC deploys CHAs as primary medical providers in these remote settings and are planning to adopt the SBIRT model into their training.

BOSTON: In a few months, key YKHC SBIRT champions will come to Boston to take part in a "train the trainer" course in order to teach SBIRT to others to further help those who desperately need it.

The MA ED SBIRT program, a dissemination of the SBIRT model and BMC's Project ASSERT model, is in year four of a six year funded program from the Massachusetts Department of Public Health, Bureau of Substance Abuse Services and recently surpassed 25,000 screens since it began 4 years ago.

As of September 2010, ED SBIRT HPAs screened 27,976 emergency department patients; 9,141 patients (32.6%) screened positive for high risk and dependent alcohol and drug use and 7685 patients (83.7%) received a brief intervention and 6,152 (67%) received and accepted an active referral to substance abuse treatment.

Given that the percentage of brief interventions per positive screens was around 80%, a program-wide goal was set to increase that rate, and in turn, increase the level of meaningful contact. In the past four months, 1,155 of 1,251 positive screens (92.3%) received a brief intervention.

For more information, visit www.ed.bmc.org/sbirt



Dr. Denise Scott and Dean Robert Taylor (center) from Howard University College of Medicine recently came to Boston to discuss opportunities for collaboration on research and education on addiction and SBIRT. Here they are shown with Project ASSERT staffers, Ludy Young, HPA, LADC I and John Cromwell, HPA, LADCII, Harm Reduction Specialist



Project ASSERT was founded to improve alcohol, substance abuse services, education and referral to treatment, and to facilitate access to primary care, preventive services and substance abuse treatment. Project ASSERT was established in 1994 as a federal grant and became a BMC budgeted line-item in 1998, and has served as a resource not only for BMC staff but throughout the nation.

Project ASSERT Gives Patient the S.K.O.O.P. (Skills and Knowledge on Opioid Overdose Prevention)

Barbara Healey, RN, BSN, CEN, Nurse Manager Urgent Care, Project ASSERT/MSSU

The Opioid Overdose Prevention project, (a program of Project ASSERT) led by John Cromwell, HPA, LADC II, completed year one with funding from Boston Public Health Commission (BPHC). The Project ASSERT staff have educated 283 patients and/or significant others in overdose risk behaviors/harm reduction strategies/rescue breathing/pre-hospital administration of nasal narcan. Of these, 134 patients have been fully trained in bystander use of nasal narcan and received a nasal narcan kit and 175 patients have been referred to acute opiate detox.

A recent report indicated an 18% drop in fatal opiate overdoses in the Boston area. The efforts of Project ASSERT contributed to that success. This welcome drop in fatalities compels one to share a story which illustrates the strength of coordinated interventions.

Recently, an overdose patient arrived at BMC and Project ASSERT was alerted by an emergency physician. After the patient was medically cleared by the ED the patient was brought to the Project ASSERT office and met with John Cromwell, a harm reduction specialist.

The young patient shared he had recently been released after eight months of incarceration. He, along with others, had gotten high in the park by injecting heroin and earlier he had taken klonopin.

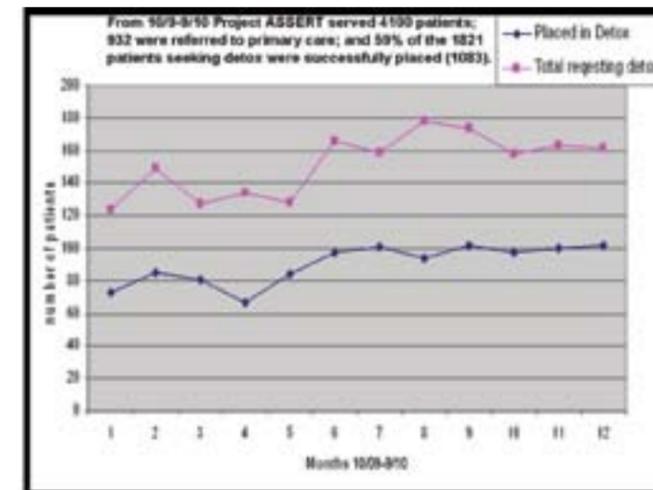
He was later left at the park, overdosed and unconscious, while some others took his wallet with only \$22 dollars and his "pins" (street name for klonopin) but did not call 911 to help the unconscious young man...

Young man: "I owe my life to some Pine St. worker who just so happen to be driving by and stopped to check on me. He could have thought I was just lying on the ground trying to get a sun tan or something. They told me I was all blue in the face when they found me and then the ambulance came and took me to BMC. I guess I am living on borrowed time!"

The bystander: "When I approached the individual, his face was turning blue and he was having trouble breathing. I asked the gentleman who was with him, was he on drugs and possibly having an overdose. I then ran back to the van and retrieved the NARCAN from my partner. I administered the NARCAN into his nose. After a few minutes he began to come to and cough. When the ambulance arrived he had regained consciousness and they put him in the back of the ambulance."

After some conversation with the Project ASSERT staff, the patient was educated with the SKOOP brochure and reviewed the "risk factors for opiate overdose" - it was as if his recent near death experience was being written out right in front of him. The patient was surprised when informed of the extent of fatal overdoses in the state and when offered training in administering Narcan? "No doubt," the patient agreed and was trained on the spot.

The patient was shaking as he articulated seeing this experience as a possible wakeup call or sign to turn his life around. He was referred and accepted into a local inpatient treatment facility and shown the location and given the card of a counselor at the Men's Health and Recovery program for follow up. In conclusion, the patient declared, "I know what that guy looks like from the Pine Street. One day I am going to look him up and thank him for saving my life."



VIOLENCE INTERVENTION ADVOCACY PROGRAM (VIAP)

In July 2010, The National Network of Hospital-based Violence Intervention Programs (NNHVIP) highlighted the Massachusetts Violence Intervention Advocacy Program (MA VIAP) in their e-bulletin, which serves as a resource for established and emerging hospital-based violence intervention programs.

The Network is a partnership of programs across the country providing intervention services to individuals being treated for violent injuries. The philosophy of these programs is that violence is preventable and that trauma centers and emergency departments have a golden moment of opportunity at the hospital bedside to engage with a victim of violence and to stop the cycle of violence.

Program Spotlight: Massachusetts Violence Intervention Advocacy Program

Background:

The Violence Intervention Advocacy Program (VIAP) serves communities through three hospital emergency departments in the state of Massachusetts: Boston Medical Center (BMC) and Massachusetts General Hospital (MGH), both in Boston, and Baystate Medical Center in Springfield. The program acts in accordance with its mission to assist victims of violence to recover from physical and emotional trauma and empower them with skills, services, and opportunities so they can return to their communities, make positive changes in their lives, strengthen others who have been affected by violence, and contribute to building safer and healthier communities. Funding and support for the program comes from the Massachusetts Department of Public Health Bureau of Substance Abuse Services, the Boston Public Health Commission Division of Violence Prevention through a Robert Wood Johnson grant, the Boston Foundation and contributions from the three hospitals emergency departments.

Structure:

VIAP is unique in that it is both one unified state program and also three separate programs at three hospitals across the state. VIAP aims to reduce factors that put young men and women at-risk for future injury, other related health and social issues, or even death. All the while, VIAP promotes positive alternatives that foster growth and transformation in life. Violence Intervention Advocates (VIAs) contact violently injured patients as they arrive to the ED and are admitted to inpatient floors or reach out to them post-discharge. The program provides various levels of service and referrals depending upon patient need and risk as assessed by the VIA and program staff. These services may range from a dialogue about safety and peaceful alternatives upon discharge, to short-term in-hospital or outreach services, to long-term case management relationships. Not to be overlooked as a marquee service of VIAP is the active role VIAs perform in motivating patients to make changes and in modeling consistent and constructive behavior for their clients.



Boston Medical Center VIAP Team

Back Row L to R: Dr. Ed Bernstein, Dr. Thea James, Rebecca Bishop, Deric Topp, Kim Odum, Elizabeth Dugan
Front Row L to R: Donald Leonard, Jumaane Kendrick, Leroy Muhammad

Services

Operationally, VIAP's services are thought of in tiers that reflect the levels of recovery and development. Each tier is associated with types of services VIAs can educate about, advocate for, and refer to directly. These tiers often interact and blend into one another in practice. Progress is dynamic and non-linear. By moving clients through these tiers, clients receiving case management can successfully complete the program. The services covered under each tier are:

1. Injury and recovery – Hospital care navigation, primary care and surgical appointments, medical equipment needs, physical therapy, mental health, alcohol or substance abuse, state victim's compensation awards.
2. Basic needs – Housing/relocation, transitional assistance/food, family and child support, legal advocacy and support.
3. Personal development and growth – Education assistance (GED, college application), job readiness training, employment assistance, counseling (individual and family).
4. Maintenance – Check-in and reflection, maintaining jobs and school, personal development.

Accomplishments and Challenges

The Boston Medical Center VIAP's upcoming focus is on workforce development and self care for staff. They are in the process of developing and implementing an in-depth case management training for VIAs, which will focus on relational, professional, and technical development. Recognizing the need for clients to also enhance their quality of life and experience joy, a new commitment to providing activities and new experiences for clients in underway. Most recently, one VIA planned a fishing trip with a client!

The Baystate Medical Center VIAP employs one VIA, Winifred Atwell. Winnie has found great success in providing case management services for her clients, linking them with essential transitional assistance services, counseling, housing and job training, and moving them through the different tiers of services to complete the program.

The Massachusetts General Hospital (MGH) VIAP also employs one VIA, Amanda Breen. Amanda has worked to build key collaborations in the hospital with staff, specifically the social services and in-patient teams, and build networks outside the hospital. Amanda found early success with the state victim's compensation fund by making contacts there and consistently following-up after applications were submitted.

Some of the challenges VIAP faces are:

- Funding is still the biggest issue. There is the need to prove to hospitals that the intervention fiscally provides a long-term solution to the reduction of recidivism of violent injury.
- On-going need for workforce development and staff support for continued improvement.
- Capturing the outcomes of an intervention program such as VIAP is needed to show its efficacy.

475 VIAP Patients Managed at BMC During Fiscal 09-10

While speaking at BMC's Moakley Building, Senator John Kerry cited Boston Medical Center's specialized programs, including its food pantry and violence prevention initiatives, as setting a national model for holistic care.



The National Network of Hospital-based Violence Intervention Programs (NNHVIP) 2010 Symposium, Oakland, Calif.



Senator John Kerry discusses BMC's trauma and emergency care with emergency physicians, Thea James, MD, Jon Olshaker, MD, Chair of Emergency Medicine, and Vice Chair Andy Ulrich, MD, during a tour of the hospital in September 2010



Elizabeth Dugan, MSW, LCSW
Program Manager, VIAP

Team VIAP Grows

Elizabeth brings many talents to her new position as Program Manager, VIAP, including strength in leadership, outstanding networking skills and the ability to further evolve this nationally recognized program.

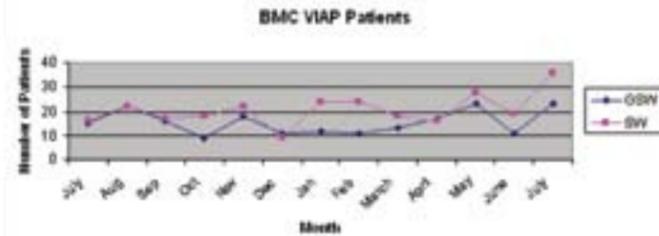
Elizabeth’s credentials include graduating from Simmons School of Social Work, where she was the first recipient of the Dean’s Leadership Award. Concurrently with her MSW, she earned a certificate in Urban Leadership in Clinical Social Work.

Her formal training, also includes certification from the Trauma Center in Brookline, Mass., where she participated in an intensive program in Traumatic Stress Studies. Elizabeth also trained through the Children’s Trauma Recovery Foundation, and is certified in school and community based Post Traumatic Stress Management (PTSM) through the Trauma Response Networks (TRN). She is currently the Chairperson of the Board of Directors for Victory Programs Inc., a Boston-based agency servicing substance abuse, homelessness and HIV/AIDS. She also serves on the Board of Directors of St. Francis House, the largest day shelter in Boston. St. Francis House provides a host of comprehensive services ranging from food and shelter to vocational training and healthcare services.

Elizabeth has a long history of serving urban youth and families, and working with some of the most at risk individuals in the community. She is a past nominee for the Howard R. Swearer Humanitarian Award, recognizing individuals for their innovative strategies in addressing community issues and needs. In addition, she was nominated for the Iris MacRae award for outstanding contributions to the field of social work.

With the addition of Elizabeth, we look forward to VIAP attaining greater heights, resulting in expanded services to victims of violence.

- Average age of VIAP patient: 30.8 yrs (more than half < 30)
- Average number of patients needing VIAP services: 10 per week
- VIAP Patient Gender: 89% Male and 11% Female
- Type of Violent Injury: 57% Stab Wound (SW) – 42% Gunshot wound (GSW) – 1% Other



“When I look at the clients, I see my children, my nieces and nephews. They are all my family and to what extent would you go to for family? Seeing them be successful, there is nothing better.”

Leroy Muhammad, Violence Intervention Advocate – BMC VIAP

“It [is] about how you empower people to make changes on their own...Once I saw that I was able to convey the message powerfully and effectively...I took a lot from this community, so I have to give a lot back.”

Jumaane Kendrick, Violence Intervention Advocate – BMC VIAP



Donald Leonard, VIAP Advocate

Donald Leonard earned his bachelor’s degree from UMass Amherst and specializes in Sport Management & Communications. Donald will provide stabilization and case management services to victims of violence. In addition, he will be spearheading a new and exciting partnership with Inner City Weighlifting to empower local youth. The goal of this collaboration is to reduce acts of violence and promote individual achievement through professional, personal and academic avenues. We want the youth of our and every other community to say no to violence and yes to opportunity!

Intimate Partner Violence Services at BMC

BMC hosts innovative medical-legal collaboration between Northeastern University School of Law Domestic Violence Institute and the hospital’s Department of Emergency Medicine. This program has been in existence for 15 years, and offers specialized legal and advocacy services for BMC patients affected by intimate partner violence. This program is directed jointly by Zoe Paolantonio, JD, and Lois Kanter, JD, of the Northeastern Domestic Violence Institute, and Judy Linden, MD, EM faculty at BMC.

The program has two components – an educational and an advocacy component. The educational component consists of law students from many Boston law schools, and is also open to medical and nursing students. The students are supervised by upper level law students with advanced experience, and are present in the ED in the evening hours. During this time they talk to all women about experiences with violence, both personal and within the community, with an emphasis on intimate partner violence. Through these interactions, the students learn about the impact of violence, strategies for coping and resilience, and how to incorporate the empowerment model into every day legal and clinical practice. They also receive additional training on issues related to partner violence such as sexual assault, legal remedies, DCF and custody issues, and the impact of violence in vulnerable populations, such as immigrants, homeless, substance abusers and the gay, lesbian, bisexual and transgender community.

The second arm offers a wide variety of advocacy services patients who are victims of domestic violence.. Advocacy services include crisis intervention services such as lethality assessment and safety planning, shelter advocacy, legal needs assessment and provision of information and support surrounding the police response to an attack. Program lawyers and student advocates also provide brief advice and services to patients in areas such as restraining orders, family law, income benefits, public housing, and immigration. Finally, program lawyers provide limited representation to patients in restraining order hearings, and provide support with other administrative law matters related to the patient’s housing and benefits.

BMC also has an active internal Domestic Violence Program that staffs a director and full-time advocate. This program works to improve and coordinate the institution’s response to domestic violence through: training, education, and awareness initiatives, policy and protocol development, consultation and technical assistance direct advocacy/support and connection to community resources.



Program Directors Zoe Paolantonio, JD, and Judy Linden, MD collaborate on a case with student advocate Carlos Quiroga and EM resident Ravi Murthy, MD.



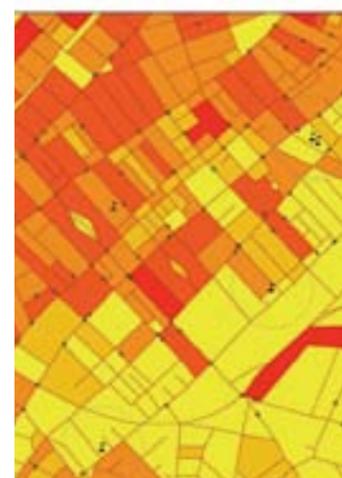
MAPPING COMMUNITY RESILIENCE

Working Toward Understanding Patterns of Violence

Ward Myers, MD, MPH

Tragically, 2010 has seen a continuation of the pattern of increased youth violence in our city. As is typical, however, the violence has not been spread evenly throughout all neighborhoods. Some city blocks have remained nearly crime-free, while others have been ravaged by weekly and even daily episodes of interpersonal violence. Poverty certainly plays a role, but it does not explain the full story. Certain city blocks and even neighborhoods have managed to rise above the tide of violence despite their economic disadvantages. These islands of resilience provide hope for other areas trying to escape the cycle of violence.

The Section of Public and Global Health and the Department of Emergency Medicine at BMC has partnered with our community to bring an evidence-based approach to the problem of violence in our community. This spring the Boston Youth Violence Working Group was formed to better understand the root causes of violence in Boston and how these islands of resilience have managed to remain relatively violence free. The working group is a research-collaboration between the Department of Emergency Medicine and



An example of Area Mapping

the BU School of Public Health. The group uses various datasets to map interpersonal violence throughout Boston. These maps can then be combined with socio-demographic data, social programs, and features of the built environment to better understand the local factors that are associated with these islands of resilience.

By understanding what contributes to community resilience and vulnerability, this program aims to provide community members, local government, and policy-makers with information to reduce the toll of violence on our communities.



PGY-2's NEIGHBORHOOD TOUR A Sense of Community

Dareema Jenkins, MD (PGY-2)

The Emergency Medicine Residents at BMC come from all walks of life and from all parts of the country. An early introduction to BMC culture is to partake in a unique experience in the very heart of Boston in an effort to gain an appreciation for the surrounding community.

In order to enhance our clinical interactions, the Emergency Medicine Section of Public and Global Health orients the residents in their PGY-2 year with a Neighborhood Tour. Located at the cross roads of historic South End, Dorchester and Roxbury, the "tour" brings us into the heart of the community in which many of our patients reside. The tour gives us a chance to step outside of our day-to-day routine into a rich, cultural experience and, more importantly, provides us with a fresh new look at the community we serve.

This year's tour was led by Joyce Stanley, Executive Director of Dudley Square Main Streets. Ms. Stanley highlighted events from Roxbury's rich history, as well as the neighborhood's present-day pride. She reviewed her organization's comprehensive revitalization plans for economic, professional, and environmental growth, while pointing out interesting neighborhood gems. Our tour took us down Washington Street, through Dudley Square, and through the streets of Mission Hill before concluding at the Museum of the National Center of Afro-American Artists (NCAAA). The Museum hosted a wide range of historical and contemporary exhibitions in many media, including painting, sculpture, graphics, photography, and decorative arts. The curator, Edmund Barry Gaither, highlighted several prized exhibitions including "Chester Dames: From Harlem to Cambridge" and "Aspelta: A Nubian King's Burial Chamber."

The day concluded at Merengue Restaurant, which features a permanent display of paintings by renowned Dominican Artists such as Alberto Ulloa, Dionisio Blanco, Robinson Roque and Jol Diaz. We shared fellowship over a traditional Dominican Cuisine with Project ASSERT advocates, Violence Intervention Advocacy Program employees, and other members of the community. Overall, this was a fantastic experience for myself, as well as other members of the PGY-2 class. With rare exception, the role of the

modern physician has transitioned from the days of house calls to a strictly hospital-based profession. Experiences such as this neighborhood tour are important to help us continue to gain perspective into the lives of the patients who we serve. Only by doing so are we able to achieve our end mission at BMC: exceptional care without exception.



RAPID HIV TESTING IN THE ED

Elissa Schechter-Perkins, MD, MPH, DTMH
Assistant Professor, Emergency Medicine

The Importance of HIV Testing

Since the advent of Highly Active Anti-Retroviral therapy, HIV has gone from a virtual death sentence to a treatable chronic illness, much like hypertension and diabetes. At the same time, the tools required to diagnose HIV have gone from cumbersome and time consuming to rapid and accurate. These factors led the Centers for Disease Control and Prevention (CDC) to publish guidelines in 2006 recommending that all people age 13-64 should be screened for HIV infection routinely, during any contact with the healthcare system, including the Emergency Department.

Where We Are

Over the last few years, a successful collaboration has developed between the Emergency Department, the Department of Infectious Diseases, and the Massachusetts Department of Public Health (MDPH). This partnership has led to the support of HIV screening in the Emergency Department at Boston Medical Center. It began with support for a full-time HIV counselor, who has been testing patients for HIV during the evening and weekend hours. Patients in the ED are either referred to the HIV counselor for screening, or are selected by the counselor for inclusion in the testing protocol.

Where We Are Going

We are growing! We recently received word that the MDPH will be supporting two full-time HIV screeners in the BMC ED and Urgent Care Center via funding from the CDC's Expanding Testing Initiative. The funding is for three years and provides us with multiple research possibilities as well as the opportunity to lead a critical and important public health movement.



ED HIV Screener David Russell

David graduated from Northeastern University and is currently enrolled in a pre-medical program. Our screener since last spring, David is deeply committed to HIV counseling and testing and used to work as a relief counselor at an assisted living facility for clients with drug addictions who are HIV positive.

David handles between 75-150 patients per month in the ED, and counsels many more. Each HIV test is performed on whole blood from a fingerstick sample which takes approximately 20 minutes to run. Preliminary results are available to patients and providers before patients leave the Emergency Department.

Anybody who is found to have a reactive preliminary test has a venous blood sample sent to the state laboratory for confirmatory testing. Before they leave the ED, patients with a preliminary reactive test have two follow-up appointments made, one for the next day with a physician in the Center for Infectious Disease, and one for a date two weeks in the future to receive the final results of their confirmatory HIV test.

INTERNATIONAL HEALTHCARE- GLOBAL OUTREACH HIV & Other Childhood Diseases



Phil Seidenberg
MD, Assistant Professor,
International Health
Boston University School of
Public Health

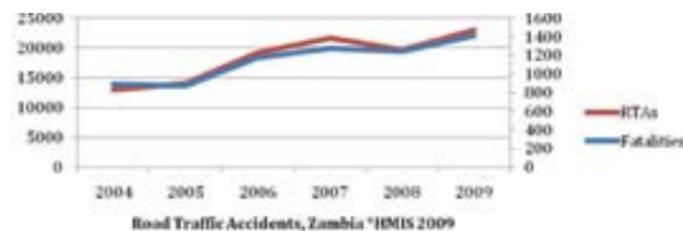
Lusaka, Zambia -- Phil Seidenberg, MD has lived full-time in Zambia for the past three years where he has overseen the expansion of Boston University's (BU) activities in Zambia while contributing to research studies in HIV, community case management of childhood illnesses, childhood pneumonia, and neonatal survival studies. Phil currently serves as a Senior Technical Advisor and previously was the Country Director for the Center for International Health and Development-Zambia (CIHDZ) in the capital, Lusaka.



The University Teaching Hospital

Measuring the Health Impact of Accident and Injuries in Zambia

by **Hani Mowafi, MD, MPH**



While receiving significantly less attention than infectious diseases like HIV/AIDS and Malaria, trauma and injury are large contributors to the overall burden of disease in Africa. This is especially true in Zambia where the median age is 17 years and over 45% of the population is under 14 years of age. Trauma remains a condition that is more prevalent among youth populations and the demographics of Zambia indicate that trauma and injury will be a significant problem for years to come.

According to the Zambian Ministry of Health's (MoH) Health Management Information System (HMIS), trauma and injury represent the fourth most common presenting complaint to health facilities as well as the fifth leading cause of death. In 2007, over 600,000 patients presented to health facilities with injuries related to traumatic events, a disease burden only surpassed by malaria, respiratory infections, and diarrheal illnesses. Injuries in Zambia represent 5.9% of all-cause mortality and 6% of total Disability Adjusted Life Years (DALYs)(3).

This past spring, Dr. Hani Mowafi, an attending physician in BMC's emergency department, traveled to Zambia to meet with our BU colleague and new affiliate faculty member, Dr. Philip Seidenberg and colleagues at the University of Zambia (UNZA) School of Medicine and the Zambian Ministry of Health to discuss how a collaboration could be created to meet the challenges posed by trauma and injury to Zambian public health. In addition to being the program director for the BU Center for Global Health and Development in Zambia, Dr. Seidenberg is also a board-certified Emergency Physician and holds an Honorary Faculty position at the UNZA School of Medicine and the University Teaching Hospital in Lusaka. Dr. Seidenberg conducts inpatient and ICU rounds as well as attends in the Accident and Emergency Department supervising and teaching Zambian residents and medical students each week.

Through Dr. Mowafi's visit and subsequent meetings, the Department of Emergency Medicine at BMC has partnered with the BU Center for Global Health and Development, the University of Zambia School of Medicine and the University of Alabama at Birmingham (UAB) Center for Injury Sciences to develop a program at UTH and Livingstone General Hospital for the study of injury and trauma in Zambia. This partnership capitalizes on Boston University's long history working in Zambia, the strength of the clinical departments at BMC and UTH and the UAB CIS track record of training injury scientists.

The partnership is being led by Drs. Hani Mowafi, Philip Seidenberg, and Gerald McGwin (UAB). The program's goal is to train a cadre of Zambian professionals in trauma and injury research as well as in program development and injury prevention. The partnership, dubbed BoAB-Z for Boston-Alabama Birmingham-Zambia uses the image of a Boab (or Baobab) tree to symbolize a native African tree with many roots that produces fruit and is long-lived. So too, do we hope this partnership will provide for ongoing collaboration and joint research into the future between our departments, ultimately to be initiated, directed and led by our African partners.

Another goal of the partnership is to provide the first systematic assessment of the spectrum and burden of disease of injuries and trauma in Zambia by looking at the data from the largest tertiary care hospital in the country (UTH) as well as a major regional medical center (Livingstone General). Current data are incomplete and many injuries go unreported but road traffic accidents (RTAs) seem to account for a large percentage of Zambian injuries. According to the Road Traffic and Safety Association (RTSA) in Zambia, a government-affiliated agency which compiles data on traffic accidents primarily from police reports in urban settings, the number of RTAs increased by 77% and traffic-related fatalities by 58% between 2004 and 2009 – the number of registered vehicles in Zambia increased by 300%. Accidents in the capital city of Lusaka accounted for 50% of all RTAs and 30% of all fatalities during 2009.

The ability of Zambian health institutions to deal with the increase in RTAs has been poor with an alarming reported 70% increase in mortality from these events from 2004 to 2009. This trend mirrors that seen globally with increasing mortality associated with RTAs in developing countries while mortality in developed countries continues to fall. Data surrounding traditional RTA injury risk factors (alcohol-related accidents, seatbelt use, multi-casualty accidents, road conditions, etc.) are not routinely collected by either the RTSA or any other injury surveillance system.

Expert reports and local public health leaders cite that alcohol consumption plays a significant role in injuries in Zambia. However, a literature search reveals only one published scientific study of this relationship conducted almost three decades earlier. Alcohol

use is projected to be broadly prevalent in Zambia, including a large amount of unrecorded alcohol use (estimated at 1L per capita above age 15 annually). The BMC Emergency Department has been a leader in alcohol-related research and interventions nationally and now looks to this new partnership to share lessons learned and to learn from Zambian colleagues what works in that setting.

In addition to RTAs, other forms of trauma are prevalent in Zambia. More than half of Zambian adult women report having experienced physical violence at some point in their lives with one-third reporting having experienced violence in the preceding 12 months. Regional data reveal that males in Africa have the highest injury related mortality in the world.

Commonly cited reasons for increased burden of disease and poor patient outcomes related to injury include: 1) a lack of a



coordinated trauma systems approach to care; 2) limited pre-hospital care; 3) a lack of emergency transport services; 4) limited trauma services in rural areas; 5) limited implementation, standardization, and evaluation of best practices and evidence-based approaches for injury care; 6) poor policy planning for injury

despite increased burden of disease; 7) a large human resource crisis for all levels of healthcare professionals; 8) competition for all healthcare resources with other diseases (HIV, tuberculosis, malaria) competing for limited funds; 9) poor local and national infrastructure (hazardous and poor paved roads, poor lighting for driving at night, increased pedestrian use of major roads without adequate space for safe passage).

Just as the burden of disease due to trauma and injury is high, so too can be the impact of an effective program to address this problem. By developing a cadre of Zambian injury researchers it is hoped that the right data can be collected and analyzed to develop effective interventions around injury, to improve the quality of injury care in Zambia and to inform policies set by the Zambian authorities. Through such programs the BMC Department of Emergency Medicine and its Section of Public and Global Health are committed to bringing science and activism to meeting the public health needs of both our local and global communities.

Haiti Humanitarian Response



Hani Mowafi, MD, MPH
Assistant Professor, Department of
Emergency Medicine
Faculty, Harvard Humanitarian Initiative
Co-Director, Section of Public and Global
Health, Boston University

From January-May 2010, the Harvard Humanitarian Initiative (HHI) coordinated a large displacement center and medical compound in Fond Parisien on the Haiti side of the border with Dominican Republic. The project was managed in cooperation with several academic centers and the American Refugee Committee. The camp, started by Hilarie Cranmer and Stephanie Rosborough, was created to accommodate thousands of injured Haitian earthquake victims who underwent surgery in nearby hospitals and was located on land donated by a local NGO, Love A Child Inc.

The displacement camp provided a temporary home for over 2000 injured Haitian survivors and their families and provided a high level of medical and rehabilitative support.

HHI provided technical and health care services in partnership with the Dominican government and the Pan American Health Organization. The program provided a unique opportunity for public health workers, and students in health, policy and business who, under the proper supervision, played a role in the humanitarian effort. In addition, faculty and affiliates will use this site as a real life example of applying evidence based public health principles, technology and outcomes management to improve the lives of Haitians who have been injured and displaced by the earthquake.

Responding to the health crisis caused by the massive earthquake in Haiti involved more than just the initial rescue operations and life-saving surgeries that occurred just after the event. Like in most emergencies the *excess morbidity and mortality* caused by delayed complications of those initially affected and the rise in otherwise preventable disease and injury suffered by survivors due to the collapse of the health infrastructure poses the greatest risk to the population at large. Indeed the work of rebuilding the country and its health infrastructure is still going on today. Much work remains to be done.

In the immediate aftermath of the earthquake, colleagues from the HHI were providing consultation to the UN health cluster in Port-au-Prince. Through a partnership with Love a Child, a fully functioning surgical and post-surgical hospital was established on the Love a Child 60-acre compound on the road to the Dominican

Republic. The collaboration was made up of volunteers from dozens of universities, NGOs and international organizations and cared for over 200 injured Haitians and their families.

Dr. Hani Mowafi traveled to Fond Parisien, Haiti, to serve a term as the Director of Operations for the Disaster Recovery Center (LAC-DRC). In the incident command structure at the camp there was an overall director and two deputy directors – one for medical care and one for operations. In that role, Dr. Mowafi was tasked to ensuring the day to day operations of the hospital as well as coordinating the safety of the site. The role included responsibility for the securing and distributing medical and non-medical supplies; monitoring and maintaining the water and sanitation (WAT-SAN) system at the camp; establishing and repairing shelter for the patients and families; physical security of the patients, families and staff; as well as ramping up for an additional round of surgical operations for patients needing delayed repairs and removal of external fixation for crush injuries.



One major challenge Dr. Mowafi and his colleagues faced was the arrival of the rainy season. Torrential rains literally washed away some tents while gale force winds ripped down others in the nightly rains. The team scrambled to move amputees and their families uphill to high ground and build barricades out of sand and cinder block to prevent the main clinical tent where the sickest patients lay under attendance of doctors and nurses from flooding each night. The camp was electrified which enhanced safety at night but preserving the integrity and safety of this electrical grid in such conditions was also a major challenge.

The LAC-DRC was also closely associated with a camp of internally displaced people also on the property of Love A Child. Many patients who were discharged from the hospital left for home but for those with no home many chose to stay at this camp. Dr. Mowafi and the other DRC team members worked closely with the American Refugee Committee to ensure that the patients and their families also had a safe and sanitary place to go once they were discharged.



Indeed, it is this attention to international normative standards that distinguished the LAC-DRC from other field hospitals and post-emergency camps. All officers in the incident command at the field hospital had previously been trained in the SPHERE guidelines which consist of a humanitarian charter and guidelines for minimum standards in disaster response. The camp was proud to be designated by multiple UN visitors as the only one maintaining such minimum standards in all of Haiti. This was facilitated by both the training of the camp leadership as well as the infrastructure and support provided by Love A Child, which has over 20 years experience on the ground.



MA-1 DMAT Deploys to Haiti

MA-1 DMAT was one of the first DMAT teams in the country, founded in 1988, and has extensive experience in disaster medical response, lending their resources to the local community and always prepared to respond when disaster strikes.

On January 12, 2010, Haiti suffered a devastating earthquake. The earthquake resulted in the loss of more than 200,000 lives, with many more injured. Disaster and search and rescue teams from all over the globe descended on the Caribbean island coming to its aid. The Boston MA-1 DMAT team traveled to Haiti the day after the earthquake, taking its hospital with it. BMC emergency medicine attendings Dr. Dave Hirsch, a MA-1 physician, and Dr. Thea James, a MA-1 supervising medical officer and physician, were on the team. Dr. James wrote about the trip in the July, 2010 issue of Academic Emergency Medicine.

After a two day stuttered start waiting for logistics support in Port-Au-Prince, the DMAT team worked all night setting up their hospital, and opened for business at 7am, using invaluable interpreters from a large tent complex adjacent to their hospital set up. The disaster tent hospital was comprised of urgent care, an intensive care unit (ICU), an operating room, and a wound care section. A station for follow up appointments was established just outside the tents within the hospital compound. Working 24 hours a day, the DMAT/IMSURT team saw 505 patients, including

the births of seven babies, one set of twins, and they performed 66 surgeries. 157 of patients seen were younger than 15 years of age. A majority of clinical cases were orthopedic injuries, but also included tetanus, infants with critical respiratory problems, and teens with acute psychiatric conditions related to trauma. The DMAT/IMSURT team partnered with medical teams at the General Hospital in Port-Au-Prince, to coordinate the care of patients. Critical cases were transferred to the USNS Comfort hospital ship by US military helicopters.



Boston DMAT (MA-1) Team Travels to Haiti the Day After
The Earthquake

The Day After: Port-au-Prince – DMAT Arrives

What is DMAT?

DMAT Disaster Medical Assistance Teams (DMAT) are a group of federalized professional and para-professional medical personnel organized to provide rapid-response medical care or casualty decontamination during a terrorist attack, natural disaster, or other incident in the United States. They are part of the National Disaster Medical System (NDMS), and operate under the Department of Health and Human Services (DHHS), to augment the Nation's emergency medical response capability. There are more than 50 DMAT teams representing different states throughout the nation. Massachusetts has two DMAT teams, MA-1 in Boston and MA-2 in Worcester. Augmenting DMAT teams are federalized regional International Medical Surgical Response Teams (IMSURT). They specialize in providing surgical and critical care in austere environments, and often deploy with DMAT teams. MA-1 and IMSURT East deployed together for the earthquake in Haiti.



(Left)
Richard Zaidner,
MD (PGY-3)

(Right)
Thea James, MD

UNIFIED FOR GLOBAL HEALING A Multi-Disciplinary Team's Approach in Haiti

International healthcare has been receiving increasing interest in the medical field, and Boston Medical Center proves to be joining the epicenter of this interest with numerous residents and attendings traveling around the world to offer their help. Dr. Thea James, an attending at BMC's Emergency Department, has helped create an organization called Unified for Global Healing, which for the past few years, has been traveling to Haiti, India, and Ghana to offer support. This year I traveled to Haiti with Dr. James and 24 other physicians, nurses, a hospital administrator, a massage therapist, yoga instructor, artists, and social workers six months post-earthquake to partake in a life-changing experience.

On arrival in Haiti, I was immediately struck with shock. The rubble on the side of the road, the black smoke from the cars' exhaust that filled the windshield view to darkness, the shattered homes, and the streets full of tents serving as homes for thousands, left



Multidisciplinary Team Representing UFGH

me with an unforgettable impression during my journey from Port-Au-Prince International Airport to the Hôpital Adventiste. I flew to Haiti's capital with hopes of helping a wounded community. In fact, helping as many people possible is the goal of UFGH and is what drew me to this group. We quickly set up camp nearby the hospital so our daily commute would be short, and from the first day there we did our best to fit into the hospital's system. Initially, the few personnel the hospital afforded to keep full time seemed weary of our arrival, as we were yet another set of foreign doctors and nurses, working parallel to them and in a silo. This model is the antithesis of the UFGH model, which is to work in partnership as a team, allowing for bi-directional education. UFGH team leadership oriented our team with this mantra daily for the first week. Within hours, our goals equated and hospital staff hospitality was overwhelming. Language was no barrier as the science of medical care proved international (we also had five to six interpreters daily, provided by the hospital).

The uplifting spirits and impressionable personalities of the Haitian population contrasted the shock I endured upon arrival. Well dressed and with smiles they would walk to work and school despite coming from a 6x6 square foot tent that was inhabited by a family of four or more. As the days progressed and the news of our presence reached the surrounding communities, the lines of



patients waiting for medical attention grew. We saw nearly 100 patients per day by the end of our trip.

We quickly noted the demand for medical care was greater than the

supply we were able to offer in two weeks. Consequently, on the second day we shifted gears from seeing as many patients as possible to working in parallel with the hospital staff. We had hoped to make our efforts sustainable, allowing for things to progress beyond our departure. Our nurses trained the local nurses how to use all the donated equipment, our doctors trained the ER doctors on how to use ultrasound for diagnosing pathology, our management staff helped organize the triaging system and spatial arrangement of equipment to maximize efficiency, and our social workers initiated an arts and language class for the local children, to be continued under the direction of two local translators.



At the time of our departure, we felt confident that our presence made a lasting difference. I learned an immense amount and am fascinated by the difference even a small group of people can make. I thank BMC's emergency department for sponsoring me through this experience and helping me gain such valuable lessons.

For more info on UFGH: www.unifiedforglobalhealing.org

International Elective: PERU

In Peru, as in many countries around the world, Emergency Medicine (EM) is a developing and emerging specialty.¹ The first EM residency training program began in Lima, Peru in 1993 at the Universidad Nacional Mayor de San Marcos (UNMSM).² Determined to learn more about the practice of their chosen specialty in Latin America, Drs. Huancahuari and Meguerdichian pressed forward to develop an international emergency medicine elective in Peru...

Two Emergency Medicine Residents Set Up International EM Elective in Lima, Peru

By Nadia Huancahuari, MD and David Meguerdichian, MD

From the outset, we had three goals when designing our four-week Peruvian EM elective:

- (1) Learn the delivery characteristics of the Peruvian healthcare system;
- (2) Work with Peruvian EM residents and medical students to understand their training; and
- (3) Experience first-hand the culture and language of the Peruvian people

Establishing Peruvian EM contacts was challenging and time-consuming. We began by collecting contacts via word of mouth and internet searches, which yielded little success. Ultimately, we contacted the International EM Section of the American College of Emergency Physicians (ACEP) as well as the Society for Academic Emergency Medicine (SAEM) International EM Interest Group and their members helped us contact EM faculty within Peru. With Peruvian EM contacts in place, we efficiently set up a schedule for

the hospitals we would be rotating through and prepared for our journey by receiving the proper vaccinations at Boston Medical Center's Travel Clinic.

On arriving in Lima, we were greeted by Dr. Nelson Morales Soto, known as the "Father of Emergency Medicine in Peru." Dr. Morales provided us with an update on the status of the Peruvian healthcare system and the role of emergency medicine. Contrary to healthcare in the United States, funding and policies for healthcare in Peru are regulated by three national government ministries:

The Ministry of Labor funds and manages the social security healthcare system that provides medical care to those who pay into it, either privately or through an employer.² It is comprehensive and it covers patients' prehospital, emergency, inpatient, and surgical expenses.

The Ministry of Defense and Police sponsors healthcare facilities that provide medical care free of charge for those who serve in the armed forces or police as well as for their families.

The Ministry of Health regulates and provides funding for all other Peruvians not covered by the other two systems (~70% of the population). The hospitals sponsored by this system are limited by a lack of resources and most often the uninsured cannot receive medical care until a subsidized fee is paid. Below are some examples of extreme circumstances we witnessed:

Example #1:

During one of our rotations, we cared for an uninsured patient who was in septic shock with a blood pressure of 60/P and a heart rate in the 170s. When we learned the patients' vitals we reflexively looked around the resuscitation room for normal saline (NS) bags but there were none to be found. The nurses quickly informed us that we needed to write a prescription so that the patient's family could purchase NS from the pharmacy across the hallway.

Example #2:

We would often witness EM physicians having to decide which patient needed the sole respirator in the resuscitation room, when clearly more than one patient could have benefited from it.

Example #3:

Often patients were detained for days in the hospital while families gathered enough funds to pay for the costs of their hospitalization.

In all, our rotations gave us a good understanding of the daily challenges that EM physicians face while trying to care for this vulnerable population.

During our stay, Dr. Morales and many of the physicians we worked with provided us with the history and background of EM in Peru. The country's widespread poverty, history of terrorism, and vulnerability to numerous forms of natural disasters created a need for physicians who could provide emergent care to the victims of these crimes and disasters. Stepping up to the call, a group of innovative physicians created the Peruvian Society of Emergency Medicine and Disasters (SPMED) in 1984.² The founders of SPMED focused in on the need for a uniformed approach to disasters and created a standard of care implemented in the major urban hospitals throughout the country. Dr. Morales stressed the importance of disaster preparedness countless times in our discussion especially given the high prevalence of earthquakes experienced by Peru. Our discussions came eerily to life 3 weeks into our rotation as we watched Chile, Peru's neighbor to the south, manage the challenges caused by an earthquake measuring 8.8



Nadia Huancahuari, M.D. working at Hospital Dos de Mayo in Lima, Peru where Tb was prevalent in much of the patient population.



David Meguerdichian M.D. and Nadia Huancahuari M.D. with staff and students in the Trauma Shock Room at Hospital Rebagliati in Lima, Peru.

on the Richter scale. Learning from the experiences in the Chilean earthquake and remaining focused on the standardization of EM education and practice, the leaders of EM in Peru continue to push this specialty to new heights in the face of many challenges.

In line with our third goal at the outset of our elective, we fully submerged ourselves into Peruvian culture. Through our work in the hospital and our interactions with everyday Peruvians on the street, we improved our medical and conversational Spanish. We explored and tried a myriad of Peruvian dishes and used our free time to visit historic buildings and museums in Lima.

Our EM elective in Peru was an amazing 4-week rotation filled with rich medical and unparalleled cultural experiences. We established strong working relationships with the leaders of Peruvian EM. Our eyes were opened to new practice styles and how to provide exceptional care when resources are scarce.

We look forward to maintaining our friendship and ties with the EM faculty at UNMSM and hope to foster future international experiences in Peru as we develop our academic careers.

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INTERNATIONAL ELECTIVE

The Challenge of Treating Trauma in Rural Ghana

Shane Ruter, MD, PGY4

Although about one-third of Ghana lives below the international poverty line, the country has often been praised for its "adherence to democratic principles and institutions, ensuring the kind of stability that brings prosperity."¹ Part of its commitment to institutions is a health reform that has begun to highlight the need for emergency care to deal with the large numbers of acutely ill and injured.

In April 2010, I had the opportunity to participate in Systems Improvement at District Hospitals and Regional Training of Emergency Care (sidHARTE), organized by the Heilbrunn Department of Family Medicine and Population at Columbia University's Mailman School of Public Health.



Loading an accident victim onto an ambulance for transfer to receive tertiary care.

SidHARTE was created in 2009 to improve emergency medical care in Ghana by focusing on acute illness diagnosis and treatment, trauma care, and the United Nations Millennium Development Goals.² The program sends U.S.-trained emergency medicine residents and attendings to serve in two district hospitals, one in Kintampo and a newer site in Mampong. Volunteers work to implement four major objectives: clinical service delivery, training healthcare staff, improving health system processes, and monitoring and evaluating associated services and care. Each is tasked with helping train Ghanaian colleagues in emergency care and developing a quality improvement measure to be implemented at his or her site in addition to fulfilling clinical responsibilities.

I volunteered at Kintampo District Hospital (KDH), which serves a community of approximately 100,000 residents. Though considered a rural area in the Brong Ahafo region of central Ghana, Kintampo is situated on a main thoroughfare that links northern commerce to major market cities, such as Kumasi and Accra, further south. The hospital has only one fulltime staff physician, Dr. Damien Punguyire (Dr. "Damien"), who was trained as a generalist but also performs an array of basic surgical procedures, such as cesarean section, appendectomy, herniorrhaphy, and exploratory laparotomy. Before sidHARTE's arrival, which heralded the opening of an emergency ward (EW), KDH comprised inpatient medicine and pediatrics wards, a labor and delivery ward, and outpatient clinics. There is an operating theatre, staffed by a nurse anesthetist and assistants. Basic laboratory services are also available, as is plain film radiography.

My colleagues and I had just completed our first week in Kintampo when the phone rang early Sunday morning informing us that a major road traffic accident (RTA) had come in to the EW. The combination of poor road conditions, night driving, and arguably an inexperienced driver had proven deadly—two minibuses, or *tro-tros*, had collided. Emergency medical systems are still in their infancy in Ghana's major cities and are nonexistent in places like Kintampo. The injured began to arrive from the accident scene in taxis, the backs of trucks, and private cars of bystanders.



Triaging in the hallway during the mass casualty RTA.



Accident victim smiling despite open femur fractures.

Dr. Damien had been called in ahead of us. He informed us of the mortality numbers—some 20 dead on scene, another six shortly upon arrival to the hospital. The Emergency Ward was a mob scene as family, friends, and strangers were trying to help and identify patients, some of whom had been travelling from remote villages and spoke dialects unfamiliar to the staff. The nurses and mid-levels had long since stopped trying to secure the area as the sheer number of people, let alone wounded, was overwhelming. There were at least 25 patients strewn about wherever there was space. Only a handful of them were lucky enough to be lying on a bed or a stretcher. Many had serious injuries, particularly orthopedic trauma, which would require transfer to tertiary care facilities.

Triaging, at times, seemed futile as the hospital's limited manpower was pressured by the crowd vying to have someone attended to sooner. However, the EW staff persevered. The overnight nursing crew had stayed on to help the daytime staff as backup crews were called in. I observed them putting into practice the sidHARTE training in emergency triage and soon all patients were prioritized. Vital signs were obtained, IVs started. We stabilized and resuscitated as best we could with the limited equipment and resources available.

Family and friends often provide a pivotal role in patient care in Ghana. They are often the liaison to procuring inpatient medications from the pharmacy (Ghana's so-called "cash and carry" system), feeding the hospitalized patient, and transporting

the patient to higher-level-of-care facilities. Patients aren't whisked away in an ambulance. Such transportation requires a fee and a family member present to accompany the patient—a logistical nightmare if your patient happens to be travelling from afar, by himself and penniless.

I was humbled by the magnitude of injury and trauma I witnessed in Ghana. RTAs, in particular, have great potential for resulting in mass casualty events because of the reliance on cramped, inexpensive tro-tros, the primary mode of transport for the population. These buses are frequently overloaded and driven all day and night by young, inexperienced (and often unlicensed) drivers.

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EMERGENCY MEDICAL SERVICES IN LEBANON: An EMS Fellow's Assessment



Mazen El Sayed, MD
**Clinical Instructor of Emergency
Medicine**
EMS Fellow

My interest in developing a framework for evaluating emergency medical services (EMS) systems and in using EMS performance indicators in international settings led me to conduct a project in Lebanon during my fellowship at Boston EMS. The project consisted of an evaluation of the existing Lebanese EMS system, its structure and design. The project's timing happened to coincide with increasing involvement of the Lebanese government in EMS and in ensuring good pre-hospital quality of care. Defining the performance indicators that are used by EMS agencies in the States and adapting them to an international system were some of the objectives of this project.

Lebanon has 3,759,136 inhabitants with approximately 774,326 living in the capital Beirut and its suburbs according to the 2007 national census (excluding the population residing in the refugee camps). Lebanon covers an area of 10,452 Km² (1,046/sq mi) smaller than that of the state of Connecticut. The health care system in Lebanon is mostly privatized with around 175 private hospitals and a total of 14,500 functioning beds. The Lebanese Red Cross (LRC) EMS is the officially mandated agency to provide pre-hospital patient care and transport since 1964. The 911 equivalent number to access emergency medical services is 140. LRC EMS operates 6 dispatch centers with 43 regional stations. These centers handle an average of 4000 calls daily including transports, emergencies, and blood products requests. The total number of missions in 2009 was approximately 197,000 (40% were patients' transports). Dispatchers training and dispatch criteria are similar to those employed by the International Federation of Red Cross. Around 2600 volunteers are available through out the country and are trained during recruitment by the LRC at the basic skills level to provide first aid treatment (including AED use) and trauma care. These volunteers operate 253 basic life support (BLS) equipped ambulances with no advanced life support (ALS) care capabilities. The average response times can range from 5 to 10 minutes inside the cities and from 20 to 45 minutes in the rural areas.

Despite the continuous efforts of the LRC numerous problems have been identified in the existing EMS system. Some of these problems include the lack of categorization of emergency facilities based on acute care capabilities, the lack of designation of critical care areas, and the lack of communications between the ambulances and the receiving hospitals. In an effort to improve the EMS system and address these problems, the Lebanese Ministry of Health is starting a new pilot study in the southern area of Lebanon where a government contracted private ambulance company will use the existing infrastructure of the LRC to provide ALS care in the pre-hospital setting. A steering committee will be established to evaluate the implementation and the progress of the study. The success of this pilot study may result in the implementation of ALS pre-hospital care across the country. This care will need to be coupled with new legislations and regulations (similar to EMTALA regulations) and a series of major transformations that will change the landscape of the current EMS system in Lebanon. National standards similar to those that we use in the States should be established. Five types of standards are usually used for EMS systems evaluation: Patient care standards, time standards, procedural standards, educational standards and equipment standards. Needs assessment and data collection are essential prior to the development of these standards by local experts in the fields of emergency medicine and EMS. The compliance with these standards should render the task of ensuring good quality care in the pre-hospital setting in Lebanon easier.

Future projects will include the establishment of a national EMS academy for training and education and the development of a national curriculum for EMS providers. The success of all of these steps will ultimately depend on the continuous governmental invested interest in EMS and the realization that EMS development must remain a national priority. If so, EMS system development in Lebanon may end up becoming the driving force of a complete healthcare system reform.



Public, Global and Injury Prevention Research Summary of Recent Journal Articles by BMC Faculty

Ward Myers, MD, MPH

Mechanisms of change in control group drinking in clinical trials of brief alcohol intervention: Implications for bias toward the null. Judith A. Bernstein, Edward Bernstein & Timothy C. Heeren. *Drug and Alcohol Review* September 2010, 29, 498–507.

It is a common phenomenon that in studies of brief alcohol interventions, the control group also decreases their consumption of alcohol. This decrease may potentially minimize the measured effectiveness of treatment. This manuscript is a systematic review of this phenomenon and examines the role of regression to the mean as well as inadvertent treatment of the control group.

A Brief Motivational Interview in a Pediatric Emergency Department, Plus 10-day Telephone Follow-up, Increases Attempts to Quit Drinking Among Youth and Young Adults Who Screen Positive for Problematic Drinking. Judith Bernstein, Timothy Heeren, Erika Edward, David Dorfman, Caleb Bliss, Michael Winter, and Edward Bernstein. *ACAD EMERG MED* August 2010, Vol. 17, No. 8.

This randomized-controlled trial examined the effect of a brief motivational interview and follow-up phone call on youth drinking. This trial enrolled 853 youth (ages 14-21) in three different study arms. Youth in the study arm were significantly more likely to attempt to decrease their alcohol use, but overall consumption was not significantly less. This Boston Medical Center trial was the first randomized, controlled trial of a brief alcohol intervention in an inner city pediatric emergency department.

Evolution of an Emergency Department Based Collaborative Intervention for Excessive and Dependant Drinking: From One Institution to Nationwide Dissemination, 1991-2006. Edward Bernstein and Judith A. Bernstein. *Alcohol and Injury in Emergency Departments*. Chapter 12.

This chapter chronicles the evolution of Project Assert at Boston Medical Center. It details the initial rationalization for an emergency department based program and the initial establishment of the program in 1994. It then goes on to describe the program as it exists at BMC and how it developed into fully supported program within the department of emergency medicine.

The Alcohol Hangover Research Group Consensus Statement on Best Practice in Alcohol Hangover Research. Joris C. Verster, Richard Stephens, Renske Penning, Damaris Rohsenow, John McGeary, Dan Levy, Adele McKinney, Frances Finnigan, Thomas M. Piasecki, Ana Adan, G. David Batty, Lies A.L. Fliervoet, Thomas Heffernan, Jonathan Howland, Dai-Jin Kim, L. Darren Kruisselbrink, Jonathan Ling, Neil McGregor, René J.L. Murphy, Merel van Nuland, Marieke Oudelaar, Andrew Parkes, Gemma Prat, Nick Reed, Wendy S. Slutske, Gordon Smith, Mark Young, on behalf of the Alcohol Hangover Research Group. *Current Drug Abuse Reviews*. 2010, Vol. 3, No. 2.

The relationship between alcohol intoxication and injury is widely accepted, but the public health impact of alcohol hangovers is less well studied. This consensus statement reviews the current state of knowledge about the medical, socio-economic, and performance related effects of hangovers. It goes on to discuss challenges in hangover research (blinding of subjects, study design/setting) and future directions for hangover research.

Challenges to Engaging Black Male Victims of Community Violence in Healthcare Research: Lessons Learned From Two Studies. Schwartz S, Hoyte J, James T, Conoscenti L, Johnson RM, Liebschutz J. *Psychol Trauma*. 2010 Mar 1;2(1):54-62.

This two-part study uses qualitative research techniques to better understand the challenges of interviewing black male victims of violence in the research setting. The study included a cross-sectional/single interview approach and also a longitudinal/intervention approach. In the longitudinal arm, subjects were followed in a counseling and health care program (based out of Boston Medical Center) for 6 months. The study authors identified factors that would facilitate and/or hinder ongoing research and frequently use the participants' own words to better explain potential concerns.

Violence prevention in the emergency department: future research priorities. Houry D, Cunningham RM, Hankin A, James T, Bernstein E, Hargarten S. *Acad Emerg Med*. 2009 Nov;16(11):1089-95.

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." [quoted from paper]. The authors begin by reviewing the importance of injury and violence research and go on to list recommendations for both researchers

and program developers. Within each recommendation, the current state of knowledge is reviewed and concrete new research questions are posed.

Recent article authored by Guest Commentary, Linda Degutis, DrPH, MSN discussing Project ASSERT.

Integrating Project ASSERT: a screening, intervention, and referral to treatment program for unhealthy alcohol and drug use into an urban emergency department. D'Onofrio G, Degutis LC. *Acad Emerg Med*. 2010 Aug;17(8):903-11.

This paper describes and evaluates the establishment of Project ASSERT in the Yale-New Haven Hospital emergency department.

BOSTON EMS Where Public Health Meets Public Safety



Boston Emergency Medical Services (Boston EMS), a Bureau of the Boston Public Health Commission, is one of the nation's oldest providers of pre-hospital care. It traces its beginnings back more than 100 years,

Boston EMS is a community-based public safety and public health service that provides and manages the integrated pre-hospital care system for the City of Boston, and maintains and improves safety and healthcare in the community.

In addition to providing emergency care, Boston EMS has a dual responsibility to serve the Commission's public health goals by identifying the underlying causes of much of the emergencies we see and preventing these crisis situations through education and other forms of outreach.

This program uses health promotion advocates to screen and refer for therapy, alcohol and drug dependant emergency department patients. It states that the Yale program was modeled after Project ASSERT at Boston Medical Center.

The physician leadership of Boston EMS comes from the department of emergency medicine of Boston Medical Center:

Sophia Dyer, MD, FACEP
Medical Director, Boston EMS, BPD, BFD Director, Boston EMS RTQI

Lori L. Harrington, MD
Associate Medical Director, Boston EMS

Ricky C. Kue, MD, MPH
Associate Medical Director, Boston EMS

Mazen El Sayed, MD
EMS Fellow

BOSTON EMS

Emergency Preparedness Operation Falcon Drill



In October 2010, the DelValle Institute of Emergency Preparedness, in conjunction with Boston EMS, hosted Operation Falcon. This functional drill simulated a Mass Casualty Incident (MCI) in which almost 450 patients were injured in a fictitious building collapse in Boston. The purpose of the drill was to allow Boston EMS EMTs, paramedics, and command staff, along with other EMS agencies, including Cataldo EMS, Fallon EMS, ProEMS and Cambridge Fire Department, to identify victims of the incident, practice their skills of patient triage and treatment, set up an appropriate incident command system, communicate with each other, and "transport" the simulated patients to an appropriate facility. All of these activities were simulated through real time radio communications with Boston EMS dispatch and CMED operators. At the same time, hospitals and clinics in the region played along,

"receiving" large numbers of patients, all along communicating with the EMS agencies their capacity to receive additional patients. Patients were followed using a computerized patient tracking system, in which patients' severity of illness and identification are tracked to allow family to find patients wherever they may be in the area health care system. Boston Public Health Commission also played a role setting up a simulated information hotline. Drills like these allow multiple agencies to work together and to put into practice skills that may someday be needed if an actual MCI occurred.

– **Lori Harrington, MD, Associate Medical Director, Boston EMS**



Upcoming EMS Conference:

NAEMSP's Annual Conference

Bonita Springs, Florida
January 13-15, 2011

ORAL PRESENTATION

TITLE: The Effect of Prehospital Continuous Positive Airway Pressure on Intubations

Authors: Michael S Bohanske, BA, EMT-I/C; Lori L Harrington, MD; Laura F White, PhD; Kate Murray, MSc; K Sophia Dyer, MD
City of Boston Emergency Medical Services, Boston, MA
Department of Emergency Medicine, Boston University School of Medicine, Boston University School of Public Health

POSTER Presentation

TITLE: An Analysis of Occupational Health Exposures in an Urban Emergency

Medical Services System: 2007 – 2009

Authors: Ricky C. Kue, MD, MPH, Claire McNeil, RN, EMT-P and K. Sophia Dyer, MD, FACEP.
City of Boston Emergency Medical Services, Boston, MA
Department of Emergency Medicine, Boston University School of Medicine



The Department of Emergency Medicine Welcomes

Jonathan Howland, PhD, MPA, MPH

Professor, Social and Behavioral Sciences, BUSPH
Director, Public Health and Injury Prevention Research
Senior Investigator, Department of Emergency Medicine

In July 2010, Jonathan Howland, PhD, MPA, MPH joined the Faculty of the Department of Emergency Medicine at Boston Medical Center (BMC) as the Director of Public Health and Injury Prevention Research. In this role, Dr. Howland will oversee and guide the Emergency Department's Public Health research efforts focusing on harm and injury reduction, alcohol and substance abuse interventions, as well as overall public health policy as a preventive measure. As Senior Investigator, Dr. Howland will spearhead all public health collaborations across New England institutions studying injury prevention and oversee and expand public health research efforts in the emergency department at BMC. Serving as Principal Investigator, Dr. Howland's research has been supported by grants from the NIH, CDC, DOD, DHHS, RWJ, as well as other distinguished agencies.

Dr. Howland graduated Northeastern University 1976 with an MPA, Boston University School of Public Health (BUSPH) 1984 with an MPH in epidemiology and also received his Ph.D. in 1986 in Health Policy at BUSPH. That same year, he joined the faculty at Boston University, School of Public Health (BUSPH) and most recently served as Professor, Community Health Sciences. His teachings range from Community Interventions, Social and Behavioral Sciences to an Advanced MPH and Intervention Research Program. Dr. Howland served as Chair of BUSPH Social and Behavioral Sciences Department and remains a professor in that department as well as a visiting professor at the Kalmar Maritime Academy in Sweden and Core Faculty, Harvard Injury Control Research Center (HICRC).

Dr. Howland's areas of research expertise include:

- Falls among the elderly
- Prevention of sexually transmitted infections in high-risk populations
- Reduction of human error in safety-sensitive systems (training simulators to measure outcomes are used)
- Low-dose and residual alcohol effects on occupational and neurocognitive performance
- Relative effects of caffeinated vs. non-caffeinated alcoholic beverages on risk-taking behaviors among adolescents and young adults

RECENT ABSTRACTS PRESENTED INTERNATIONALLY:

D.J. Rohsenow; J. Howland; C. Bliss; M. Winter; T. C. Heeren; S.K. Hunt, T.V. Calise. **Hangover sensitivity in college does not predict transition to post-college drinking.** *International Society for Biomedical research on Alcoholism, Paris, 2010.*

J. Howland; D.J. Rohsenow; C. Bliss; T.C. Heeren; M. Winter; T.V. Calise; A.B. Almeida. **Hangover sensitivity predicts residual alcohol effects on attention reaction time.** *International Society for Biomedical research on Alcoholism, Paris, 2010.*

J. McGeary; D.J. Rohsenow; J. Howland; S.K. Hunt. **Genetic variation associates with hangover the morning after drinking to intoxication: Analyses of alcohol dehydrogenase polymorphisms.** *International Society for Biomedical research on Alcoholism, Paris, 2010.*

Streeter C, Howland, J, Frederick B, Winter, M, Rohsenow D. **The residual effects of intoxication on performance: Compensatory recruitment to maintain performance.** *International Society for Biomedical research on Alcoholism, Paris, 2010.*

New Emergency Medicine Faculty



Gina Lopez, MD, MPH



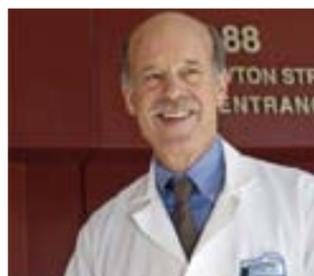
Lauren Nentwich, MD



Morsal Tahouni, MD



Megan Leo, MD,
Ultrasound Fellow



IN RECOGNITION

Peter Moyer, MD, MPH
Professor Emeritus of Emergency Medicine
Boston University School of Medicine

Paul Dudley White Award – American Heart Association (AHA)

Dr. Peter Moyer, Professor Emeritus of Emergency Medicine, was awarded the prestigious 2010 Paul Dudley White Award by the AHA. Dr. Moyer is the first Emergency Physician and non-cardiologist to receive this award and was cited for his leadership in bringing the Boston Hospitals together to establish a coordinated system of care for STEMI. At a reception in his honor, he recognized, among those that share the honor with him, are Boston University faculty members, James Feldman, MD, MPH, Sophia Dyer, MD, FACEP and Patricia Mitchell, RN.

Above and Beyond Award - ESGR

Boston Medical Center's Chief and Chair of Emergency Medicine was presented the "Above and Beyond" Award by the Employer Support of the Guard and Reserve (ESGR). The award is presented on behalf of the men and women of the National Guard and Reserve Forces, for outstanding service and continuing support to the National Defense. Dr. Olshaker accepted on behalf of all BMC's Emergency Medicine faculty who serve and those who remain behind and provide clinical shift coverage in the ED.

City of Boston

Mayor Thomas Menino presented "Certificates of Recognition" to members of the Violence Intervention Advocacy Program, "In appreciation of all your contributions to the City of Boston and its residents."

Massachusetts Legislation News

Massachusetts voters repeal alcohol tax, wiping out a dedicated \$110 million fund for preventive and treatment services.

In 2009, Massachusetts lifted its alcohol sales tax exemption and joined the 45 other states that levy alcohol sales and excise taxes. The state legislature allocated a majority of those new monies to a new substance abuse prevention and treatment fund¹ that supported community-based prevention treatment and recovery support services funded by the Department of Public Health's Bureau of Substance Abuse. Massachusetts voters repealed the 6.25% sales tax on alcoholic beverages by a vote of 52% to 48% on November 2nd of this year, which is likely to eradicate dedicated financing for substance abuse services in the state.

Those opposed to proposition 1, who wanted to retain the tax and the prevention and treatment fund, raised \$200,000, while the alcohol industry spent \$2.5 million on its campaign, outspending opponents by a ratio of 10 to 1, according to state campaign records.

The alcohol industry was never in danger. Massachusetts tax receipts for 2010 show a healthy profit margin for the industry as a whole, although some small outlets may have been affected by either the tax or the recession or both. Lobbyists against the tax cited the amount of business that was lost to NH state-owned liquor outlets in that year, but New Hampshire has had a much higher excise tax than Massachusetts for many years, and charges \$0.30 a gallon for beer compared to Massachusetts where the excise tax rate has stayed at \$0.11 since 1973 with no adjustment for inflation. In other words, prices were comparable, even though NH charges no sales tax for any goods. If the estimated \$110 million in revenues received from the now defunct tax represents 6.25% of sales, then MA alcohol beverage sales, not including bars and restaurants, will reach \$1.7 billion for FY 2011.

It is the public health response to addiction, not the alcohol industry, that is actually under threat. Governor Patrick's public statement that the state would be hard pressed to find any money now for those 'who are fighting their alcohol demons' reflected both the realities of the economic situation and a lack of appreciation of the extent to which alcohol problems affect high risk drinkers and all of society, not just the lives of those who are dependent. Research shows that higher alcohol taxes and prices not only reduce alcohol dependence and liver cirrhosis, but also have a positive impact on risky sexual behaviors leading to STDs, violent injury, and traffic fatalities.² Furthermore, 17.5% of alcohol purchases are consumed by youth under the legal drinking age.³ Massachusetts youth may be the population most severely affected by the repeal of alcohol tax because of the loss of revenue for targeted prevention programs.

If voters were angry about paying an extra "sin" tax beyond the excise tax, their response reflects the need for better understanding of addiction as a chronic medical problem and that the need for prevention and treatment services for the high risk drinker or occasional drug user is paramount. We need to get the information out about prevention and treatment being for everybody, because we are all touched in some way by the ripple effect of this problem.

We will not know the real impact of the tax repeal until the legislature and the governor make the hard decisions about what to do to save treatment in Massachusetts. In the meantime we need to make every effort to collect data and set up measures to study the impact on Massachusetts residents, especially in our state's EDs where we see such a high prevalence of substance abuse problems.

1. Available at <http://www.malegislature.gov/Laws/GeneralLaws/PartI/TitleIII/Chapter29/Section2BBBB>; accessed on 11/6/2010.
2. Available at (http://www.marininstitute.org/site/images/stories/pdfs/raising_taxes_reduces_harm.pdf); last accessed on 11/6/2010.
3. Foster, S. E., Vaughan, R. D., Foster, W. H., & Califano, J. A. (2006). Estimate of the commercial value of underage drinking and adult abusive and dependent drinking to the alcohol industry. *Archives of Pediatrics & Adolescent Medicine*, 160(5), 473-478.

The Department of Emergency Medicine's Public and Global Health Section has many faculty members with advanced degrees and education in the field, including Masters in Public Health (MPH) and International EM Fellowship training.

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for more information on the Public & Global Health Section and Boston Medical Center's Emergency Medicine Department.



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