

PUBLIC & GLOBAL HEALTH

Expanding the Mission through Partnering

Winter 2012

It is a pleasure to introduce this year's edition of our Section of Public and Global Health newsletter, which highlights the positive changes that can be made by research, advocacy and scholarly activity.

Last year marked the initial efforts and achievements of the Boston Medical Center (BMC) Injury Prevention Center. Under the leadership of Executive Director Jonathan Howland, PhD, MPH, MPA, the Center brings together the Department of Emergency Medicine, the Division of Trauma Surgery and many of the BMC and Boston University School of Medicine (BUSM) faculty and staff for the combined mission of injury prevention research, education and advocacy. During its short tenure, the IPC already has demonstrated the benefits that pooled resources, skill and expertise can bring for grant acquisition, scholarly activity and, most importantly, patient and community well being.

The BNI ART Institute, under the leadership of Drs. Edward and Judith Bernstein, and BMC's Project ASSERT continue to expand their positive impact throughout the state and country. The BNI ART Institute most recently completed a series of training for NYC emergency departments and Project ASSERT continued as a key partner in working with the city and state to reduce overdose deaths through naran distribution and education.

The Violence Intervention Advocacy Program (VIAP), under the direction of Dr. Thea James, continues to grow and thrive as a statewide and national model. The program, which recently celebrated its fifth anniversary, continues to provide a wide array of services to approximately 500 victims of violence a year.

Dr. Hani Mowafi continues to lead the section's significant contributions to improve global health. Recently, he traveled to Bahrain as part of an Amnesty International fact-finding mission and returned to Jordan on behalf of the United Nations High Commissioner for Refugees (UNHCR) to help assess current programs for Iraqi refugees. In addition, the section and BMC has partnered with University Teaching Hospital (UTH) in Lusaka, Zambia to develop a trauma registry, aimed at lowering morbidity and mortality rates in Sub-Saharan Africa.

The following pages delve deeper into these programs and others that demonstrate the benefits of focused efforts, research and public health program development.

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Jonathan Olshaker, MD
*Chief, Department of Emergency Medicine,
Boston Medical Center*
*Professor and Chairman, Emergency Medicine,
Boston University School of Medicine*

Our Mission: By utilizing the principals of epidemiology and public health, the Department of Emergency Medicine — Section of 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).



**Jonathan Howland,
PhD, MPH, MPA**

*Professor of Emergency Medicine,
BUSM*

*Executive Director, BMC Injury
Prevention Center*

JONATHAN HOWLAND HEADS UP BMC'S NEWLY CREATED INJURY PREVENTION CENTER

Dr. Howland is the Executive Director of the newly created Injury Prevention Center (IPC) at Boston Medical Center (BMC). The IPC is a joint investment to expand the missions of the Department of Emergency Medicine and the Division of Trauma Surgery by developing a viable, self-sustaining, long-term institution for injury prevention research, education and advocacy. The Center brings together the resources, skills and expertise of the faculty and staff of the Department of Emergency Medicine, and the Division of Trauma Surgery to collaborate with other departments to pursue

grant acquisition and scholarly activity. Many injuries are preventable and best practice treatment should include intervention and education to prevent subsequent injury. There is increasing evidence supporting the effectiveness of emergency department based brief behavioral interventions.

Dr. Jonathan Howland has 25 years of experience in injury research, with emphasis on traffic safety, older adult falls and alcohol's contribution to error in safety-sensitive occupations. His research includes epidemiological studies of risk factors for burns, falls (with emphasis on older adults), traffic injuries, drowning, non-combat military injuries and experimental trials of interventions for traffic safety. His work also includes randomized alcohol administration trials on the acute occupational and neurocognitive effects of low-dose alcohol consumption and next-day effects of intoxication.

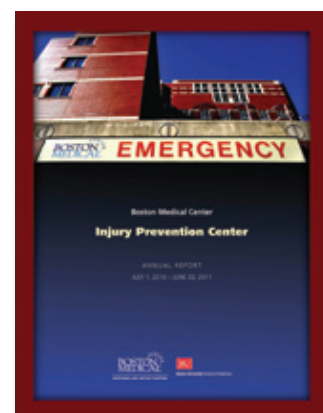
Dr. Howland has published more than 100 peer-reviewed papers and book chapters, primarily focused on injury causation and control. For 20 years, he taught program evaluation research methods at the Boston University School of Public Health.

The IPC was founded on the shared beliefs that:

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

BMC has a long-standing mission of "Exceptional Care without Exception," and the Injury Prevention Center is poised to become a nationwide leader in patient safety, injury prevention research and intervention.

In 2011, the IPC published their first annual report showcasing work in grant acquisition, scholarly activity and patient and community well being.



Working with Massachusetts College of Emergency Physicians

BMC EMERGENCY MEDICINE AND PUBLIC HEALTH IN MASSACHUSETTS

James Feldman, MD, MPH, FACEP

Several members of the Department of Emergency Medicine are working through the Massachusetts College of Emergency Physicians (MACEP) to address public health issues in Massachusetts. James Feldman, MD, MPH, FACEP, continues to serve as the MACEP representative to the Massachusetts Department of Public Health (MDPH) Boarding and Patient Flow Committee. Since MACEP and the Department of Public Health (DPH) achieved the notable milestone of becoming the first state to end ambulance diversion on a statewide basis in the country (2009), the Committee has continued to work on the crisis in mental health and boarding of patients with behavioral health emergencies in hospital EDs as well as the risk that ED crowding poses to patient safety. In collaboration with several other organizations, these efforts culminated in the Jan. 14, 2011, distribution by the DPH and the Department of Mental Health (DMH) of a joint Circular Letter clarifying DPH and DMH's interpretation of private psychiatric hospitals' and acute care hospitals with inpatient psychiatric units' obligations under the federal Emergency Medical Treatment and Active Labor Act (EMTALA).

MACEP also coordinated two cross-sectional studies about the state of psychiatric boarding in MA EDs. On March 21, 2011, the MACEP Board of Directors coordinated a survey of all Massachusetts ED medical directors regarding boarding of psychiatric patients. Tanya Pearson, Executive Director of MACEP, coordinated the data collection and analysis. The purpose was to evaluate the extent of psychiatric boarding at a "Point in Time" at 8 a.m. in order to obtain a snapshot dataset. The survey was intended as an initial step towards a more robust data collection – with additional data points such as insurance status – conducted at regular intervals so that trends can be assessed over time.

Mark D. Pearlmuter, MD, FACEP, Chief of Emergency Medicine at St. Elizabeth's Medical Center and Assistant Professor of Emergency Medicine at Tufts University School of Medicine, spearheaded the submission of a Chapter grant application to national ACEP that received funding for a larger and more detailed study of the crisis in acute psychiatric care in our state (2011-12). As the DMH plans to



reduce psychiatric inpatient capacity by 160 beds in the near future, it becomes ever more important that we measure trends in boarding over time. One survey completed March 21, 2011, determined that the total number of boarders and boarding hours were 149 and 5265 respectively. Mean occupancy i.e. the percent of total licensed ED beds occupied by psychiatric boarders was 14% with a maximum of 41% in one institution. The maximum length of stay for an individual patient was 7.5 days (and occurred in the same ED with 41% occupancy). Overall, 46% of boarders had stayed > 24 hours, 12% > 3 days and 3% > 5 days. (n= 46 medical directors responded representing 69% of Massachusetts EDs). These data were presented in a meeting with the Deputy Commissioner of the Department of Mental Health on March 28. This is arguably one of the most important issues we face today, and we are not alone in Massachusetts. Psychiatric boarding is a priority issue for emergency physicians and ACEP across the nation.

The Boarding and Patient Flow task force also has worked collaboratively with MDPH to require effective plans for dealing with the effects of patient boarding in EDs with required "Code Help" plans and site surveys conducted by trained MDPH staff to test the effectiveness of Code Help protocols in dealing with ED crowding. Dr. Christopher Griggs (BMC PGY 2 resident) in collaboration with Dr. Scott Weiner (Tufts ED faculty) have initiated several research studies that will examine the use of Pharmacy Monitoring Programs (PMP) in the ED and the effectiveness of this intervention on the rising epidemic related to prescription drug abuse. Members of the Department also provide testimony on legislation on behalf of MACEP and the Public Health Committee on many issues, including HIV testing, behavioral health parity and disaster preparedness. Through MACEP and the MACEP Public Health Committee, our faculty will continue to work to improve the health of the public in Massachusetts.

Project ASSERT and Opiate Overdose and Narcan Distribution Program

WHERE'S THE NARCAN?



Project ASSERT Staff (not pictured: Lee Lambert)

In Massachusetts, opiate overdose deaths have exceeded motor vehicle fatalities. In a recent article about a family in Quincy, Mass., a mother, who found her son blue and in respiratory arrest, screamed out to the Fire Department EMTs, "Where's the narcan?"

Project ASSERT has been part of a Massachusetts Bureau of Substance Abuse Pilot Program, the MassCALL2, to provide overdose education and bystander narcan distribution (OEND) to high risk communities. To our knowledge BMC ED Project ASSERT is the first to provide OEND to emergency department patients, their families and partners. John Cromwell, Project ASSERT Health Promotion Advocate (HPA), over the last two years has participated in the Boston Public Health Commissions' South End Coalition and provided leadership and training for the BMC ED program. From Sept. 1, 2010, through Aug. 31, 2011, Project ASSERT staff (John

Cromwell, Lee Lambert, Brent Stevenson, Moses Williams and Ludy Young) educated 460 individuals on OD risk behavior and recognizing an OD. They also trained them to perform rescue breathing. Of those reached by the program 75% were Males, 64% were over the age of 30, 60% were White Non Hispanic, 20% African Americans; 20% Hispanic. In addition to the overdose prevention education, the HPAs distributed and trained 98 (21%) persons in the appropriate assembly and use of the state supplied narcan kits.

As of October 2011, the Massachusetts Opioid Overdose Education and Narcan Distribution (OEND) Program reported 10,755 enrollments and 1,183 reports of OD reversal. A preliminary study has shown that communities with high enrollment rates have reduction in overdose mortality rates compared to communities with lower implementation rates.

Excerpt from a Boston Globe Editorial:

In Fighting Heroin Overdoses, A Key Ally Is Often Overlooked

The families of addicts often carry a heavy load, boxed in by stigma and shame, and shadowed by the constant fear that a loved one could die with the next stronger-than-expected bag of heroin. Naloxone isn't a miracle drug, and it doesn't eliminate addiction. But greater access to naloxone would empower families, provide hope – and save lives.

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 through a federal grant and became a BMC-funded program.



Edward Bernstein, MD

Professor and Vice Chair for Academic Affairs, Boston University School of Medicine

Director, Section of Public & Global Health

Director, BNI ART Institute

Medical Director, BMC Project ASSERT





COMMUNITY, HOPE AND THE FIGHT AGAINST VIOLENCE AND DRUG ADDICTION

Brandon Libby, MD (PGY 2)

It's hard to believe that just a few blocks from the brownstone-lined streets around Boston Medical Center are areas wrought with violence, addiction, poverty and troubled youth. Often interlinked, these problems not only affect the individuals directly involved, but also families, friends and entire communities. These problems are not limited to, but disproportionately affect, minority communities and predominately those under 24 years old. This becomes ever more apparent as weather gets warmer over the summer months and violent crimes increase.

Dr. Thea James, Director of BMC's Violence Intervention Advocacy Program (VIAP), recognized a pattern of increased violence among minority youth with many of the same individuals returning to the hospital with repeat injuries and felt something had to be done. In 2006, Mayor Menino convened a Round Table of early pioneers in youth violence and other stakeholders to discuss the resurgence of violence in Boston. Boston Medical Center was identified as the site where an intervention should occur, as it receives the majority of violently injured youth in the city. Dr. James volunteered to champion the intervention, together with Dr. Edward Bernstein, and multiple community activists to create the Violence Intervention Advocacy Program, with the goal of preventing future violence stemming from prior assaults and improving the quality of life of the victims of violence. Their mission is to intervene early in the Emergency Department and provide victims of violence with services including counseling, job training, and safety education.

Such focused intervention is modeled on similar interventions our department has long been making with another patient population – those with drug and alcohol problems. Years ago, Dr. Edward Bernstein recognized the opportunity for the Emergency Department to intervene to reduce the crippling effects of drug and alcohol addiction within this community. He too saw repeat visitors; many of his patients had developed chronic medical conditions in addition to or as result of their drug and alcohol abuse. Without intervention he realized the cycle of addiction and worsening health would continue. In 1994, he joined Dr. Judith A. Bernstein, Judy Dyson RN, Diane Barry and the Emergency Department's Quality Improvement Committee to create Project ASSERT, the acronym for improving Alcohol and Substance abuse Services by providing Education, Referral and Treatment. Project ASSERT employs Health Promotion Advocates (HPAs) from the communities we serve to motivate these patients to change their behaviors by facilitating access to primary care, preventive services and substance abuse treatment.

At the beginning of our second year as Emergency Medicine Residents, we had the privilege of taking a tour of Roxbury, its troubled communities and the target populations of VIAP and Project ASSERT. The tour was

organized by Edward Bernstein and Ludy Young, Project ASSERT Lead HPA, and guided by Thomas Plant MS, Historian and Director of Special Projects for the Boston Public Health Commission (BPHC). As our tour bus passed sites of interest, Mr. Plant shared his encyclopedic knowledge of the history and architecture of Roxbury and how it became the center of the African-American community in Boston in the 1950s. Unlike other major cities where violence and drug addiction may be focused in a specific section of a city, in Roxbury the violence and drug issues are spread out in pockets throughout the various neighborhoods making it more difficult to police. During our daytime tour, I found it hard to believe that such crime existed in this city. The streets were bustling with people. We passed parks where children were at play, and the neighborhoods consisted of nice family houses with balconies, lawns and two car garages. The downtown area consisted of many storefront businesses, furniture shops and a newly erected police station. By nightfall however, we were told the streets become unsafe. Drug peddlers work the corners under the cover of darkness. Violence increases. Even so the city carries with it a sense of hope. It is this hope, which has made VIAP and Project ASSERT so successful.

During our tour we had the opportunity to visit the Museum of the National Center of Afro-American Artists, an iconic organization in the community, and met with the Director and Curator Dr. Edmund Barry Gaither, one of the most articulate and interesting art historians in Boston, who opened up a piece of the world that most of us were not familiar with. The museum is located in a Gothic Revival styled mansion and has made a large impact educating and inspiring young youth about Black culture and heritage. It is now the largest independent Black



PGY 2 residents at the Museum of the National Center of Afro-American Artists (NCAAA)



cultural arts institution in New England. It is their hope to help reduce violence and drug abuse through art and education. Placed in front of the museum is a sculpture, which has become the symbol of the community. Named "Eternal Presence" the sculpture represents the endurance and strength of the African-American people.

The most riveting part of the day was when we were given the chance to connect with community members over lunch at Merengue Restaurant in Roxbury. We met individuals and families that had been helped by VIAP and Project ASSERT. We learned they were able to turn their lives around

because of these organizations. One gentleman, once a troubled youth, just graduated from college and now works for VIAP, the very organization that helped him. He hopes to impact others the same way.

A safety net hospital, Boston Medical Center is the largest and busiest Level 1 Trauma Center in New England. It plays an integral role in these communities. Through cooperation with VIAP and Project ASSERT, BMC makes a difference on the life of the individuals, families and communities affected by violence and drug addiction.

ORGANIZATIONS REPORT IMPROVED CARE RESULTING FROM SBIRT

Deric Topp, Program Manager, BNI ART Institute

The BNI ART Institute provides training and technical assistance to hospitals and emergency departments across the country to implement screening, brief intervention and referral to treatment (SBIRT) programs. Over the past year, the institute worked with a number of organizations to bring improved care for patients with high risk and dependent alcohol and drug use. For more information, go to: www.bu.edu/bniart

Addison Gilbert Hospital and the City of Gloucester

In early 2011, the Health Gloucester Collaborative (HGC) called upon the BNI ART Institute for consultation and training in bringing the Project ASSERT/ED SBIRT model to Addison Gilbert Hospital in Gloucester, Mass. Not only did the collaborative want to use the emergency department as a place to intervene with patients who drank alcohol or used drugs too much and/or too often, but it also would serve as a nexus to coordinate services with a larger team of health providers, first responders and service organizations.

Out of efforts to expand on its 2008 strategic plan to reduce opiate use and overdose, HGC assembled a team to develop the model. The team, called the High Risk Task Force, was made up of stakeholders from the fire department, Emergency Medical Services, police department, a local shelter and social service organization, treatment centers and local government. At the center of the model is the health promotion advocate (HPA) who screens patients for risky and/or dependent alcohol or drug use, intervenes for positive screens with the brief negotiated interview and refers to treatment when necessary. Some patients also may be identified as frequent users of hospital services or as highest risk for overdose or death. For these "high risk/high repeat" patients, the HPA employs a

coordinated care planning protocol as developed by the High Risk Task Force, integrating the hospital service with wraparound services outside the hospital (i.e. shelter, food, transportation, work) to best support recovery. At the same time, the benefits would be systemic, potentially increasing service coordination, reducing patterns of overutilization, and providing collaborative solutions to resource shortages such as housing, transportation and other needs.

The model so far has been a success and the Addison Gilbert HPA, Vickie Kahn-Sinclair, has seen 159 patients, screened 145 patients, performed 49 brief interventions and referred 44 patients to treatment on a part-time basis since July. By linking the "High Risk Task Force" collaborative model to the ED SBIRT protocol at Addison Gilbert Hospital, the City of Gloucester is leveraging its capacity to provide quality of care along a continuum, from prevention of risky use to increased treatment access and support for individuals with dependence and addiction.

Funding for this project comes from the SAMHSA-granted MASS-CALL2 project through the Massachusetts Department of Public Health Bureau of Substance Abuse Services.

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Organizations report improved care resulting from SBIRT *continued from page 5*

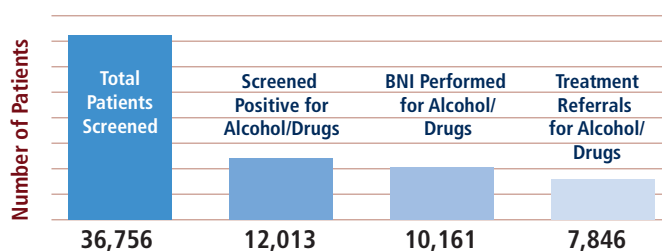
ED SBIRT in New York City Emergency Departments

The NYC Department of Mental Health and Hygiene Bureau of Alcohol and Drug Use Prevention, Care and Treatment contacted the BNI ART Institute to do a series of SBIRT trainings for NYC emergency departments. The trainings coincided with the New York State's approval of Medicaid SBIRT reimbursement codes. It is hoped that revenue streams generated from billing could stimulate widespread adoption of SBIRT in NYC emergency departments. The Institute trained ED physicians, residents and nurses at Lincoln Hospital in the Bronx and Richmond University Medical Center in Staten Island. Implementation efforts are on-going.

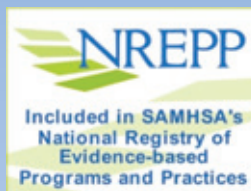
Massachusetts ED SBIRT Adds Opiate Overdose Prevention Component

The Massachusetts ED SBIRT program, a state Department of Public Health Bureau of Substance Abuse Services (BSAS) funded dissemination of BMC's Project ASSERT, will begin to provide opiate overdose prevention and distribute Nasal Naloxone (Narcan) to those patients and families of patients who are at risk to overdose in the future. The project is part of a BSAS pilot program that also includes Project ASSERT. The MA ED SBIRT program just recently marked its fourth anniversary of service in seven sites across the state.

Project Totals August 2007 – August 2011



Project ASSERT added to SAMHSA's evidence-based program registry



Boston Medical Center and BU School of Public Health BNI ART Institute's Project ASSERT model has earned a designation into SAMHSA's National Registry of Evidence-based Programs and Practices (NREPP), receiving

high scores across its review criteria. According to its website, NREPP is "a searchable online registry of mental health and substance abuse interventions that have been reviewed and rated by independent reviewers. The purpose of this registry is to assist the public in identifying approaches to preventing and treating mental and/or substance use disorders that have been scientifically tested and that can be readily disseminated to the field." After a thorough application process that includes submission of background, supporting research and program curriculum, NREPP reviews and scores a program in areas of research and readiness for dissemination. Project ASSERT received a 3.2-3.8/4 on research quality of the four supporting studies and 4/4 on readiness for dissemination. For more information, enter "Project ASSERT" into the search field found at nrepp.samhsa.gov.

Details about the Project ASSERT model can be found at: www.bu.edu/bniart/sbirt-experience/sbirt-programs.



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

SBIRT PROCEDURE: A NEW COMMUNICATION TOOL FOR RESIDENTS

Caitlin K. Barthelmes, Manager of Educational Programs, BNI ART Institute



Judy Linden, MD,
Vice Chair Education



Keli Kwok, MD, Assistant
Program Director

SBIRT is a public health procedure that utilizes the Brief Negotiated Interview (BNI) to address substance abuse issues within the health care setting. BU School of Medicine, in collaboration with the BNI ART Institute, has developed and piloted an innovative approach of using SBIRT and the BNI to enhance resident communication skills around a variety of health issues, such as medication compliance, smoking cessation, seat belt and helmet usage, and other healthy behaviors. The concept of using non-directive techniques to discuss behavior change is new to some medical practices, especially within the Emergency Department setting, but Boston Medical Center is a pioneer in bringing public health endeavors into the hospital.

For several years BMC residents have experienced a non-traditional second year orientation that begins with a workshop on SBIRT, exposure to the substance abuse specialists of Project ASSERT, a visit to the Museum of the National Center of Afro American Artists, and a bus tour and lunch in the Roxbury community. This year marked the first year in which their SBIRT skills were extended through a follow-up workshop in the fall offered to all residents.

SBIRT was included as a module in the innovative small group learning series established by Keli Kwok, MD, Assistant Program Director for the Department of Emergency Medicine, and Judith Linden, MD, Vice Chair for Education. In addition to attending labs on ACLS and ultrasound usage, residents participated in a SBIRT

procedure session, practicing screening and BNI skills through role play. The focus of the simulation activity was to enhance communication techniques through the BNI, a five step process that guides discussions with patients. The five steps include:

1. build rapport;
2. discuss pros and cons of the behavior;
3. share health information;
4. use the readiness ruler; and,
5. collaborate on an action plan, or "prescription for change."

Residents sharpened their skills by practicing the five steps with each other, receiving feedback from SBIRT trainers and participating in discussions about how to apply the procedure across a variety of behaviors.

By infusing communication skills and behavior change techniques into the residency curriculum, the Boston Medical Center Emergency Medicine residency training program provides aspiring doctors the opportunity to build a well-rounded skill base to better serve their patients.

MEDICAL STUDENTS STEP INSIDE PROJECT ASSERT OFFICE



Annemieke Atema, MD,
Medical Student
Clerkship Director,
helped to facilitate the
partnership.

Medical students are spending one shift during their month rotation observing and working in the Project ASSERT office to gain the hands-on experience of incorporating public health practices into the hospital setting. In preparation for their shift, students are given a two-hour workshop on SBIRT skills and practice the Brief Negotiated Interview, a five-step process of guiding a brief intervention around behavior change in a non-confrontational way. The experience has been rewarding and eye-opening for many of the students who had not been exposed to hands-on public health interventions in their prior medical school coursework.



TEAM VIAP

Helping Victims of Violence Move Forward

Interview from the *BMC Brief*

In this job, first impressions mean everything. "When we approach a client at his bedside, we approach with caution and respect and show him that we are not a threat. We are there to help him," says Leroy Muhammad, a Violence Intervention Advocate with Boston Medical Center's Violence Intervention Advocacy Program (VIAP). "It's our opportunity to break the ice."

That approach is what has led to the success of BMC's VIAP, a nine-person team that helps victims of violence (i.e., shot or stabbed) recover from physical and emotional trauma. No day is the same for this close-knit group that served 482 victims of violence in 2010 and more than 400 victims since January 2011.

VIAP by the Numbers

- Average age of VIAP patient: 27
- Average number of patients needing VIAP services: 10 per week
- VIAP patient genders: 89% male, 11% female
- Type of violent injury: 57% stab wound, 42% gunshot wound, 1% other
- 67% of shootings and stabbings in Boston directed to BMC

The backbone of the program are violence intervention advocates, three men who contact violently injured patients when they arrive at the Emergency Department, and meet with them to determine the services they need. Such services can range from a conversation about safety and peaceful alternatives upon discharge, to short-term in-hospital or outreach services, to long-term case management relationships.

Once advocates have connected with the victim, gaining his or her trust, they are able to help him/her and the family deal with the trauma they have experienced. But the advocates' job doesn't end when the physical wounds heal. They, along with other members of the team, continue to help patients move forward by empowering them with skill, services and opportunities to make positive changes in their lives. This may mean attending GED classes with them, helping them find housing, and assisting them with job searches.

"Progress can mean different things in this job," says Jumaane Kendrick, a Violence Intervention



VIAP TEAM (not pictured: Kim Odum and Gwendolyn Henry)

Advocate with the program for two years. "Sometimes it's just seeing a patient get out of bed. Other times it's preventing additional violence from happening. And then there is seeing a client receive his GED, an accomplishment that we recently celebrated. What's rewarding is seeing the outcomes of our work. And there are many successes."

Those successes have led to VIAP's growth. The program, which recently celebrated its five-year anniversary, hired two new staff members: Keith Gilliam, LMHC, and Andrea Malagon-Meagher, LCSW, clinicians who provide in-hospital mental health services to victims and their families. The team is rounded out by Donald Leonard, VIAP Advocate, Program

VIAP ACHIEVEMENTS

- Two recent GED graduates.
- A female client got into the carpenter's union and is now employed full time and bought her first car.
- One client is starting ITT Technical Institute.
- One mother who had her child removed by DCF, has worked closely with VIAP, accessed supportive residential services and is being reunited with her daughter.



VIAP making a difference: two program members earned their GED certificates in December 2011.

Additionally, the Community Violence Response Team has become an integral part of our team, bringing a multidisciplinary approach to our clinical services. VIAP clients are receiving more immediate mental health care, and all family members are included in this comprehensive approach.



Manager, Elizabeth Dugan, LICSW, Kim Odum, Family Support Coordinator, who provides comprehensive support services to family members of the victims of violence, and Emergency Department Physician Thea James, MD, who oversees the VIAP program. Most recently, the VIAP Team has expanded with the welcome addition of Gwendolyn Henry, edM, MSLIS, Data and Research Manager.

"We are a VIAP family," says James. "We support one another and come together to celebrate our joys and our clients' joys. We couldn't do the work we do without the respect we have for each other."

VIAP programs similar to BMC's operate in the emergency departments of Massachusetts General Hospital and Baystate Medical Center in Springfield. Funding is provided by 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 hospital emergency departments. During a recent visit to BMC, Senator John Kerry called the VIAP a national best practice model.

VIAP Advocate Leonard agrees. "Our staff is authentic, sincere and real. I know what we have is special and that it doesn't exist everywhere. We are all doing a job bigger than us and we're doing our best to do it right."

Additionally, the Community Violence Response Team has become an integral part of our team, bringing a multidisciplinary approach to our clinical services. VIAP clients are receiving more immediate mental health care, and all family members are included in this comprehensive approach.

BMC PHYSICIANS SHOW SUPPORT FOR IMPROVED GUN CONTROL

Morsal Tahouni, MD, Simulation Section, Gang Violence Prevention



Mayor Thomas Menino speaks out against illegal guns

On May 5, 2011, Dr. Jonathan Olshaker, Chief and Chair of Emergency Medicine, Thea James, MD, VIAP Director, and Morsal Tahouni, MD, Gang Violence Prevention, along with Boston Mayor Thomas M. Menino, participated in a press conference sponsored by www.FixGunChecks.org and Mayors Against Illegal Guns that supported stricter gun control laws across the nation.

Massachusetts has some of the strictest gun control laws in the nation, but continues to suffer from an influx of illegal weapons from neighboring states, such as New Hampshire and Connecticut. Despite repeated efforts to control the flow of illegal weapons into the state, the state government is unable to affect change in other states because of jurisdiction limitations. Unable to obtain a gun in Massachusetts, individuals are

able to simply cross state lines and purchase handguns with little or no regulation. These weapons can then be transported and sold illegally in many areas.

The goal of Mayors Against Illegal Guns and FixGunChecks.org is to address this exact problem. The hope is for nationwide legislation that will require individuals purchasing guns at gun shows to first undergo a full background check, just as they would when purchasing a gun from a licensed retailer. As supporters of these organizations point out, this is not an increase in gun control, but more an extension of current laws to all venues in which handguns are sold.

BMC physicians participated in the press conference to show solidarity with a community suffering from the effects of gun violence, and to support measures that would lessen the degree of violence for our patients. If you are interested in learning more about the issue of background checks at gun shows, please visit websites FixGunChecks.org or mayorsagainstillegalsguns.org





GLOBAL PARTNERING, URBANIZATION AND EMERGENCY MEDICINE

Bahrain's doctors, nurses and emergency workers treated scores of injured and saw the dead after a brutal crackdown on protestors by security forces. Now many are paying a steep price for speaking out about what they witnessed.

(The following is a reprint from *Amnesty International* (AI) USA Magazines told by Hani Mowafi, Emergency Medicine Attending Physician at BMC.)



Hani Mowafi, MD, MPH

Assistant Professor of Emergency Medicine; Co-Director, Section of Public and Global Health, Boston University School of Medicine

Associate Faculty, Harvard Humanitarian Initiative

After traveling to Bahrain in February as part of an *Amnesty International* fact-finding mission, I have been watching the country's deteriorating human rights situation with great concern. Our mission took place just days after at least 35 people were killed and many more injured in a brutal crackdown on protests organized by activists demanding greater social and political rights from the country's monarchy. The protests in Bahrain have increasingly been cased in a sectarian light – Bahrain is a Sunni monarchy ruling a majority Shi'a population. While those who spoke out to AI about the violence they witnessed insisted they did so as a matter of conscience, in that political climate Shi'a doctors, nurses and other health workers who cared

for the injured and bore witness to the violence have been viewed with suspicion by the government forces. Many have been met with arrest, detainment and persecution.

In late September, a military court took seven minutes to declare 20 doctors and medical professionals from the Salamaniya Medical Complex (SMC) – the leading tertiary care center on the island and the one closest to the Pearl Roundabout where the most egregious violence took place – guilty of attempting to topple the government and imposed prison sentences of up to 15 years. The medical professionals were accused of using the SMC as a "control center" for protests, inciting hatred of the regime, occupying the hospital by force, stealing medicine and stockpiling

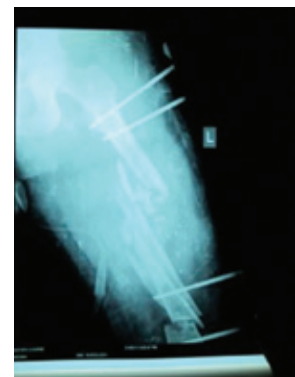
arms at the hospital. Other military trials that same week upheld guilty verdicts and harsh jail terms—including life sentences—for human rights activists and teachers on charges related to the February protests. The trials have marred Bahrain's image as an oasis of stability and cosmopolitanism in a turbulent region and exposed sectarian tension fueled by Saudi Arabia and Iran.

When Said Boumedoha, Neil Sammonds, both AI researchers, and I landed in Bahrain, security forces had cleared the Pearl Roundabout (the main convergence point for protestors) in a pre-dawn raid a few days previously. Things had settled somewhat and protestors were re-occupying the square but the mood was anxious as no one knew what either side's next move would be. At the nearby SMC we met with physicians, nurses, ambulance personnel and ministry employees, and we examined people who had been treated for injuries.

There was clear evidence that security forces had used live ammunition on the protestors, many of whom had shotgun injuries. People told us that security forces had used shotguns to clear crowds from the roundabout, along with rubber bullets and tear gas. Protestors had collected the spent ammunition, along with tear gas canisters and rubber bullets, and displayed it at the hospital. Much of it had been made in the USA; the United States is one of at least 10 countries that supplied or licensed weapons exports to Bahrain.

The use of shotguns as a crowd control device is not unprecedented—in fact, shotguns were used on rare occasions to suppress uprisings in Bahrain since 1970s. However, in this case it was clear that a significant number of these injuries had resulted from shotguns fired at close range, and we spoke to physicians who had seen many more people who were dead on arrival from shotgun wounds to the head, chest or abdomen. This coincides with reports that civilian defense forces—who do not have the kind of training in crowd control that police and army forces do—cleared the square on at least one occasion.

After security forces cleared the roundabout in the Feb. 17 raid, there was a 6-hour gap during which ambulances were not permitted to enter, and those that did were attacked. Subsequently there was negotiated access to the area beside the Ministry of Health, so ambulance crews from the hospital went in, but at that point no one was there anymore. Medical workers, who were clearly identified as such, were targeted by police while trying to help wounded protestors near the roundabout. Dr. Sadeq al-'Ekri, a surgeon who set up a mobile clinic at the roundabout, told AI that police stopped him, tied his hands behind the back, pulled his trousers down and beat him.



Shattered femur of a protestor incurred by security forces gunshots



Ambulance with the back window shot out



Although the scale of violence against protestors has certainly been greater in other countries in the region, the brutality of the crackdown in Bahrain came as a shock to many who had considered Bahrain to be a glittering magnet for commerce along the lines of the Dubai model. Indeed, those medical professionals who spoke out about casualties they saw and granted interviews to international media were subsequently harassed or detained soon after we left the country.

The provision of medical care should never be seen as a political act. Yet in Bahrain, the principle of medical neutrality has fallen victim to intense regional sectarian pressure from Saudi Arabia and Iran. Once we allow the provision of medical care to be seen as "giving comfort to the enemy," to crib a line from one politician – then the last refuge in modern society has been eliminated. When I saw medical professionals doing what we do every day in Boston and paying such a heavy price, I could not help but think, "There but for the grace of God, go I."



Protestors in the Pearl Roundabout



CHANGING TIMES, CHANGING NEEDS

Helping the UN plan for the needs of Iraqi refugees in Jordan

The war in Iraq and the ensuing instability in that country have resulted in massive forced displacement of Iraqis. Millions of Iraqis have been forced across international borders as

refugees or within the borders of Iraq as internally displaced people. Some estimates place the number of displaced Iraqis at up to 4.2 million with over half of those displaced in neighboring countries. While all displaced people are "persons of concern" to the United Nations High Commissioner for Refugees (UNHCR) those displaced to other host countries pose unique challenges that require negotiations and planning between multiple countries and agencies.

affected as donor nations will have to cut back their commitments to certain programs as they face their own fiscal constraints. In addition, as programs for Iraqi refugees become more integrated into the host government agencies, and some small percentage of Iraqis repatriate to their country, the needs of those that remain also have changed.

While UNHCR will remain intimately involved in the coming years with Iraqi refugees in terms of advocacy, protection and, in some cases, resettlement – the ensuing period will be one of continuing to transition the direct provision of services to host country ministries. While this process can be slow and must be managed carefully to protect the rights and access of both the local and refugee populations, ultimately this is the most robust, efficient, and sustainable means of providing quality health, education and public services to refugee populations. The Section of Public and Global Health remains active in studying issues of urban displacement and urban health – both at home and abroad.



Child protestors with sign reading, "What Human Rights?"

This year Dr. Hani Mowafi was asked to return to Jordan by the UNHCR to help assess current UNHCR programs for Iraqi refugees and to make recommendations for programming strategies going forward.

Dr. Mowafi, who had previously consulted for UNHCR to develop public health procedures early on in the refugee crisis and has returned to Iraq to help implement those protocols, was now tasked to adapt those programs to meet new challenges in the coming years.

The worldwide financial crisis has affected countries and corporations alike. So, too, have UN programs been



The majority of Iraqi refugees live clustered in poor neighborhoods of urban centers like Amman, Zarqa and Irbid in Jordan rather than in camps



ZAMBIA AND INJURY PREVENTION MEASURES: “MAPPING” INJURIES

The Development of a Facility Based Trauma Registry in Lusaka

While receiving much less attention than infectious disease, injuries are large contributors to the overall burden of disease within Zambia, and Sub-Saharan Africa overall. Road Traffic Accidents (RTAs) disproportionately affect poorer countries in Africa, contributing to 11% of all RTA-associated fatalities while only accounting for 4% of the world's total vehicles. Trauma and injury represent the fourth most common presenting complaint to health facilities as well as the fifth leading cause of death in the country. According to 2004 WHO statistics, injuries represented 5.9% of all-cause mortality as well as 6.00% of total Disability Adjusted Life Years (DALYs). Significant work remains to be done in developing injury prevention strategies that can bend this steep injury curve towards lower morbidity and mortality. The first step in addressing this problem is to “map” injuries. Only by knowing what types of injuries are occurring, where, and to whom can one begin to develop effective injury prevention strategies. As part of that effort, we at Boston Medical Center, working with partners in Zambia from the University Teaching Hospital (UTH) at Lusaka and the BU School of Public Health, are piloting a facility based trauma registry at UTH. When it is completed, the registry will provide the first epidemiologic view of trauma and injury in the country and will represent an important contribution to the literature [no such data exists for southern Africa except in certain parts of much wealthier South Africa]. It is the first step in a multi-stage project to map injury in the country on a population-based basis and to work with local officials to develop and pilot injury prevention strategies.

BRINGING EMERGENCY ULTRASOUND TO THE BEDSIDE IN ZAMBIA

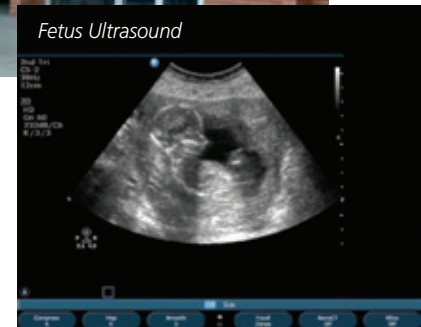
Megan Leo, MD, Associate Director, Emergency Ultrasound

As part of our departmental commitment to the University Teaching Hospital (UTH) in Lusaka, Zambia, the BMC ultrasound section is planning to partner up with the UTH department of surgery to develop a curriculum in bedside emergency ultrasound in their surgical emergency department. Our goal is to train providers (surgical residents and clinical officers) in life saving ultrasound skills such as the FAST exam, focused echocardiography, obstetric ultrasound, and procedural ultrasound. While the UTH is the premier trauma referral hospital for the country not all radiographic studies are immediately available to ED patients. This is due to both the high volume of patients in need of radiographs and CT scans as well as the lack of a dedicated CT scanner in close proximity to the emergency department.

Promoting emergency ultrasound is part of a larger joint effort of our departments to improve trauma care at UTH that includes the development of a trauma registry and bilateral educational exchanges. A short series of lectures and bedside teaching sessions were delivered by our recent graduates this past spring that were met with great enthusiasm from UTH surgical residents. We plan to have ultrasound faculty and residents develop an ultrasound course for Zambian providers and maintain a continued correspondence to help with quality assurance.

A second proposal is to work with BU's larger efforts to reduce maternal mortality in rural areas in Zambia. We propose to develop a curriculum to train community health providers in the use of bedside ultrasound in the expectant management of pregnant women in rural Zambia. Through its school of public health, BU has a grant whose goal is to reduce maternal mortality by 50% over a 15-month period at two district-level hospitals in the Kalomo District in Southern Province. Post-partum hemorrhage and unanticipated complicated labor remain significant causes of maternal mortality. The goal of incorporating US would be to identify pregnant women who have potentially high risk deliveries and who should not try laboring at home. Patients identified as higher risk could be transferred to a center with obstetric capacity.

It is hoped that by placing emergency ultrasound skills in the hands of the providers at the bedside that together we can improve the quality of care as well as reduce the time to definitive treatment of those most acutely ill and injured in Zambia.





EMERGENCY MEDICINE RESIDENTS International Elective Impressions

USING WHAT YOU'VE GOT

Ultrasound education in Lusaka, Zambia

Dave Murman MD & Alison Sullivan, MD (PGY 4s)

Like many other developing countries, Zambia is experiencing a large migration to urban centers. While this urbanization does produce some benefits in terms of increased economic opportunities and better access to services, it can also create large areas of poverty in informal communities with poor sanitation.

Through our departmental relationship with the University Teaching Hospital (UTH) in Lusaka, Zambia, Drs. Alison Sullivan and David Murman were able to spend a month working and teaching at UTH, the main tertiary referral hospital for the country and the clinical site for the University of Zambia (UnZA) School of Medicine.

Trauma care in Zambia is remarkably different than that in Boston. Ambulances are rarely used aside from transport of patients from out-lying clinics to UTH, and the people driving them are simply that: drivers. There are no EMTs or paramedics who treat and stabilize patients prior to arrival. Most trauma patients are brought in by bystanders. Often when a pedestrian is struck, it is the driver who hit the person who brings them to the hospital. Anecdotally, most traumas appear to be motor vehicle related. On arrival, critically ill patients are brought to a resuscitation room for evaluation. In the United States this would be a combination of a triage and resuscitation room.

What they call the "ER" is a small space with four beds, and used as a rapid assessment area where bloods are drawn, IVs and resuscitation started and antibiotics given. There is no direct communication between physicians, often resulting in confusion of medical plans.

Although imaging technology is available, including CT and MRI, it is not always immediately available for critically injured and potentially unstable trauma patients. While evaluating trauma in such an environment is

challenging, it is precisely when the use of focused ultrasound evaluation can be most effective and potentially life-saving.

Shortly before our rotation at UTH, the hospital had just received a donation of several ultrasound machines. The surgical trainees were ripe with enthusiasm to learn how they could manage their patients better with this technology. When we arrived, the new Phillips ultrasound machines were still covered in plastic drapes, and had yet to be used.

We started by giving a basic overview lecture during surgical conference addressing the basics of ultrasound, probes, probe positions, and then FAST, echo, and pulmonary ultrasound. Then we held simulation sessions with most of the surgical trainees. As you might imagine, without much access to imaging, these surgeons were thrilled with what they could see. They rapidly started discussing how this could change their practice. With

little access to portable x-rays, and hopes of an ultrasound in their trauma room, they soon realized the potential of rapid diagnosis of a pneumothorax or hemothorax. The acuity of the UTH ER is incredibly high with limited space and resources which presents many difficult challenges. The Director of the ER/filter clinic,

Dr. Mutemba, is motivated and dedicated to work toward improvement.

As part of our rotation, we were asked to conduct a brief assessment of the surgical emergency and provide recommendations to Chief of Surgery Dr. James Munthali and our faculty director on the ground in Zambia, Dr. Phil Seidenberg. We drafted a document that will be used as a basis for identifying areas to improve throughput and quality to better serve this patient population. As part of that effort, Dr. Mutemba will be traveling to the states to work with BMC/BUSM Emergency Medicine faculty to identify processes and protocols that could be most beneficial to operations in Zambia. Some of our observations have helped shaped plans for future U.S. training to be developed between our two institutions.



Clockwise from top: Canoe trip to lower Zambezi; Family of elephants on shore; and National Bird, African Fish Eagle.



WOMEN'S CARE FROM A DIFFERENT PERSPECTIVE



Jerrilyn Jones, MD (PGY 4), MACEP News, Case Management Section Editor (2011-12)

During January 2011, I spent my elective time practicing Spanish and shadowing an obstetrician in the city of Liberia in the Guanacaste province of Costa Rica. Although parts of Guanacaste are very rural, Liberia has all the basic trappings of a city complete with streetlights, nightlife and the obligatory McDonald's. Most of my time revolved around work at the Centro de Especialidades Medicas San Rafael Arcangel, a multidisciplinary clinic owned by my host, Dr. Walbin Sanchez. The polyclinic provided primary care and a host of specialty services including pediatrics, surgery, dermatology and ENT. There were no referrals necessary to see a specialist and payment for services was made in cash. The daily schedule was computerized, but the doctor's notes were not. The offices, as well as the conversations held in them, were light and airy. The pace was markedly slower than that in the States. In fact, the physicians I talked with who practiced in the clinic were there to escape the hustle and bustle of the nation's capital in San Jose. The atmosphere was "pura vida" in every sense of the word and everyone that I met seemed genuinely happy.

My goal was to absorb as much Spanish and obstetrics experience as possible and this seemed like a great place to do so (especially since I learned there was no "emergency room" per se in the public hospital). Dr. Sanchez cared for all kinds of women. There were the routine PAP smears and follow-up colpos, the pelvic pain and dysfunctional uterine bleeding, and, of course, the expectant mothers.

I was struck by the way prenatal care is handled in Costa Rica. First of all, the patient often sees the doctor to initiate care as soon as her period is missed. A transvaginal ultrasound is performed to identify the gestational sac within the uterus and the ovaries are visualized to identify the corpus luteum. The corpus luteum is measured, and if it appears small, then the patient is given progesterone therapy to try and help the pregnancy. Instead of watchful waiting for the first eight weeks prior to being evaluated by OB, this concept involves treating the pregnancy from the very beginning. It is a totally different paradigm. I was curious to see whether or not this was effective, so I researched it. While it turns out that supplemental progesterone may be effective in preventing miscarriages in cattle, it doesn't seem to have the same effect in humans.^{1,2,3} However patients felt comforted knowing that their doctor was doing all that he could for them.

I was also impressed by the way patients' chief complaints were comprehensively addressed. The woman with dysfunctional uterine bleeding, had a pelvic ultrasound right after her physical exam. She didn't need to

make another appointment for radiology at a later date. He had a small pharmacy right there in the clinic so that patients were able to leave the office with their medications in-hand. The process was efficient and patient friendly within the scope of his abilities.

Outside of the clinic, there were lots of things to do, particularly for the eco-tourist. We were 20 minutes away from a waterfall, 45 minutes from the mountains and zip-lining, about three hours from rainforests and about an hour away from some of the most beautiful beaches in the world. Needless to say the work-hard, play-hard mantra is easy to live out here.

As far as the Spanish goes ... my time in Costa Rica was tremendously helpful in building confidence in my ability to communicate with my patients. I was able to sit and listen to phraseology and diction of native speakers for several hours per day. This was in addition to having small talks with the staff and occasionally facilitating communication between a primarily English-speaking patient and Dr. Sanchez who did not speak much English at all. The sum total of these experiences improved both my comprehension and articulation of the Spanish language. I no longer shy away from that chart that says, "Interpreter needed." Now, I'll start the interview and when the interpreter arrives, I use her to confirm that the history I obtained is the correct one. I've been right 95% of the time, which only reinforces my desire to practice my skills more often.

I truly recommend taking time to immerse yourself in a language in order to learn it. After all, a large number of our patients are non-English speaking. Being able to communicate with and care for them in their native language during their time of need is better for patient care and strengthens the doctor-patient relationship.



The Clinic in Liberia

¹ Anderson AN, et al. Progesterone supplementation during early gestations after IVF or ICSI has no effect on the delivery rates: a randomized control trial. Human Reproduction 2002; 17(2): 357-361.

² Proctor A, et al. Effect of progesterone supplementation in early pregnancy on the pregnancy outcome after in vitro fertilization. Fertility and Sterility 2006; 85(5): 1550-1552.

³ Lopez-Gatius F, et al. Progesterone supplementation during the early fetal period reduces pregnancy loss in high-yielding dairy cattle. Theriogenology 2004; 62(8): 1529-1535.



VIETNAM EMERGENCY MEDICINE PROJECT



Efficacy of an American Model of Post-Graduate Training in Hue, Vietnam

Sushama A. Saijwani, MD (PGY 3)

Emergency Medicine is a recently recognized specialty in Vietnam and is in the initial stages of development. The Good Samaritan Medical and Dental Ministry is an NGO committed to developing emergency services in Vietnam. Through their efforts over the past decade, the Vietnam Ministry of Health recently approved the country's first Emergency Medicine residency training program at Hue College of Medicine & Pharmacy in Hue, Vietnam. Considering the current dearth of local professionals with formal training in Emergency Medicine, I developed a lecture series on cardiovascular emergency care for the trainees there. These lectures were based on an American model of post-graduate training, including powerpoint presentations and case-based discussions. Currently, residency training in Vietnam is largely apprentice-based and does not involve a standard curriculum. I therefore developed an educational assessment, based on a pre/post-test format, to assess the efficacy of this American model of post-graduate training in a developing country without formal structure to physician training.

This pilot study involved 46 multiple choice questions based on nine lecture topics of cardiovascular emergency care, including acute coronary syndrome, syncope, cardiogenic shock, hypertensive emergencies and evaluation of chest pain. The study had 81 participants, including residents from Internal Medicine and Surgical specialties, who staff the emergency department at Hue University Hospital. Tests were translated into Vietnamese by a Vietnamese physician to ensure appropriate medical terminology was applied. Pre and Post tests included the same questions and were presented to the audience prior to the lecture and after completion of the lecture respectively. In addition, a qualitative survey was developed for resident feedback on the differences between American and Vietnamese post-graduate training and areas in which their training could be strengthened.

Analysis of data included calculating the difference in scores between pre and post tests for each individual. Efficacy of the overall educational program was measured as a mean percent improvement from all tests. Results showed a mean percent increase of 10.5% in the knowledge of cardiovascular emergency care among the residents at Hue University Hospital. Improvement was not noted in the area of cardiogenic shock. This is thought to be related to a lack of central venous catheters in the hospital and therefore a lack of knowledge of the hemodynamics and monitoring involved in cardiogenic shock.

Qualitative assessments proved useful for program and educational development. These included suggestions such as incorporating recommendations from Vietnamese physicians on management of cardiovascular emergencies during the lectures and case-based discussions.

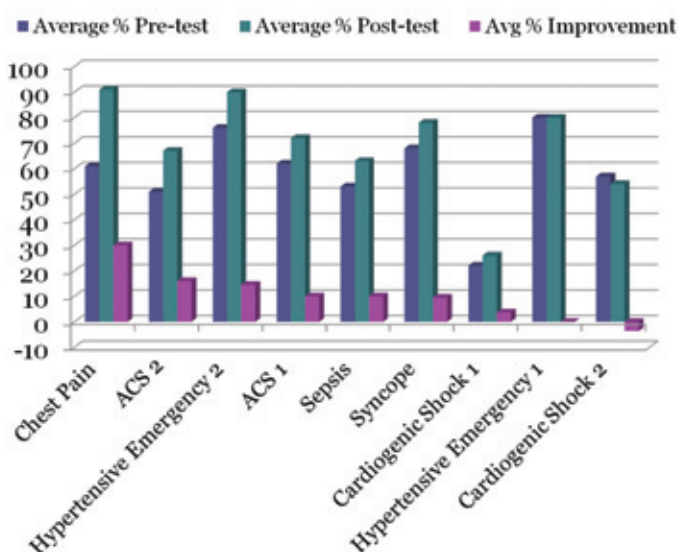
This would not only demonstrate management tailored to local resources, but would also allow for a true exchange of information on how common cardiovascular complaints can be efficiently managed in the emergency department. In addition, Vietnamese residents believe that the American model is focused more on evidence-based medicine and case-based presentations enhanced their learning.



Dr. Saijwani presents data.

This pilot study demonstrated that the American model of post-graduate training improved knowledge of cardiovascular emergency care in Hue and proved to be a useful format for evaluating short-term emergency medicine training programs abroad. This study had a number of limitations including small sample size, lack of a control group as

well as participants at different stages of training. Given these limitations, this pilot study could serve as a model upon which future short-term international emergency medicine training programs could be replicated with a practical instrument for knowledge and qualitative assessment. Many thanks to MACEP for their generous support of this study.





Special Contributor

DEVELOPMENT OF EMERGENCY MEDICINE IN COLOMBIA



Camilo E. Gutierrez, MD

*Pediatric Emergency Medicine –
Boston Medical Center*

*Assistant Professor of Pediatrics
– Boston University School of
Medicine*

Within Latin America, Colombia has been one of the most progressive countries to create and consolidate Emergency Medicine (EM) as a specialty. As most other countries in which EM is relatively new, there are multiple barriers that need to be overcome. In Colombia this transition has been negotiated in such a way that recognition of the specialty has been relatively easier.

Prior to 2005, the two existing societies, (ASCOME) Colombian Association of Emergency Medicine and the (ACAPH) Colombian Association of Prehospital Attention joined forces to establish the ACEM, the Colombian Association of Emergency Specialists, which

now is the main representative to the International Federation of Emergency Medicine.

The first residency program was founded in 1996 and there are six academic EM Residency programs in the three major cities of Colombia. They range from three- to four- year models and are built in conjunction with Schools of Medicine and University Hospitals.

Part of the consolidation of EM as subspecialty requires the endorsement and approval by governmental instances, and in 2005, the Colombian Ministry of Social Protection (Ministry of Health) recognized Emergency Medicine as an independent specialty.

In the Colombian medical model, after finishing six years of medical school, practitioners either remain as general practitioners (GP) or undergo residency training in the traditional specialties. Larger academic centers and major cities see a larger amount of specialist training even



though practitioners need to pay for their residency training, however only 2-5% of graduates overall pursue further training. This disparity is even larger in smaller cities and rural areas where almost all the medical workforce is GPs. Since EM is such a young specialty and there is a significant shortage of EM specialists, there is a tremendous disparity of the qualifications of emergency care providers in these settings and therefore the care delivered to patients that directly affects their quality

of care and expected outcomes. In the majority of these settings, the GPs will see patients and consult a specialists based on the clinical presentation and/or diagnosis. The specialist may see the patient in the ED and provide care or accept the patient for admission.

Colombian residency programs are in dire need of academic faculty mentors to help with capacity building needed to continue developing the specialty. The current specific areas of need are faculty with training and/or experience in international emergency medicine, international public health, curriculum development/evaluation, trauma care and/or trauma systems, disaster medicine, wilderness medicine, combat medicine, toxicology and EMS. Also, emergency ultrasound has created interest and further collaboration is needed.



1st Resuscitation Symposium, IFEM, San Miguel de Allende-Mexico. Faculty BU/BMC Pedi EM Dr. Camilo E. Gutierrez, ACEP Past Presidents Dr. Robert Suter and Dr. Frederick Blum, ABEM Past President and Editor in Chief Dr. Judith Tintinalli, ACEP IEM Section Leadership, Haywood Hall, Yale Med School Public Global Health, Dr. Jorge Otero.

The first International EM congress sponsored by the Association of Specialist in Emergency Medicine (ACEM) was held in Bogota in November 2010 marking an academic milestone for the development of EM in Colombia. More than 1000 participants from different Latin American countries, United States and Europe attended as well as representatives from ACEP and IFEM.

In conjunction with collaborators at Yale and Harvard Universities, we are developing a center for excellence for the adequate development of Emergency Medicine in Colombia. The goal is to provide a bilateral route of academic exchange in which we can share expertise and generating an avenue to facilitate a rotation exchange program.

Currently we are establishing an academic rotation for BU/BMC and BCRP EM and Pediatric Residents and Fellows through emergency services at different University Hospitals in Bogotá and Cali, two major cities in Colombia, as well as active academic involvement at international ultrasound courses, pediatric resuscitation and simulation at the Latin American level. We are excited to be able to offer to our Residents the opportunity to travel, learn and teach in this global arena.

The initial steps have been taken, and work is underway to offer residents and faculty a unique opportunity to not only expand their experience in International EM, but also be involved in the development and growth of the EM Specialty in Latin America and Colombia.



NOTES FROM THE ROAD...

Chair Emeritus continues his public health work in retirement

Peter Moyer, MD, MPH, Professor and Chair Emeritus BUSM

Since retiring as Director of Boston EMS and Professor of Emergency Medicine at Boston Medical Center a few years ago, I've been grateful to have had the opportunity to spend more time with my family without worrying about what else I should be doing. Freedom from daily responsibilities also has allowed me the freedom to explore new and rewarding medical and public health work – both at home and abroad.

As part of that work, I did a short stint at a hospital run by the Indian Health Service in Ship Rock, New Mexico. I had always wanted to work with Native Americans and had even joined the IHS after internship in 1970 only to have my assignment rescinded after joining a group of 43 medical school classmates in signing a letter opposing the Vietnam War. So over 40 years later, I was excited as I drove from Albuquerque to Ship Rock, a small town in the northwest part of the state near "Four Corners" where New Mexico comes together with Arizona, Utah and Colorado. The beautiful land was sparsely populated with mountainous out-croppings of rock. Most residents lived in mobile homes and approximately half of them had no electricity or water.

The hospital was relatively new with a well stocked pharmacy and good medical records. I learned of the opportunity from a former resident – Stewart Anderson, MD – who, at the time, was the head of the emergency department. Many of the health problems I saw in Ship Rock were a result of broader public health problems in the community – including alcoholism, domestic violence and motor vehicle accidents. There were very high rates of diabetes, biliary tract disease and trauma. Like in the "rotation" that I missed as a resident, I lived in hospital housing and ate from the local cafeteria but I loved the opportunity.

The emergency department operated with single attending coverage and limited back up so I got to do a lot. It was great to be back primarily doing familiar procedures again and learning some new ones to boot. In one case, as I was about to intubate a sick patient, a senior nurse asked how much propofol I was going to use. I explained that I preferred fentanyl and midazolam since I had never used propofol for intubation. The nurse smiled as she pushed the med and said, "Well, now you have!"

While some things were completely new, others were just things I hadn't done in a long time. One thing I was anxious about when heading out to a rural, single-coverage ED was pediatrics. In preparation, I had spent a few weeks in the BMC Peds Emergency Department refreshing my skills and observed two Pediatrician friends in their clinics along with renewing PALS and NALS. Sure enough, I saw a lot of pediatric cases. The first one was a simple otitis media in a healthy 2-year-old. In the back of my mind I could hear my pediatrician friend admonishing me to perform tympanometry. I'd

never felt comfortable with the procedure, and as I discovered, it was a moot point as there was no bulb available. I explained to the parents that the infection was probably viral and they could take a script for antibiotics to be filled only if the pain persisted after several days. The nurses clued me in to the reality of rural medicine when they told me that other than our hospital the nearest pharmacy was more than 100 miles away. Needless to say, the family got the antibiotics at the hospital. Soon after I did an LP on a 3-week-old with fever. I don't know what size needle I used – it was the one the nurse handed to me. I relied a lot on the nurses and their experience.

The EMS was run by the Navajo Nation – written on the side of every ambulance. As a former director of Boston EMS I wanted to learn more about their operations serving a population about one-fifth that of metropolitan Boston but over a region almost 20 times as large. They quickly befriended me when they saw how interested I was in them and what they do.

Though I've retired from day to day work with Boston EMS I've continued my work with EMS providers to improve pre-hospital care. While medical director of Boston EMS, Fire and Police I worked for years to set up systems of care for STEMI. Continuing that theme I have worked for the American Heart Association to help set up STEMI systems of care. Now I am working with an interesting group of emergency physicians, cardiologists, nurses and public health officials to reform STEMI

care for the city of Dallas. Changing practice will be a challenge. Dallas has 15 percutaneous intervention (PCI) centers for 2.1 million people. Contrast that with Greater Vancouver in Canada which has three PCI centers for three million people or Nova Scotia which has one PCI center serving one million people. As my friend Karen Wagner, medical director of Vancouver EMS, explained, Canadian hospitals see PCI as a cost; in the U.S., hospitals see it as revenue. Working with communities to ensure high quality of care with a rational distribution of resources is challenging but rewarding work.

In addition to my work in the U.S., I'm getting the opportunity to branch out into global health and EM work abroad. I will be traveling to Ghana for a month to teach EM at KATH hospital in Kumasi, Ghana's second largest city. Ghana is one of the countries most advanced in the development of Emergency Medicine with a national EM society, training programs and ongoing research and educational exchanges. I will be working through a program run by the University of Michigan which like several U.S. institutions has a relationship with hospitals in Ghana. While there, I plan to conduct an informal evaluation of the EMS system in Kumasi and make suggestions as appropriate. By chance, my college roommate Fred Akuffo lives in Kumasi. We've stayed in touch and he had sent me a video of himself in which he says he'd like to get together but doesn't have the money to travel to the States. "You are the rich American doctor," he teased. "You come and visit me." And so I am.



Four Corners Monument, the only place in the US where borders of four states meet.



WHERE PUBLIC HEALTH MEETS PUBLIC SAFETY



Boston EMS Asthma Project: Leveraging EMS Data to Improve Patient Outcomes

Laura Williams, Chief of Staff, Boston EMS

In early 2010, Boston EMS transported a 12-year-old boy with a severe asthma attack to Boston Medical Center. His symptoms were so severe that, tragically, he did not survive.

As part of reviewing this case it was discovered from his EMS electronic medical record that the boy had multiple recent transports for asthma within a short time frame. The records further indicated a trend of his symptoms becoming increasingly severe with each transport. This young boy's unfortunate and untimely death highlighted the need to more closely identify and monitor EMS transports for youth with asthma-related illness within the City and assist in referring them to appropriate services.

In an effort to manage the more than 100,000 annual calls to Boston EMS, the service transitioned to an electronic medical records system in 2004. Since then, Boston EMS has been working to leverage this data to best serve our community. Regular reports are produced, for example, on bicycle accidents, narcotic related illness and high utilizers of emergency care. Strides are continually being made to use EMS data to inform health and safety outreach efforts within the Boston community.

Since 2008, Boston EMS has worked with the Boston Public Health Commission's Division of Healthy Homes and Community Supports to provide data on children age 8 and under who are transported for asthma-related illnesses. Pairing this data with hospital emergency department records, the Boston Public Health Commission identified that Hispanic and black children under 5 are nearly 40 to 50 percent more likely to present to an ED for an asthma-related visit, as compared to Caucasian children.

After the death of the young boy with asthma, Boston EMS convened an interdepartmental group to discuss the situation and to develop strategies to avoid such outcomes in the future. Unlike the data feed

for children 8 and under, Boston EMS did not have a system in place to send an alert for young adults transported with uncontrolled asthma (these must be manually programmed). According to a New York Times article, there is a general limitation in transitional services for patients moving from pediatric to adult health care services; gaps in care occur for two-thirds of young adults with chronic conditions, such as asthma.¹ Additionally, youth² have a higher rate of non-adherence for asthma medication warranting both identification and intervention strategies.³

Asthma Project Overview

Started in July 2011

Staff: Two full-time light duty paramedics

Direction: ePCR Manager & Medical Director

Criteria for inclusion:

Patient ages 9 to 24 with asthma-related illness who has been transported two or more times within six months

Cases that met this criteria: 22



Given the information supporting that youth were an 'at-risk' group for asthma-related illness, particularly youth of color, Boston EMS established a program in partnership with the Healthy Homes and Community Supports division to focus on identifying individuals with uncontrolled asthma and assist to link them to appropriate healthcare services. Children and young adults ages 9 to 24, who had been transported by Boston EMS more than two times within the last six months and showed positive signs of 'increased work of breathing' and specific pre-hospital interventions for asthma such as albuterol administration were included. An automated computer program then was developed to pull records from the electronic patient care charts that meet these criteria into a secure intranet page.

In addition to developing a system for identifying cases, Boston EMS staff reviewed patient care reports for individuals who have recently been transported. Their goal is to reach out to patients by phone and assist in referring them to available services; this is an identification and referral service only targeting individuals who have *already* "fallen through the cracks." The ultimate goal is to enhance the services available to these youth, to reduce the severity and frequency of attacks, and to prevent otherwise preventable tragic deaths like that of the 12-year-old boy. One of the greatest challenges, however, is in actually reaching these youth who frequently do not respond to messages or have listed numbers that are out of service.

¹ Klass P. A Graduation That May Carry Unnecessary Risk. New York Times. June 13, 2011.

² In the case of this study, "Youth" was defined as ages 5 to 17.

³ Rohan J, Drotar D, McNally KA, et al. "Adherence to Pediatric Asthma Treatment in Economically Disadvantaged African-American Children and Adolescents: An Application of Growth Curve Analysis." Journal of Pediatric Psychology. Volume 35, Issue 4; Pp. 394-404.



Based on the early success of the asthma program Boston EMS now has developed a similar program for another chronic illness prevalent in our community – Diabetes. Modeling the asthma efforts, a Diabetic Refusal Follow-Up Program, supported by the same personnel, took effect in October 2011. Again, an ‘at-risk’ group was identified, criteria for inclusion were developed, an automated system was created to extract potential cases from the larger patient care report database, and outreach phone calls began.

For this specific initiative, the case definition includes any patient with measured hypoglycemia of less than 60 mg/dl who refuses transport once their hypoglycemia is corrected in the field by EMS. Over the last six months it was noted that the Department averages five such cases a week. While transport is not always necessary, hospitals can provide a more comprehensive clinical assessment and assist in referring the person to more extensive services for improved care management.

Unlike the asthma program, the intent of the Diabetic Refusal program is to provide a wellness check within a short window of the incident. Every work day (Monday through Friday) all new patients meeting the case definition receive a wellness check phone call. By the third day of the program being in effect, seven individuals were identified and contacted. Three patients were contacted within a few hours of being treated. They expressed gratitude and surprise at the department’s timely follow-up. In

addition to checking in on the patient, the paramedic calling will have reviewed all historic responses for the patient and will have a more holistic understanding of his or her situation. For example, one of the first patients reached had experienced 12 hypoglycemic episodes year to date and has been transported seven times.

The Diabetes and Asthma programs illustrate that this “follow-up” model is an effective strategy for identifying and intervening with patients with uncontrolled disease or worsening symptoms and can be replicated to support other initiatives. Our department will continue to look for ways to support the health and wellness of Boston residents.

AWARDS

Boston EMS was recognized with the following awards at the 11th Annual Metro Boston EMS Council (MBEMSC) Region IV Awards in 2011:

- **EMS Physician of the Year** – Dr. Ricky Kue
- **EMS Research Group of the Year** –
Authors: Michael S. Bohanske, BA, EMT-I/C;
Lori L. Harrington, MD; Kate Murray, MsC,
Laura F. White, PhD; K. Sophia Dyer, MD
- **Innovation of the Year** – Boston EMS Asthma Follow-up Program

Oral presentation: The Effect of Continuous Positive Airway Pressure on Patient Care Time in an Urban EMS System



NAEMSP's Annual Conference
Tucson, AZ
Jan. 12–14, 2012

Abstract Presented at NAEMSP 2012:

EMS response to active shooter incidents: Does focused training affect provider comfort level and perception?

Jerrilyn Jones, MD*, Ricky Kue, MD, MPH, FACEP*[§], Patricia Mitchell, RN*, Sgt. Gary Eblan, MA[†] and K. Sophia Dyer, MD, FACEP*[§]

The NAEMSP® is an organization of physicians and other professionals partnering to provide leadership and foster excellence in out-of-hospital emergency medical services.

*Department of Emergency Medicine, Boston University School of Medicine

[§]City of Boston Emergency Medical Services

[†]Training Academy, City of Boston Police Department



PREHOSPITAL INTERVENTIONS PERFORMED IN A COMBAT ZONE

A prospective multicenter study of 1,003 combat wounded

Presented at the National Association of EMS Physicians annual Meeting, January 2012

Authors: J. Lairet¹, V. S. Beberta¹, C. Burns², K. Lairet³, T. Rasmussen³, E. Renz³, B. King³, W. Fernandez⁴, R. Gerhardt³, F. Butler², J. Dubose⁵, R. Cestero², J. Salinas³, P. Torres¹, J. Minnick¹, L. Blackburne³

A study of life-saving interventions performed by prehospital providers in a combat zone

A multidisciplinary tri-military medical service (US Air Force, US Army, and US Navy) team of active duty and reserve researchers from San Antonio, Baltimore and Boston conducted a study recently presented on Life Saving Interventions (LSIs) performed by prehospital providers in a combat zone.

The purpose of this study was to describe the incidence and efficacy of specific prehospital LSIs, consistent with the Trauma Combat Casualty Care (TCCC) paradigm, performed during the resuscitation of casualties in a combat zone. Between November 2009 and October 2011, data on incoming casualties to medical facilities at six U.S. surgical facilities in Afghanistan were recorded as part of a prospective observational study. Descriptive data were collected on a standardized data collection form and included: mechanism of injury, airway management, chest and hemorrhage interventions, vascular access, type of fluid administered, and hypothermia prevention.

On arrival to the military hospital, the treating physician determined if an intervention was performed correctly and if an intervention was not performed that should have been performed (missed LSI). All data were analyzed with descriptive statistics. Overall, data on 1003 patients was collected. The mean age of casualties was 25 years (SD 8.5), and most of whom (97%) were male. The mechanism of injury was explosion in 602 (60%), penetrating in 238 (24%), blunt in 155 (15%) and isolated burn in 8 (0.8%). With regard to airway management, 27 (2.7%) casualties had a nasal or oral airway placed, 28 (2.8%) underwent endotracheal intubation, and 15 (1.5%) had a surgical cricothyroidotomy performed. When evaluating chest interventions, 12 (1.1%) underwent a needle chest decompression, 6 (0.6%) had a chest tube placed and 12 (1.2%) had a chest seal applied. With regard to hemorrhage control, 166 casualties (17%) had 205 tourniquets applied, 371 (37%) had pressure packing without hemostatic agent, and 23 (2.3%) had pressure packing with hemostatic agent applied.



A colorful poster accompanied the presentation.

(37%) had pressure packing without hemostatic agent, and 23 (2.3%) had pressure packing with hemostatic agent applied.

The study was amended in June 2010 to include vascular access, type of fluid administered, hypothermia prevention, and if a TCCC card was turned in to the receiving facility. After this amendment, 692 casualties were enrolled. Vascular access was attempted in 388 (56%) of the casualties; the type of intravenous fluid administered in the field was available for 223 of the 388 casualties. The most commonly infused fluid was Normal Saline. Prehospital hypothermia prevention was

employed in 429 (62%) casualties with the type of hypothermia prevention recorded for 390. The most commonly used method included a wool blanket 326/390 (84%) followed by space blanket 33/390 (8.5%) and the HPMK 22/390 (5.6%). A TCCC card was turned in at the receiving facility for 95 (14%) of the casualties.

In this study of prehospital LSIs performed in a dangerous, active combat environment, prehospital providers performed LSI with a high rate of success. However, some interventions were incorrectly performed, or did not occur based on TCCC guidelines, such as missed LSIs in airway and chest (breathing) interventions, compared to hemorrhage control interventions. The most commonly performed LSIs had lower incorrect and missed LSI rates.

The implication is that despite the challenges of performing medical care under fire, prehospital personnel are performing LSIs according to TCCC guidelines with few exceptions. However, continuing medical education for combat prehospital providers should focus on the less common LSIs including airway and chest LSIs and review of more commonly performed interventions including hypotensive resuscitation.



Public & Global Health Section

2011 PUBLICATIONS

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continued on page 22



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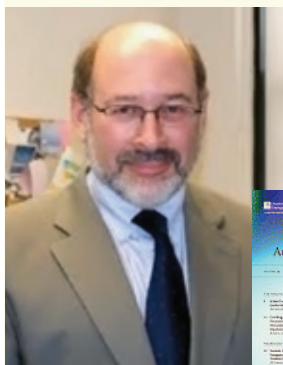
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AWARDS AND RECOGNITION



James A. Feldman, MD, MPH, FACEP

Professor of Emergency Medicine, BUSM

James A. Feldman, MD, MPH has been recognized as a Senior Reviewer by the Annals of Emergency Medicine, the international, peer-reviewed journal of the American College of Emergency Physicians.

Dr. Feldman also has been appointed a member of the Patrick administration's Health Quality Committee.



Thea James, MD

Department of Emergency Medicine
Assistant Professor of Emergency Medicine, BUSM; Director, Violence Intervention Advocacy Program (VIAP) at BMC, Attorney General's Task Force on Children Exposed to Violence

Dr. James was appointed by the U.S. Department of Justice's Office of Juvenile Justice and Delinquency Prevention (OJJDP) as a member of the Attorney General's National Task Force on

Children Exposed to Violence. This Task Force is part of the Attorney General's broader Defending Childhood Initiative and is a collaborative effort between several components within the Department.

Achieving Excellence — Medicine and Music



Women of the World in concert



Thea James, MD was recognized for her exemplary and selfless dedication to the service of her patients, students and colleagues by **Women of the World**, an eclectic group of extraordinary female vocalists from various parts of the globe. Congratulations!

APHA 139th Annual Meeting and Exposition – Washington, DC

Healthy Communities Promote Healthy Minds & Bodies

Dr. James was a contributing panelist at this year's American Public Health Association (APHA) 139th Annual Meeting and Exposition held in Washington, DC. The remaining panelists included Theodore Corbin, MD, MPP, Rochelle Dicker, MD, FACS and Carnell Cooper, MD.

The overall oral presentation was entitled: *Intersecting with the Community to Address Violence: The National Network on Hospital-Based Violence Intervention Program*. Dr. James' section and abstract presentation was entitled: *Increasing Hospital Buy-in: Creating Successful Partnerships*.



APHA Session Moderator Marlene Melzer-Lange, MD and Panelists Carnell Cooper MD, Theodore Corbin MD, MPP, Rockelle Dicker MD and Thea James MD.

From Dr. James' abstract:

“It is imperative to have hospital and staff buy-in ... This is accomplished by creating program allies and champions within the hospital.”



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.

Public & Global Health Committee, Department of Emergency Medicine

Jonathan Olshaker, MD, Chair, Section Editor

Edward Bernstein, MD, *Director, Public & Global Health Section*

Hani Mowafi, MD, MPH, *Director, Global Health Section*

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Judith Linden, MD

William Fernandez, MD, MPH

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