

PUBLIC & GLOBAL HEALTH

Proactive Teaching and Education for a Healthier Tomorrow

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It is my pleasure to introduce the 2014 Edition of our Section of Public & Global Health newsletter, which highlights the many outstanding programs and projects of the Department of Emergency Medicine dedicated to improving public health here in Boston, across the country and around the world.

The Violence Intervention Advocacy Program (VIAP) under the leadership of Dr. Thea James continues to evolve, providing much needed comprehensive services to victims of intentional violence and their families. Newly elected Boston Mayor Martin Walsh visited the VIAP Program during his second day on the job and named violence

prevention as a top priority for his administration.

The BNI-ART Institute led by Drs. Edward and Judith Bernstein continues its statewide, national and international leadership on evidence-based intervention and treatment for emergency department patients who struggle with substance abuse. In 2014 Project Assert is celebrating its 20th anniversary as a BMC ED-based Intervention Program and is part of a city and statewide nasal naloxone intervention program. Massachusetts Governor Deval Patrick recently declared opioid addiction a public health emergency and stressed the importance of greater access to the life-saving drug nasal narcan.

The BMC Injury Prevention Center under the direction of Dr. Jonathan Howland continues to gain momentum with significant grant acquisitions, advocacy and educational programs.

Our Global Health initiatives under the direction of Dr. Gabrielle Jacquet have led attending and resident outreach and education at home and throughout the world including Haiti, Guatemala, Vietnam, Chile, Kenya and Thailand.

Finally, BMC Emergency Department attendings, residents, nurses and other staff played integral roles in providing exceptional prehospital and hospital care for the many patients critically injured last year at the Boston Marathon.

Jonathan Olshaker

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Our Mission: By utilizing the principles 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).



BREAKING THE CYCLE

BMC'S VIAP PROGRAM EVOLVES AND EXPANDS SERVICES

By Thea James, MD, VIAP Program Director, and Elizabeth Dugan, MSW, LICSW, VIAP Program Manager



The Boston Medical Center (BMC) Violence Intervention Advocacy Program (VIAP) continued to evolve over the past year, providing much needed comprehensive services to victims of intentional violence and their families. These expanded services were offered through consistent client mentorship, an active deepening of community partnerships, and the growth and development of the VIAP program. Since its inception in 2006, VIAP has communicated with, and offered services to, more than 3,400 victims of violence who were treated in the BMC Emergency Department (ED).

A VIAP program intervention is targeted toward the physical, emotional and social needs of violently injured youth and is based on a Peer Model of service delivery and a Trauma Informed Care (TIC) approach. VIAP's program goals are to assist in emotional and physical recovery from

violent trauma and empower victims of violence with skills, services and opportunities. In addition, the effort of the VIAP program and its advocates helps to facilitate access to continuing healthcare and local community resources while promoting positive role models and alternatives to violence. These efforts have proven to aid in the prevention of retaliation and recidivism while reducing morbidity and mortality.

VIAP works in tandem with BMC's Community Violence Response Team (CVRT), which consists of mental health clinicians in the Department of Surgery, Division of Trauma. Every victim of penetrating trauma treated at BMC is assigned a VIAP advocate (case manager) and a CVRT clinician. Together, VIAP and CVRT provide critical, wrap-around services to victims of violent trauma and simultaneously offers services to family members of victims that may experience their own physical, mental or social response resulting from the exposure to trauma.

Violence Prevention is TOP priority for Boston's Mayor Walsh and Boston Medical Center

Newly elected Boston Mayor Martin J. Walsh named violence prevention as a top priority for his administration. He held his first meeting with community violence intervention representatives two hours after his inauguration ceremony. Two days later, he toured Boston Medical Center to hold a meeting with BMC CEO Kate Walsh, the VIAP team, a VIAP client, Lisa Allee CVRT Director, and VIAP partners including Dr. Barbara Ferrer, Executive Director of The Boston Public Health Commission. Kate Walsh and VIAP Director Thea James, MD, are members of the Mayor's Transition Team. Read more: <http://b.globe.com/1dJK9h1>



Boston Mayor Martin J. Walsh visits BMC to meet with leaders Jonathan Olshaker, MD, Professor and Chair of Emergency Medicine (left); Kate Walsh, BMC President and CEO, and Barbara Ferrer, PhD, MPH, MEd, Executive Director of the Boston Public Health Commission.

VIAP qualitative study – RESULTS

In 2012, VIAP completed a qualitative study examining the effectiveness of the program from the perspective of VIAP clients. The objective was to explore clients' experiences and provide a contextual basis for understanding their perceptions of the effectiveness of BMC's VIAP services and efforts.

During 2013, the VIAP qualitative study was presented at the following national conferences: Boston: New England Research Directors (NERDS), and American Public Health Association (APHA); Atlanta: Society for Academic Emergency Medicine (SAEM); Seattle: American College of Emergency Physicians (ACEP); and Philadelphia: National Network of Hospital-based Violence Intervention Programs (NNHVIP). In October 2013, the study was presented at Emory School of Medicine's Department of Emergency Medicine in Atlanta. Emory is presently in the planning stages of creating a Violence Intervention Program based on best practice models. Representative study results include client perceptions of VIAP advocates:

- caring adult in their lives (85%)
- Peer-Model that helped establish a trusting relationship (65%)
- have a positive impact on their lives (85%)
- help with a positive attitude shift, improved confidence and the desire to follow and accomplish goals — post-injury
- note the importance of services provided by VIAP (100%)
- are counselors, assist in housing, jobs, educational and legal resources, many others!

90% of VIAP study participants DID NOT retaliate with gun or knife violence



The VIAP team continues to expand. Capacity building is key to the continuum of care the clients and families receive, and through strong collaboration, new services have evolved. VIAP is a lead partner in the Partners Advancing Communities Together (PACT) Initiative. The PACT Initiative is a multidisciplinary, comprehensive service delivery strategy to enhance the access to opportunities and safety for youth who are the most at risk of being victims or perpetrators of gun violence. The PACT Initiative comprises five Boston organizations that serve the city's youth: the Boston Street Worker Program, the Violence Intervention Advocacy Program, Youth Options Unlimited, Youth Connect and the Boston Public Health Commission. Believing that all young people are worthy and deserving of opportunities, the partners work together to connect youths to meaningful relationships with trusted adults and to education and employment services. The partners are committed to building productive, professional relationships amongst their organiza-

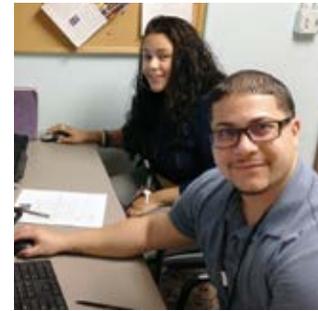


tions in order to increase accountability and reduce redundancy and provide effective and coordinated services to PACT clients. **Feliciano Tavares** is the PACT supervisor for VIAP and a graduate of Northeastern University where he majored in Anthropology and African Studies. He has a long history of working with proven risk youth in the Boston Community, and has been a welcome addition to the VIAP team.

VIAP STAFF

Thea James, MD, Director
Elizabeth Dugan, MSW, LICSW,
Program Manager
Kendall Bruce, VIAP Advocate

Annie Belmer, VIAP Family Support
Coordinator
Feliciano Tavares, VIAP PACT
Supervisor
Jonny Colon, Outreach Worker
Monica Figuereo, Outreach Worker
Ariana Perry, Data Manager



Feliciano supervises two new VIAP/PACT staff, **Jonny Colon** and **Monica Figuereo**. Jonny came to VIAP from Boston EMS Community Initiatives Division. Monica has a degree in Criminal Justice, and has extensive experience working with proven risk youth in the community. Monica and Jonny, recognizing the need for sustainable employment

for clients, have created a user-friendly employment resource for clients; a database of private sector employers that includes information about job titles and descriptions, the application process, and job locations by neighborhood. **Kendall Bruce** is a new BMC VIAP advocate and a student at Springfield College where she is majoring in Human Services. She was previously employed by the Boston Center for Youth and Families as a Boston City StreetWorker. **Annie Belmer** (not pictured) is VIAP's Family Support Coordinator, providing support services for the families of victims of violence, especially young siblings and women connected to victims of violence.



A next step in our VIAP research is a qualitative study on workforce development. Interventionists from several members of the National Network of Hospital-Based Violence Intervention Programs (NNHVIP) will participate. In this study, Peer based models, the impact of vicarious trauma, self-care and staff burnout will be addressed.

Highlights of the VIAP program

In September 2013, VIAP partnered with CVRT at the National Network of Hospital-based Violence Intervention Programs (NNHVIP) national conference in Philadelphia to present their innovative partnership approach to delivering services to clients and families, "Collaborations among VIPs and Mental Health Clinicians in the Emergency Department." Panel discussion was facilitated by Elizabeth Dugan, MSW, LICSW, VIAP Program Manager and Lisa Allee, LICSW, Director, CVRT.

At the NNHVIP National conference in Philadelphia, members of VIAP staff participate in an interactive panel discussion.



In the Media

Feliciano Tavares, VIAP PACT Supervisor, was featured on WGBH with Ed Norton, Director of The Marine Apprenticeship Program — a VIAP partner that provides employment and mentoring for VIAP PACT clients. View the video at wgbhnews.org (type "shipbuilding program" in the search field).

VIAP Veteran Advocates move on with new opportunities

Jumaane Kendrick, VIAP Advocate for four years, has a new position as a Community Outreach Specialist at William J. Ostiguy High School and will graduate from Bay State College in May 2014.

Donald Leonard left VIAP in 2012 to attend graduate school at Northwestern University. He has since graduated and now is a news producer for an ABC affiliate in Tulsa, Oklahoma.



The BNI - ART Institute

Brief Negotiated Interview and Active Referral to Treatment



Boston University School of Public Health

Training Recovery Support Navigators:

A CRITICAL LINK IN THE CHAIN OF ADDICTION TREATMENT SERVICES

By Edward Bernstein, MD, and Deric Topp, MPH, on behalf of the BNI-ART Institute

The Department of Emergency Medicine/Boston University School of Public Health BNI-ART Institute is training peer specialists to help maintain a client's recovery following detox.

In June 2012, the Centers for Medicare and Medicaid Services (CMS) awarded a three-year Health Care Innovation Challenge grant to ValueOptions® and its subsidiary, Massachusetts Behavioral Health Partnership (MBHP), to test new strategies to improve delivery of effective substance abuse services at a reduced cost for the Commonwealth of Massachusetts. The award was to implement and evaluate best practices for helping clients who repeatedly use detoxification facilities and emergency departments move to the next "level for definitive care and engage fully in treatment. The grant funded development of an addiction workforce called recovery support navigators (RSN), peer specialists employed in acute/detox treatment centers, who offer coaching and linkages to services that support and maintain a client's recovery after detox. Since November 2012 the BU EM/SPH BNI-ART Institute has had a contract to develop and implement training and coaching for RSNs and, as of December 2013, trained and supported 54 RSNs. The BNI-ART Institute's experiences working with the BMC Violence Intervention Advocacy Program for the past six years has been invaluable in transitioning its training program from focus on brief intervention to long-term support and service provision.

The BNI-ART Institute developed a program that includes an initial two-day training session followed by monthly case-based coaching sessions. The curriculum includes: skill building in brief motivational interviewing to help facilitate communications and promote client engagement in an array of recovery services, and, basic information on the neuroscience of addiction, co-occurring physical and mental health disorders, trauma informed care, harm reduction and treatment modalities, support services, and linguistically and culturally appropriate addictions services.

Over the course of the first year, during the monthly case-based coaching, we learned firsthand about the importance of hope, support and direction for recovery. RSNs assist client to make appointments and provide them with transportation to legal, medical, mental health, housing, family support, transitional assistance services and whatever else it takes. In the course of their daily work, RSNs face the challenges of maintaining boundaries, ethical decision making and attending to their own safety and wellness. Together with their clients, they must address the social stigma of addiction and the serious shortages in resources, especially in access to essential post detox after care and residential services. The RSN workforce is a necessary and welcome link in the chain of addiction services and, as team members; they extend the reach that we as physicians can offer our patients.

Massachusetts ED SBIRT/Project ASSERT:

DISSEMINATION SUSTAINED AT MULTIPLE HOSPITALS

By Edward Bernstein, MD

In 2006, the Massachusetts Department of Public Health Bureau of Substance Abuse Services (MA DPH BSAS) funded the BNI-ART Institute to disseminate BMC's Project ASSERT model to provide screening, brief intervention and referral to treatment (SBIRT) in other Massachusetts emergency departments. BMC ED Project ASSERT dedicated to improve Alcohol & Substance Abuse Services, Education, and Referral to Treatment began in 1993 with funding from the Substance Abuse and Mental Health Services Administration (SAMHSA) and has since been recognized as an evidence based model of how to intervene and get

treatment for emergency department patients struggling with substance use disorders. Project ASSERT's health promotion advocates (HPAs) collaborate with ED staff to offer screening, brief intervention, information and health resources at the point of service in the hospital environment, rather than handing patients a referral sheet with numbers to call. The program serves more than 5,000 patients annually, 50 percent request detox programs and two-thirds are placed during their visit and 20% received a timely primary care appointment. In addition HPAs provide other comprehensive care and prevention services by addressing



substance abuse as a chronic disease in the context of other health and safety needs.

Over the past six years, 11 emergency departments adopted the Project ASSERT model, and, now that the grant has ended, six of them have decided to sustain their programs as part of their hospital budget, including a program in the BMC Pediatric Emergency Department. BMC Project ASSERT staff and ED faculty together with the BNI-ART Institute provided the training for 32 Health Promotion Advocates and physicians and nurses at these sites, and the BNI-ART Institute provided salary support and technical assistance. During the grant period, Massachusetts ED SBIRT projects screened 50,493 patients substance use, provided 16,432 brief motivational interventions, referred 9,828 patients to treatment for substance use including methadone and suboxone medically assisted treatments and linked 3,160 patients to other community services as shelters, employment, primary care, mental health and financial resources.

Beyond the numbers, the project touched the lives of people who might not have been reached otherwise:

“Patients and family members often identified the HPAs as being instrumental in the recovery and wellness of their addicted son/daughter. Moving letters told the anguish of painful journeys and the celebration of their substance free family member’s rediscovery back to wellness,” said an emergency department director.

Emergency department leadership from each of the sustained programs felt the program had a positive effect on care. ED chairs used words like “comprehensive,” “patient centered,” and “holistic” to describe it. “It (the program) has been a real satisfier for both patients and ER clinicians alike. Patients appreciate the time and attention they receive for their health behaviors, and clinicians appreciate the important services provided to their patients,” said one emergency department chair.

The programs and the health promotion advocates who captained them changed the way patients were viewed, inspiring a shift in culture and attitudes from “treat and street” to offering a solution. It gave providers somewhere to send those who struggled with substance use and were often some of the most challenging patients. Some providers felt they became better educated on substance use and addiction and felt the program’s presence in their ED helped them in “removing prejudice, bias and negative attitudes toward this vulnerable population.”



South Shore Hospital, Weymouth MA: Project ASSERT HPAs are pictured with ED Director, Jason Tracy, MD. The ED SBIRT Program was recognized with a plaque as most supportive of patients struggling with substance misuse.



MILESTONE

In 2014, Project ASSERT is celebrating its 20th Anniversary as a BMC ED-Based Intervention Program. Project ASSERT has trained more than 2,000 health care professionals across the nation in this model as part of the BU School of Public Health BNI-ART Institute.



BMC Adopts New Policy for Patients at Risk for Opioid Overdose:

NASAL NALOXONE DISTRIBUTION IN THE EMERGENCY DEPARTMENT

By Kristin Dwyer, MD, PGY 4, and Edward Bernstein, MD, Medical Director of Project ASSERT

Prescription opioid overdose and drug poisonings are a growing problem in the US and a common presenting diagnosis for patients seen in the Emergency Department (ED). There is data that suggests more people in Massachusetts are dying from drug overdose than from motor vehicle accidents. The CDC estimates a 400% increase in death from opioid overdose between 1999 and 2010 with 16,651 opioid prescription deaths in the US in 2012. There are approximately eight times more deaths from opioid prescription medications than heroin. There are close to 500,000 ED visits a year for prescription pain killer drug overdoses. Harm-reduction strategies (saving lives and improving health outcomes) for opioid overdose are necessary and the ED is uniquely positioned to provide interventions for these patients.

Since 1999, overdose education and naloxone distribution (OEND) programs have been implemented in 118 communities across the nation such as New York, Chicago, San Francisco, New Mexico and Massachusetts to address this epidemic. These programs target those either at risk of opioid overdose, or likely to be bystanders in an overdose, and provide education on the prevention and recognition of an overdose, and on effective overdose interventions such as administering nasal naloxone, performing rescue breathing, and calling 911. They distribute nasal naloxone rescue kits for use in the community during a witnessed overdose while waiting for EMS services to arrive. Traditionally, these programs are located outside of the hospital in methadone clinics, detox programs or needle exchange programs. From 1999 through 2010, in these programs CDC reported that more than 53,000 individuals were trained in OEND, resulting in approximately 10,000 opioid overdoses reversed with nasal naloxone in the community.

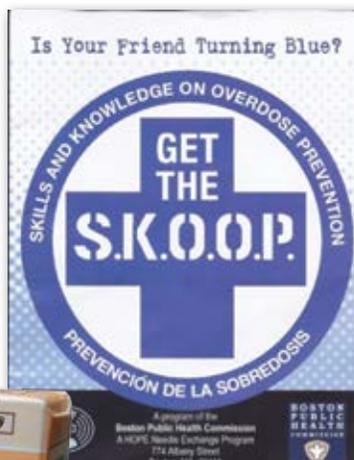
As many of these patients are seen in the ED, we as emergency medicine physicians have the opportunity and responsibility to intervene. At Boston Medical Center ED, our Project ASSERT health promotion advocates, in collaboration with the Massachusetts Department of Public Health are providing overdose

education and distributing nasal naloxone to those with opioid abuse. In addition, physicians are able to write a prescription for nasal naloxone rescue kits. In recent news, Boston Medical Center passed a hospital policy directing that all patients at risk of overdose seen in the ED will be offered overdose education and a nasal naloxone rescue kit (see story at right). These will be provided by Project Assert daily from 9 a.m. to 11 p.m., and by nursing or physicians overnight.

Opponents of community distribution of nasal naloxone are concerned that it will enable increased opioid use and a decreased rate of calling 911. However, research to date has demonstrated a reduction in overdose rates in communities which have implemented OEND programs compared to those which have not. In addition, there does not seem to be any evidence to support an increase in opioid use with access to nasal naloxone rescue kits. At BMC we evaluated the feasibility of OEND programs in the ED setting. At the 2013 ACEP annual research forum we presented our findings and reported that among a convenience sample of patients followed up at one year, nasal naloxone recipients did not report an increase in overdose or opioid use compared to those who received overdose education only. Among those who witnessed an overdose 93% stayed with the victims and 74% of those with a naloxone kit compared to 38% without a naloxone kit called 911 when they witnessed an overdose.

Dr. Edward Bernstein was one of several representatives of the Alcohol, Tobacco and Other Drugs of Abuse (ATOD) Section of APHA to testify at a recent APHA policy hearing in support overdose education and naloxone distribution. We were excited to learn in November 2013 that American Public Health Association's Governing Council approved the following policy statement: 2013 Preventing Opioid Overdose Deaths.

This statement supports preventing opioid overdoses through public education efforts, dissemination of best practices and distribution of naloxone- a drug used to treat an opiate overdose. This calls on the federal government to undertake a coordinated approach to preventing opioid overdose deaths via efforts such as raising public awareness of the signs and symptoms of an overdose, supporting access to treatment and recovery services, and enabling access to naloxone. In addition, this statement urges federal officials to provide state and local health officials with resources to support public education and naloxone distribution programs.





Preemptive Strike in the War Against Drugs:

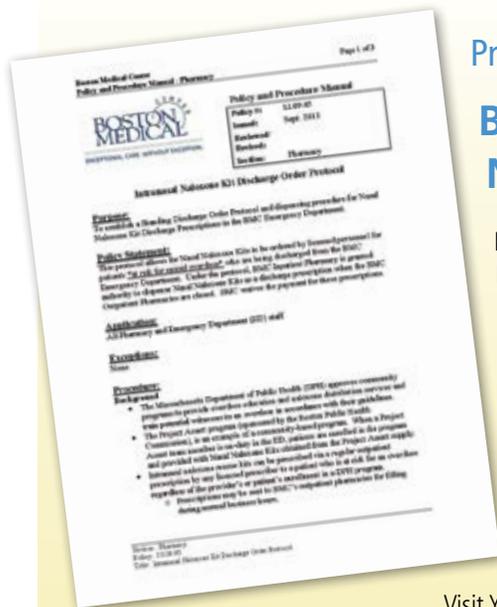
BMC ADOPTS POLICY TO DISPENSE NASAL NALOXONE KIT WITH DISCHARGE PRESCRIPTIONS

Purpose: To establish a Standing Discharge Order Protocol and dispensing procedure for Nasal Naloxone Kit Discharge Prescriptions in the BMC Emergency Department.

Policy Statement: This protocol allows for Nasal Naloxone Kits to be ordered by licensed personnel for patients *at risk for opioid overdose* who are being discharged from the BMC Emergency Department.

The Boston Public Health Commission has created a life-saving informational video on this subject.

Visit YouTube and search for "How to Assemble a Nasal Naloxone (Narcan) Rescue Kit" to find Boston Public Health's video.



BMC EMERGENCY DEPARTMENT TACKLES OPIOID ABUSE, OVERDOSE

By Christopher Griggs, MD, PGY 4

Opioid abuse and overdose has been described as a rising epidemic in the US. The Centers for Disease Control and Prevention reported on this epidemic in the 2012 issue of Mortality Morbidity Weekly Reports (MMWR) in which they highlight that one death occurred every 19 minutes in 2007.¹ These unintentional drug overdose deaths were due to increasing availability of prescription opioid analgesics. In Massachusetts, drug overdoses have surpassed motor vehicle crashes as the leading cause of accidental injury. A number of strategies are being implemented in the Commonwealth that include prescription drug monitoring programs, bystander overdose education, nasal naloxone training and distribution, voluntary or mandated prescriber education, proper medication disposal, screening, brief intervention and referral to substance abuse treatment, and law enforcement efforts to address improper prescribing and diversion.

The BMC Emergency Department has undertaken research and clinical interventions to address this growing epidemic in our community and nationwide. Emergency providers face a dilemma of balancing the responsibility of alleviating pain and addressing the opioid epidemic. EPs want to alleviate the pain of their patient, but are also aware of this increasing epidemic and the danger of placing their patients at risk for overdose and death. Our research division recently

published a study in the Annals of Emergency Medicine evaluating drug seeking behavior in the emergency department through the comparison of clinical impression of drug seeking behavior to data from the Massachusetts prescription drug monitoring program (PDMP).² Our findings suggest there is only a fair correlation between emergency provider clinical impression of drug seeking behavior and PDMP data. This suggests either emergency provider are incorrect in their clinical impressions in a large number of encounters or the definition of drug seeking behavior used for the PDMP in our research is inaccurate. This study highlights the need to conduct further research into how to apply PDMP data in the emergency department to better identify which patients are at risk of overdose and death versus those patients that need better pain management.

In a response to a request from the Boston Public Health Commission, Boston Medical Center also recently implemented a policy that offers all opioid-using ED patients prevention education and take home nasal naloxone rescue kits. Since 2009 Project ASSERT has been providing Overdose Education and Naloxone Distribution on a limited scale during their work hours from 9 a.m.-11 p.m. daily. In 2013, a total of 251 rescue kits were distributed. Under the current policy nurses and physicians will send an order

form to the inpatient pharmacy for these kits and distribute them after project ASSERT hours. The opioid epidemic is certain to be with us for some time and the Emergency Department will continue to see waves of patients presenting with overdoses. Future efforts by BMC will be the identification or risk stratification tools to identify patients at risk of overdose and finding interventions that reduce future risk of overdose.



1. Centers for Disease Control and Prevention (CDC). Vital signs: overdoses of prescription opioid pain relievers---United States, 1999--2008. *Mmwr Morb. Mortal. Wkly. Rep.* 60, 1487--1492 (2011).
2. Weiner SG, Griggs CA, Mitchell PM, Langlois BK, Friedman FD, Moore RL, Lin SC, Nelson KP, Feldman JA. Clinician impression versus prescription drug monitoring program criteria in the assessment of drug-seeking behavior in the emergency department. *Annals of Emergency Medicine.* 2013 Oct;62(4):281-9.



A THORN IN THE SIDE OF EVERY ER PHYSICIAN – THE DRUG SEEKER



“What’s in a name? That which we call a rose by any other name would smell as sweet.” — Juliet, in William Shakespeare’s “Romeo and Juliet”

Guest Commentary by Scott Weiner, MD, MPH, Tufts Medical Center

I enjoy asking physicians what their most favorite and least favorite problems are to treat in the ED. Almost uniformly, physicians love things they can fix: nursemaid’s elbows, good lacerations, shoulder dislocations. They also like making the great

diagnosis, such as picking up a subtle pulmonary embolism or appendicitis. On the flipside, emergency physicians dislike problems with uncertainty, such as vertigo, fibromyalgia and generalized weakness. And one problem they particularly dislike is the “drug-seeking” patient.

Unfortunately, what drug-seeking means to one person is not the same as to someone else. For example, we all know what appendicitis, myocardial infarction and pneumonia are. They are clear-cut clinical conditions that we can diagnose and treat. But what is a drug-seeker? I’ve heard some people respond like Supreme Court Justice Potter Stewart, who famously stated, “I know it when I see it,” when asked how he could identify obscenity. It’s convenient to think like this, but such a definition does not pass medical muster. A more objective definition is needed.

Now that Massachusetts has introduced its Prescription Drug Monitoring Program (PDMP), a formal definition can finally be created. The PDMP is an online database practitioners can access to list the scheduled medication prescriptions given to a particular patient over the past 12 months, regardless of where they were filled in the state. In collaborative work between the research teams at the emergency departments of Tufts Medical Center and Boston Medical Center (including Dr. James Feldman, Dr. Christopher Griggs, Ms. Patricia Mitchell and Ms. Breanne Langlois), we defined “drug-seekers” as those patients who had four or more opioid prescriptions from four or more providers in a 12-month period.¹ We suggested that this should be a reasonable cut-off. For example, if a patient has chronic pain (e.g. from cancer or neuropathy) they may have many more than four opioid prescriptions, but they should be getting them from just a handful of doctors, such as their PCP, oncologist and pain specialist. But once they start using four or more, the behavior becomes more suspicious.

Even though we used it for our study, there are several problems with this definition of 4 and 4. Because of a limitation in our state PDMP, when residents write prescriptions it appears in the PDMP as only the hospital name instead of the provider’s name. The problem here is that if a resident writes a prescription under the supervision of an attending, and the attending writes another prescription another time, it would show up as two separate providers even though they’re essentially one in the same. And what about the patient who diligently follows up with a group practice, sees a different provider each time, but is still receiving opioid prescriptions in a legitimate manner?

For this reason, our current study is focusing on “doctor-shoppers,” which we defined as patients who have 10 or more schedule II-V medications from 10 or more different providers in 12 months.² Even though it’s an arbitrary cut-off, we concluded that if a patient manages to get a scheduled medication prescription out of 10 doctors in one year, they’re clearly shopping around.

There are other sources of definitions as well:

- The Centers for Disease Control and Prevention (CDC) states that doctor shopping “traditionally refers to a patient obtaining controlled substances from multiple health care practitioners without the prescriber’s knowledge of the other prescriptions.”³
- Casey Grover and colleagues from Stanford University published two studies in which they described drug-seekers as any of their patients who were enrolled in a case management program that was given a referral to a drug treatment program.^{4, 5}
- Nat Katz, a pain researcher from Tufts University, uses the term “questionable activity.” For his study, questionable activity was “a potential indicator of non-medical use and diversion of prescription opioids such as doctor shopping based on the number of prescribers and pharmacies used by the same individual within one year.” They used PDMP data, and defined objective criteria: if the patient had two consecutive prescriptions for the same drug, with the number of days between prescriptions being >10% lower than the number of days of supply in the first prescription, then their behavior was questionable. This group also figured out when patients used four prescribers and four pharmacies, it represented the top 0.5% of users, and this became their cutoff for questionable activity.”⁶



- Another common term used is “aberrant drug-related behaviors,” proposed by Dr. Russell Portenoy, a long-time proponent of using opioids for managing chronic pain. Aberrant drug-related behaviors are described as, “a wide range of noncompliance behaviors, some of which are relatively rare, but very aberrant, and some of which are common and more ambiguous in their meaning.”⁷ This, unfortunately, sounds vague.
- Dr. Daniel Alford, from BMC’s Clinical Addiction Research and Education Unit, wrote in a recent Journal of the American Medical Association article, “The use of opioids to treat chronic pain is complicated by misunderstood terminology.” He then defined “aberrant medication-taking behavior” as “a spectrum of behaviors that may reflect drug misuse.”⁸

I posed the question about terminology to Dr. Peter Kreiner, principal investigator of the nationally renowned PDMP Center of Excellence at Brandeis University. He responded, “Doctor shopping” is widely used, but doesn’t have a single, widely accepted definition and so has to be defined for each context.” The Massachusetts PDMP has been using the term “questionable activity,” since all that can be observed in the PDMP data is the activity, not the intent of the activity. I believe that “drug-seeking behavior” is used in the addiction literature. If physicians are able to infer intent or very likely intent, it’s appropriate to use “drug-seeking behavior,” which is perhaps more clinically relevant than “doctor shopping,” which is more relevant to an investigative or law enforcement context. If this inference is weak at best, it might be best to use “questionable activity” as a more neutral term.

So we’re left with “drug-seeking,” “doctor-shopping,” “questionable activity,” “aberrant drug-related behaviors” and “aberrant medication-related behaviors.” Still others have proposed “non-medical opioid use,” “opioid misuse” and “concerning behavior.” And then there’s the issue of “pseudoaddiction,” in which patients exhibit drug-seeking behavior to obtain medication to relieve their actual pain, which should be differentiated from “drug-seeking” ... or should it?

All this variation in nomenclature stems from simple fact: there is an absence of an objective test to determine what drug-seeking behavior (or doctor-shopping, or aberrancy, etc) really means. Whereas we can CT scan your abdomen to identify appendicitis, or scan your leg to diagnose your deep vein thrombosis, we cannot objectively run a test and give you a definite ICD-10 code of “drug-seeker.” Actually, that ICD-10 code does exist, synonymous with “self-damaging behavior,” which could be applied to most of my patients on a Saturday night. So we can bill for it, even if we don’t know what “it” really is!

To this end, our research focus is on evaluating end-points. We are looking at patients who present to the ED with overdoses and receive naloxone, those who are referred to treatment programs, and those who died from overdose. We are correlating those outcomes with PDMP data, information from screening tools, demographics and clinical presentations. We want the terminology, whatever it ends up being, to have the same definition to all clinicians. The direction of our research is, therefore, a push toward objectivity.

Until we have objectivity in our definition regarding drug-seeking, it is as Juliet also famously said: “’Tis but thy name that is my enemy.”

Dr. Weiner is the Director of Research for the Department of Emergency Medicine at Tufts Medical Center in Boston. He completed his residency at Beth Israel Deaconess Medical Center and Masters of Public Health at Harvard University. He serves on the board of the Massachusetts College of Emergency Physicians and chairs its Public Health Committee. He is interested in Global EM and is the current president of SAEM’s Global Emergency Medicine Academy. His research interests include detecting opioid abuse potential in patients who present to the ED with pain.

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BOSTON COMMUNITY TOUR

By Travis Manasco, MD, PGY 1, and Ed Bernstein, MD



The tour group poses for a picture after an inspiring lecture.

The Duck Tour is a quintessential Boston tourist activity to see the city and its numerous historical landmarks. These World War II-era amphibious vehicles are captained by the likes of Paul from Revere, Hardly Davidson and our medical colleague Dr. Phineas P. Duck, and traverse downtown Boston and the Charles River.

My first memory of Boston was driving a duck when I was 8 years old. I quacked like I was watching "The Mighty Ducks." When I moved here for residency, I went on another duck tour with college friends to learn about my new city and have an excuse to quack again.

As fresh interns at Boston Medical Center (BMC) from all over the US, we explored our new community on a similar "duck tour." During our June intern orientation, Dr. Bernstein, a Professor of Emergency Medicine, introduced us to pragmatic tools for screening potential patients at risk for substance abuse. The Screening, Brief Intervention and Referral to Treatment (SBIRT) method identifies such patients and employs effective interventions



New interns exploring their new community.

in the Emergency Room. Additionally, Project ASSERT (Alcohol & Substance abuse Services, Education and Referral to Treatment) leaders explained their invaluable role in the Emergency Department. These health-care advocates screen patients with substance or alcohol abuse and place them in detox, housing or other appropriate facilities. Accustomed to very limited options for patients stricken with addiction, these resources convinced me that we could make a difference in this patient population.

After the lectures, we boarded our personal "duck" (small private bus) to further learn about and explore our new community. Our first stop was the Hope House. It is a three-phase residential program to help people with substance abuse disorders transition from addiction care and treatment to become working members of the community. One program graduate spoke to us from inside his modest room. He described the Hope House's impact in improving his life. He also discussed his new job and career plans with the zeal of a man reborn.

The next stop was Dudley Square, the central commercial district of the Roxbury neighborhood. We explored renovated areas with new shops, cafes and ethnic stores. We toured an old factory converted into a low-rent shopping outlet for Roxbury residents and the Haley House. Started as a basement apartment that fed and sheltered the homeless on Tremont Street, the Haley House is now a non-profit organization. Its mission is to provide technical training and jobs for men and women who face significant barriers to employment.

Next stop was lunch. Sizzling plates and fragrant Caribbean spices greeted us at Merengue, a Roxbury establishment. Afterward, we listened to Tina Chéry and sat spellbound as she told the tragic story of her oldest son, Louis D. Brown. As a 15-year-old, Louis was intelligent and personable. He dreamed of becoming President one day. Having experienced the consequences of gang-related violence, he decided to do something about it by joining the organization, Teens Against Gang Violence. On his way to the organization's Christmas party, he was killed in the crossfire of a gang shooting. Tina transformed her anger and pain into action. She founded the Louis D. Brown Institute, an organization that offers outreach counseling and education to family members affected by violence.

As Emergency Medicine physicians, we provide care to patients who need it. Many times we do not know what happens to our patients after discharge. I am pleased to know we have allies and resources like Project Assert, the Hope and Haley houses, and the Louis D. Brown Institute: partners to help

us in our mission to provide exceptional care to all.



The group sat spellbound as Tina Chéry, founder of the Louis D. Brown Institute, described the tragic loss of her son and the inspiration to provide outreach counseling and education for family members affected by violence.



The Boston Marathon bombings affected every one of us and all corners of our hospital. We rose to the occasion to care for and support the injured and their loved ones. We came together and displayed great strength in providing exceptional care and services to those who needed it most. Not only are we Boston Strong; we are BMC Strong.

— Kate Walsh, President and CEO. (BMC Brief)

A STATE OF REFLECTION — ONE YEAR LATER

Story from the **BMC BRIEF**

THE BOSTON MARATHON is the oldest annual marathon in the world and ranks as one of the best-known road racing events. In the City of Boston, the third Monday of April is affectionately known as Marathon Monday (Patriots' Day) and is recognized as a city holiday.

Early on April 15, 2013, BMC's Emergency Department personnel started the day like all others, providing exceptional care without exception. Greater Boston was host to more than 23,000 qualifying Marathon entrants from all over the globe along with a half million cheering spectators along the 26.2 mile route.

Months of preparation, training and instruction had gone in to managing this day. Medical personnel and countless volunteers were organized near the finish line. The weather forecast was being touted as 'near perfect conditions,' a welcomed gift for the professional, seasoned and rookie athletes.

In Hopkinton, the race began with 26 seconds of silence to honor the victims of Sandy Hook Elementary School. As special guests of honor, several Newtown parents ran the race in honor of victims while family members and friends were invited to sit in the grandstand near the finish line. Along the way, between mile 20 and 21, participants would face the uphill challenge known as "Heartbreak Hill." At the end of mile 26, every runner would pass a special banner honoring Newtown with 26 stars. Right from the beginning, there was much emotion in the air.

On Boylston Street, the finish area was set up with medical tents and supplies to treat exhausted and depleted runners who would later seek relief from various ailments ranging from fatigue, dehydration, muscle weakness, strains and sprains, blisters, chafing, etc. There were 103 uniformed first responders and another 1,700 medical volunteers on the ready. Unbeknownst to all, the day would become a human endurance event in a race for life to emergency medical assistance.

At 2:49 p.m., the first of two bombs exploded at the Marathon finish line. Within 2 minutes of the first explosion, BMC had activated its Emergency Operations Plan. Boston EMS transported 90 critically wounded victims to area hospitals within 30 heroic minutes. Twenty-eight of those victims were rushed to the Emergency Department of Boston Medical Center. With little to no time to prepare, the ED staff stabilized and treated the victims. As BMC went into lockdown, armed guards lined the entrances, while the trauma surgeons worked on 16 patients in 10 operating rooms. Everyone in proximity went into high gear and medical skill and disaster preparedness education took over.



BMC campus shortly after the bombings.
Photo: Boston Herald

"It was controlled chaos," summed up Andrew Ulrich, MD, Executive Vice Chairman, Department of Emergency Medicine. "In my 20+ years, I've never been more proud to be a part of BMC than I was on Marathon Monday." (BMC Brief)

With determination and resolve, BMC staff pitched in and did whatever was necessary. Patient Transport staff staged themselves in the ED to make sure wheelchairs and stretchers were plentiful. Managers turned beds over between patients.

Beyond the ED, the Menino lobby was quickly turned into a receiving area for the wounded, with wheelchairs, stretchers,

IV pumps and linen carts populating the space. Occupational and Environmental Medicine staff joined caregivers in setting up the makeshift clinic, providing supplies and screen barriers to ensure patient privacy, while law enforcement personnel patrolled the first floor to ensure the safety of patients and staff.

Meanwhile, Patient Advocacy quickly established a Family Resource Center for the victims' loved ones. In a short time, the Center was serving sandwiches, coffee and snacks provided by Food and Nutrition. Information Technology Services set up computers, phones lines, including an international line, and had chargers on hand for people to power their cell phones. Social workers, chaplains, patient advocates

and volunteers from other areas of the hospital worked with families to meet their every need, including serving as liaisons to the clinical teams caring for the victims. By the time the Center closed that night, all families had been reunited with their loved ones.



Overwhelming response poured out from the Boston community, the nation and the world. Actors, musicians and members of sports teams such as the New England Patriots (pictured above with an ED staff member) and the Boston Red Sox, flocked to BMC in support of the victims.



The Role of Public Health in Response to Mass Casualty Incidents:

A PERSONAL LOOK AT THE BOSTON MARATHON BOMBINGS

Ricky C. Kue, MD, MPH, FACEP; Associate Medical Director, Boston EMS, Police and Fire Departments; and Assistant Professor of Emergency Medicine, Boston University School of Medicine

April 15, 2013, began as a day for me like many other Marathon Mondays. Almost an entire year of medical planning, preparation and tabletop exercises between various agencies in support of the 117th running of the BAA Boston Marathon had culminated to this day. It was exciting for me since exactly one year ago on this date I was nowhere near a marathon. In 2012, I was deployed on active duty to Camp Buehring, Kuwait, with the United States Army as the Aviation Task Force Flight Surgeon. I could recall the bittersweet feeling of enjoying not to have worked in an overcrowded medical tent, providing medical care to highly motivated athletes yet missing the idea of not being home with my friends and colleagues. I could recall the post-marathon assessment: an unseasonably warm temperature of 87 degrees Fahrenheit, almost 250 ambulance transports (in previous years we had seen roughly 40-50 transports) and over a 10% transport rate of patients coming into the tents. In hindsight, I dodged a bullet. I watched from the comfort of my office on the flight line and wonder how it could be as warm in Boston on April 15, 2012, as it was in Kuwait and how much work my colleagues had to do. It was now 2013; I was back home and had the comfort of knowing we were going to see temperatures 30 degrees cooler this year compared to last.

No one would have ever expected the events that had followed that day. At 2:49 p.m., the first of two explosions near the finish line on Boylston Street occurred. Almost everyone I spoke with who was there that day used the same word – surreal. I recall the look on the faces of so many people I knew. Some people appeared perplexed, while others had a look of fear and despair in their eyes. Many were confused as we all stood there and felt the walls of our medical tent shake. I looked up at one of the paramedics assigned to our treatment area and our eyes locked in a gaze as if to signal to each other that what we believed would never happen just did. I saw other colleagues of mine from public health preparedness race out of Medical Tent A presumably to get back to Boston EMS headquarters and establish our medical intelligence center. As if by second nature, my first instinct was to discuss the initial medical response plan in our tent, the next was to make a run for my car and quickly put on my department issued body armor. It wasn't long until casualties began arriving into the tent. As

much as I tried to mentally keep up with the pace of radio traffic describing the scene response at the two blast sites that was buzzing in my earpiece, it became difficult to do so when the first few victims entered the tent. I looked around the tent after having given some basic instructions over the public address system and wondered how we would manage the influx of potentially hundreds of victims. At this point, I had no idea to what degree the scene at Boylston Street had looked like. The situation was fast moving. The scene was unsecure. In the back of my mind, I knew there was an unsecure scene on the outside and that we would have to do our best until we could get some perimeter security.



Focus of the medical tent changed instantly from managing runners at the finish line to casualty collection and victim stabilization.

The tent shifted from a medical aid station designed to manage typical marathon related illnesses and injuries – dehydration, muscle cramps, exercise-induced syncope, musculoskeletal injuries, strains and sprains, heat exhaustion, heat stroke and hyponatremia into a casualty collection point and clearinghouse to stage victims until transport. Patients already in the tent began to realize what had happened as they saw the wounds from injured victims coming in. As the influx of victims started to surge, my mind took me back to a place eerily similar to what was to continue – Iraq. I remembered the radio calls at the Combat Support Hospital in Tikrit, Iraq, when an improvised explosive device (IED) attack had occurred and all hospital staff members were mobilized as part of the response. I remembered the need for early triage, focused medical care, which included early hemorrhage control and the need to get patients to definitive care, which in the case of these IED blast victims was more often than not an operating room. The design of the medical tents were primarily to manage runners at the finish line, bring expert medical care from all the great medical centers in Boston to the runners and minimize the impact of any potential surge of patients to the hospitals and only transport those who needed further care in a hospital setting. Our focus had changed now. We were to be a casualty collection point acting only to stabilize victims by controlling hemorrhage, limit the amount of advanced interventions at the tent to only what was





necessary, determine transport priority and get them to definitive care by minimizing any further delay. The initial wave of casualties coming into Tent A was the sickest. In hindsight, it made perfect sense; first responders and Boston EMS providers at blast site 1 and 2 were clearing the scenes by injury severity. Medical providers in the tent were coming up to me, telling me with urgency their patient was the sickest and needed to go now. With the ambulances still committed to the blast sites, I saw most all the victims in the tent and told many of my peers that every patient currently in the tent is a "red" patient. The overall patient acuity was high and I needed to re-think how we did triage. While it seemed like eternity before I could direct the first arriving EMS units to victims packaged and ready to go, in actuality it had occurred in minutes.

What do these reflections of the first few minutes in the medical tent have anything to do with public health? Where is the connection? So much of what I described in these early moments seem to focus more on the individual medical care of casualties and not that of public health. Early hemorrhage control is basic trauma care, not public health. Too often I have heard the dichotomous description of medical care compared to public health care. The former concerns the doctor-patient relationship and focuses on the medical care of the individual. Public health focuses on medical care for the population. How does the clinician trained for the individual patient encounter apply their experience and observations into action to reduce morbidity and mortality of large patient populations? At my own institution, Boston Medical Center has focused on providing care for a unique population. My colleagues in the Department of Emergency Medicine have used our unique mission as a safety net hospital for various high-risk populations to improve their health and long-term outcomes. From local public health initiatives including emergency department (ED) HIV screening, ED-based substance abuse screening and referral to treatment programs, public-access naloxone to reduce heroin overdose-related deaths, injury prevention and violence intervention programs, faculty members, residents and other department members have initiated public health projects that proactively work to reduce the disease burden we see every day in the ED. These are clinicians who have taken their experience as providers of individual medical care and applied it to a larger population base. The programs are truly some of the best in the region and have become models for other communities. The same can be said for the role public health has played in response to disasters and mass casualty incidents. As Louis Pasteur once said, "Chance

favours the prepared mind." In retrospect, it wasn't by luck alone that we experienced the patient outcomes from that unfortunate day. Every person transported from the scene to a hospital that Monday survived. No one single trauma center in the city of Boston was overwhelmed with an unexpected influx of patients. When I discuss public health to medical students, public health students, residents and other attendings, disaster preparedness is typically not the first thought that comes to mind. Boston EMS has been an integral part of the public health community. As a division within the Boston Public Health Commission, our Department has invested significant time and money into the various infrastructures within the City of Boston that came into action on April 15. Boston EMS is not just about emergency medical care to someone calling 911. It's about developing and coordinating communications between the field and receiving hospitals, developing programs through our Office of Public Health Preparedness that allow for integration of all emergency support function (ESF)-8 activities within the region and planning for major disasters with an all-hazards approach. Developing response plans and contingencies for a potential influenza outbreak would require we have the capability of managing potentially large numbers of patients. How do we prepare our regional hospitals with the potential surge they will experience? How do we respond to the increased demand for ambulance services? Can we develop ways to mass vaccinate or distribute prophylactic antibiotics for another type of outbreak? How do we manage mass fatalities? How do the hospitals communicate with each other, the region and the state? Can we share regional resources when needed? And finally, how do we coordinate all of these activities in a smart and effective manner? In essence, these are the public health functions developed in the Metro-Boston region over the last decade that functioned as they were designed to that Monday afternoon.

Going back to the medical tent that day, I stood there at the back of Medical Tent A looking out the exit way directly at the Fairmont Copley Hotel wondering how soon the ambulances would arrive. My EMS colleagues were busy managing patients knowing that the next step was to get them to definitive care. I looked toward the front of the tent seeing the numerous medical volunteers in their respective treatment areas tending to patients that were filling numerous cots originally set-up for runners. Despite many of them having diverse medical skills having nothing to do with a military, disaster or emergency medicine background, it seemed they just knew what to do. I saw a group of emergency medicine residents in the treatment area who belonged to Boston Medical Center: my program. I proudly saw them take action the way they have done on numerous occasions with me in the trauma resuscitation rooms during a busy ED shift. Tourniquets have always been part of the culture at Boston Medical Center and Boston EMS. Our providers have used them on countless occasions when dealing with the gunshot wounds and stab wounds we see in an inner-city ED. This everyday practice was continued for patients with massive blast wounds and limb injuries that are rarely seen in a typical ED within the United States. Our everyday practice prepared us for this day. I saw courage and leadership under fire in my colleagues who were there that day just as "volunteers."

With guidance, everyone found his or her role. A doctor came up to me and said he wanted to help but didn't know how. I directed him to a treatment area and told him to make sure all bleeding was controlled and to just



Ambulances lined up, prepared to transport patients from Tent A to area hospitals.



talk to the patients and let them know we'd be getting them to hospitals soon. At this moment, I distinctly remember looking back toward the rear of the tent and thinking how we had to get these patients on to their next destination. We have five level 1 trauma centers all within minutes of my location and these patients needed to be there. The ED doc inside me kept saying to get these patients "dispo'ed." We need to get the sickest out now and be ready for the next wave. As a sense of panic began to set within me, I saw one of the best sights that I will never forget, a brown-shirted EMT from Boston EMS who came directly to me and asked "who do you want to go first?" An unbelievable sense of re-assurance swept through my body. At that moment, I realized the systems we had in place after years of development have come in to take action. This system essentially notified hospitals of the incident and relayed updates on what was happening at the scene, coordinated ambulances not just from Boston EMS but all local mutual aid partners from private ambulance companies from the EMS staging area to my location and made transport destination determinations based on triage priority and resource availability. This system allowed me to focus on getting patients ready for transport in the right order based on injury severity. Our Medical Intelligence Center (MIC) had been activated and functioned as a central node of medical information sharing and coordination between the first responder community and receiving hospitals.

In the end, 118 victims were transported by EMS to area hospitals. The first patient was transported off the scene 9 minutes after the initial explosion with the entire scene cleared of the initial victims within an hour. Eleven ambulance companies participated in the response and helped to provide in total 68 ambulances available at the scene for transport. The systems developed by the EMS and Public Health Preparedness communities in Boston functioned as designed. Communications allowed to for rapid mutual aid requests and greatly contributed to our ability to clear the scene. Once the initial ambulances began backing into Tent A to take patients to area hospitals, there was never a moment longer than five minutes before another unit was backing in to take the place of one that just left. Hospitals were able to activate their emergency response plans and adjust their operations based on the initial notifications and updates, as they would have for any other type of disaster.¹

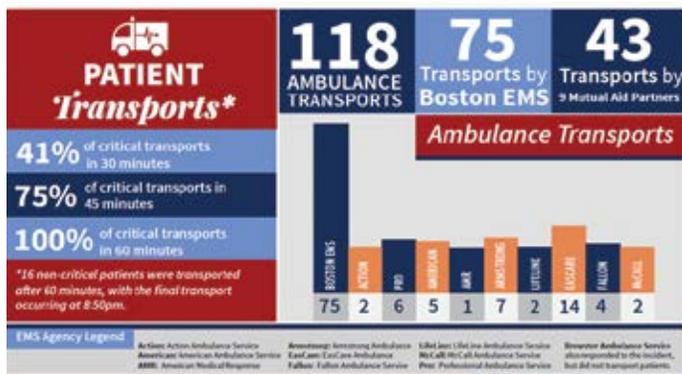
Was it Karma? That I had been a "vacation" from the chaos of the 2012 Marathon that the 2013 Marathon proved to be one of the defining



The Medical Intelligence Center, activated for the emergency, functioned as a central node of medical information sharing and coordination between the first responders and receiving hospitals

moments for my personal and professional life? I don't particularly feel special in any way playing the role I did in that tent. In fact, I felt disengaged from the victims that came through. It was amazing how few patients I actually participated with indirect care. I spent most of those moments directing care, providing guidance and just looking at the big picture. I was not involved in the individual patient care of victims; rather I was involved in their care as a population group. My wife reminds me constantly that I was there for a reason and not by chance. It helps me understand the role I played in the overall response. It reminds me on the role public health plays in response to disasters and mass casualty incidents. Public health deals with populations, and anytime a disaster occur (whether man-made or natural), there will be large populations displaced or affected such that a response is needed. The public health role did not end when Monday was over. For the months to come, mental health support played a huge role, which was coordinated and delivered through local, state and federal public health agencies. From planning and coordination to training, response and recovery, public health plays an integral role in the medical community's response to a disaster. The Boston Marathon response is a reminder for all of us on how these communities intersect.

On behalf of the Department of Emergency Medicine, the EMS Physicians Group would like to thank the men and women of Boston EMS, Police and Fire Departments, as well as other EMS agencies, first responders and the BAA medical volunteers for their courage and heroism in response to the April 15, 2013 Boston Marathon Bombings.



Stunning statistics convey the story of an overwhelming response in the face of the Marathon mass-casualty disaster.

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Injury Prevention: Can Practice Make (Almost) Perfect?

BMC'S INJURY PREVENTION CENTER GAINS MOMENTUM



By Jonathan Howland, PhD, MPH, MPA, Executive Director, IPC; Professor of Emergency Medicine, Boston University School of Medicine

Created in July 2010, Boston Medical Center's Injury Prevention Center is supported by The Department of Emergency Medicine and the Division of Trauma Surgery. This joint investment is a commitment to develop a viable, self-sustaining, long-term institution for injury prevention and practice. Highlights of the past year include:

Lecture series launched

In September 2013, the Injury Prevention Center (IPC) launched a monthly lecture series focused on injury prevention research. Talks by injury prevention researchers and practitioners from BMC and other medical centers are presented monthly as part of the Emergency Medicine Department's resident training program. Topics include firearms and suicide, reporting impaired drivers to the RMV for license revocation, mental health services for trauma victims, opioid overdose, prevention of falls in older adults, and ED-based behavior interventions for injury prevention. The lectures are open to the BMC/BUMC community and CME credits are provided.

Major grants submitted

In October 2013, the IPC submitted a five-year grant to the NIH to study whether resistance to hangover in college predicts problematic drinking during post-college years, when adult roles are assumed. The study builds on pilot work conducted by Jonathan Howland, IPC Executive Director, and Damaris Rohsenow, an addiction researcher at Brown University. This early study found that subjects in a randomized trial who did not get hangover the morning after intoxication were more likely than their peers to drink heavily after graduating from college.

In conjunction with the injury prevention centers at Rhode Island Hospital (Brown University) and the Connecticut Children's Medical Center (University of Connecticut), the BMC IPC submitted an application to the CDC for a five-year injury prevention research center grant. The grant includes administrative support for the three centers, support for students interested in injury research, and a three-year research study evaluating pharmacy-based naloxone distribution for opioid overdose prevention.

IPC Executive Staff Members; Thea James, MD, IPC Executive Director, Community Outreach, Lisa Allee, LICSW, IPC Director, Programs and Education and Jonathan Howland, PhD, MPH, IPC Executive Director and Professor of Emergency Medicine at BUSM submitted a grant to the Massachusetts Attorney General to develop a comprehensive model for mental health other social services for BMC patients who are treated for a traumatic injury.

Support for Massachusetts communities

Two communities, New Bedford and Boston, approached the IPC for assistance in responding to a State Department of Public Health request for proposals for Wellness & Prevention grants. Each of these grants includes programs for adult fall prevention. If these grants are funded, Dr. Howland, Dr. Narayan, and Nicole Krellenstein will support the falls prevention components.

New study on falls in older adults

In September 2013, Drs. Howland and Narayan and Nicole Krellenstein began enrollment in a prospective study of post-ED-discharge falls prevention activities among older adults treated at BMC ED for falls. The aim of the study is to document the extent to which an ED visit for a fall prompts engagement in community-based falls prevention programs, home falls risk reduction remediation, or formal falls risk assessment by primary care providers.

New State-funded studies

In July 2013, the IPC received a grant from the State Department of Public Health to conduct on behalf of the new Massachusetts Commission of Falls Prevention a statewide inventory of community evidenced-based falls prevention programs. This inventory is being conducted by surveying organizations that provide services to older adults and will establish a 2012 baseline with which the Falls Commission can base strategic planning for enhancing falls prevention programming throughout Massachusetts.

In 2014, subsequent grant was awarded by the Department of Public Health (DPH) to conduct a survey of Massachusetts primary care physicians with respect to their fall risk assessment and intervention practices for their older adult patients.

OPIOID overdose conference

In November 2013, the IPC co-sponsored with the Boston Health Commission a conference on opioid overdose. The conference brought together researchers and addiction program practitioners to report on current epidemiology of overdose and prevention programs in Massachusetts.



Department of Emergency Medicine, Global Health Section

GLOBAL HEALTH DIRECTOR NAMED



Gabrielle Jacquet, MD, MPH, RDMS, is an Assistant Professor of Emergency Medicine at Boston University School of Medicine and an Attending Physician in the Emergency Department at Boston Medical Center. She received her MD from the University of Vermont and her MPH from the Johns Hopkins Bloomberg School of Public Health. Dr. Jacquet

completed her Residency in Emergency Medicine at Denver Health and her Fellowship in International Emergency Medicine and Public Health at Johns Hopkins.

Dr. Jacquet focuses her work on medical education and strengthening emergency care in resource-limited settings. She has taught emergency medicine and conducted research in India, Ghana, Sudan, Rwanda, South Africa, Haiti and Colombia. Currently Dr. Jacquet is working as part of a team developing the first Emergency Medicine Residency in Haiti. She serves as the Chair of the Education Task Force of SAEM's Global Emergency Medicine Academy, as the Alternate Councilor for the ACEP International Section, and as an Editor for the Global Emergency Medicine Literature Review.

WHAT'S NEW IN THE GLOBAL HEALTH SECTION

Dr. Gabrielle Jacquet, director of Global Health in the Department of Emergency Medicine will be collaborating with Dr. Suzanne Sarfaty, assistant dean of Academic Affairs at Boston University School of Medicine, to create online modules for preparing residents and students to participate in international rotations. Topics will include: personal safety, ethics, pre/post exposure prophylaxis, and others.

Drs. Jacquet and Jeffrey Schneider (Emergency Medicine) have been working with James Hudspeth (Internal Medicine), Chris Curry (OB/GYN), Jeff Markuns (Family Medicine), and Camilo Gutiérrez (Pediatrics) to create a more robust and safe application for GME physicians participating in international rotations. Anticipated release date is mid-2014.

A team of BMC professionals including Dr. Jacquet (Emergency Medicine), Sabrina Assoumou MD (Infectious Diseases), Natasha Hochberg MD (Infectious Diseases, Travel Clinic), Elizabeth Barnett MD (Infectious Diseases, Travel Clinic) and Diana Seufert MSN, RN, NP (Occupational and Environmental Medicine) have put together an excellent document titled, "Guidelines for Blood-borne Pathogen Exposure and Post-Exposure Prophylaxis for BMC Resident Physicians Participating in Global Health Electives." This valuable resource can be found on the GME website at internal.bmc.org/gme. Click on "Policies and Procedures."

THE INTERSECTION BETWEEN INDIVIDUAL, PUBLIC AND GLOBAL HEALTH

By Scott Weiner, MD, MPH, Tufts Medical Center

Emergency physicians involved in international work have the unique ability to hold three

different but intertwining roles when caring for their patients. The first is the classic patient-doctor relationship, in which we physicians enter an unwritten but understood agreement that we will do our best to treat the patient in front of us at that moment. The second role is our responsibility to public health. This includes everything from advocating against gun violence, reporting infectious diseases and working with government and other agencies to improve patient care on a community level. The third role encompasses a much broader scale: global health.

But what, exactly, is global health? The Institute of Medicine defines it as "health problems and concerns that transcend national boundaries, may be influenced by circumstances or experiences in other countries, and are best addressed by cooperative actions and solutions." This last

section – about cooperation – is, to me, what is key about global health. By cooperating across borders, physicians can lend expertise to devastating situations like natural disasters or wars. It might also represent an educational intervention to improve care in a certain area. Even though these experiences may appear unilateral (e.g. a U.S. physician goes to a developing country to teach resuscitation skills) they never are. Most of the time, ideas learned abroad can be shared and imported to one's home practice. Maybe it's a creative use of ultrasound because no other modalities were available, or new treatments for hemorrhage or patient management during a disaster situation. Regardless, the knowledge learned can be applied both on the community and patient level back home, thus uniting and improving the three roles.

This is an exciting time in Global Emergency Medicine. There are now more than 30 active fellowships in the U.S. alone. Many of the fellows in these programs are working throughout the world to help improve emer-





gency care. The International Federation of Emergency Medicine (IFEM), initially a modest organization that was formed by just four countries in 1989, now has more than 50 member countries. The Society for Academic Emergency Medicine (SAEM) also acknowledged the importance of Global EM by forming the Global Emergency Medicine Academy (GEMA), a sub-organization of SAEM members interested in global health, of which I currently have the honor of serving as president.

Still another important culmination of the growth of the Global EM was the Academic Emergency Medicine consensus conference titled "Global Health and Emergency Care: A Research Agenda" that was held in Atlanta last May. This month, a supplement issue was released with the

results of that conference. The proceedings recommend new directions for research that hopefully will lead to large, funded studies that transcend national borders. I strongly encourage you to check out that issue. Please also consider joining GEMA (via www.saem.org) and checking out the information available from IFEM (www.ifem.cc). Of note, IFEM holds one of the largest international conferences every two years; this June it will be in Hong Kong, and it promises to be an amazing opportunity for networking and the sharing of ideas.

Drs. Weiner and Jacquet collaborate as members of SAEM's Global Emergency Medicine Academy (GEMA) and Dr. Weiner also serves as president of GEMA.

EMERGENCY MEDICINE TRAINING IN HAITI

By Gabrielle A. Jacquet, MD, MPH, RDMS, Director, Global Health Education; Assistant Residency Program Director

Seven out of the top 15 causes of morbidity and mortality worldwide can be reduced through the provision of high-quality, cost-effective emergency care. In Haiti, there are currently no practicing emergency physicians and no emergency training programs. The few available emergency departments in referral hospitals are staffed by general practitioners—often recent graduates—with minimal or no training in the care of patients with acute, critical, or traumatic conditions.

departments at referral centers. Meanwhile, this gap can be bridged by training district and provincial general practitioners to better manage the initial triage and stabilization of patients with a wide variety of acute medical, surgical and traumatic conditions around the clock.

Hôpital Universitaire de Mirebalais (HUM), an academic hospital opened in April 2013 by Partners in Health (PIH), fills a huge void for people who previously had limited access to quality health care as well as improving access to training for Haitian physicians, nurses, and allied health professionals.

One of the most exciting features of HUM is that it is focused on training the trainers through sustainable transference of knowledge and skills. Residency programs in Internal Medicine, Pediatrics, and General Surgery were started in October 2013. A 6-month Postgraduate Diploma course is being prepared to bridge the gap by training local practicing physicians in high yield EM topics, in addition to a full curriculum for Haiti's first EM residency, which is scheduled to begin in October 2014.

This is an exciting time for the people of Haiti. Anyone interested in getting involved should send an email to gabrielle.jacquet@bmc.org. We are actively recruiting Visiting Professors and Nurses. Proficiency in French and/or French Creole is preferred.

Below, lettered on a wall: "Without education, a man is nothing"



Teaching simulation

The people of Haiti deserve high-quality emergency care. Ultimately residency-trained emergency care physicians should staff emergency



Main waiting area for hospital





GUATEMALA

A Place of Endless Beauty Plagued by Poverty, Malnutrition and Violence

By Kristin Dwyer, MD, PGY 4



Patients lined up for stationary clinic

Guatemala is a beautiful country rich with volcanos, hot springs, waterfalls, Mayan ruins, beaches and the breathtaking Lake Atitlan. Beneath this beauty, however, Guatemala is plagued with poverty, malnutrition and violence. The social and health care inequities are vast and distressing. Despite this poverty and inequity, the people you meet in Guatemala are consistently gracious, warm and generous.

Approximately half of the people in Guatemala are indigenous and speak one of more than 20 Mayan languages. Many live in very rural areas without any access to health care. A majority of births are not attended by a health-care provider. Some rural regions have access to "auxiliary nurses," who have a high school level of education at most. Alternatively, these communities might have "midwives," who have no formal training, and often function like the town physician.

I was fortunate to be able to spend a month in Guatemala this past June for my elective; it was my second visit to Guatemala and I look forward to returning many times in the future. I worked in Xela, the second largest city in Guatemala, with a group called Pop Wuj. Pop Wuj is a social services organization who funds their community service projects by running a Spanish language school. Their projects include a medical clinic, dental clinic, mobile clinic, clean water initiative, safe stove project, reforestation project, nutrition education and a daycare.

I worked in Pop Wuj's stationary and mobile clinic alongside two Guatemalan physicians, with the help of 10 medical students. In addition to my work in the clinic I participated in a nutrition education program in the community, performed pediatric well visits in the daycare, took a cultural competency course and worked on my Spanish language skills.

Pop Wuj's stationary medical clinic in Xela sees patients for the local currency equivalent of \$2 and this price includes all their medications for one-three months, vitamins for their family and de-worming treatments for all children. The medications in the clinic are provided for free by the Timmy Foundation, a US-based non-profit organization. Medications are delivered every two months by student groups who come down and volunteer with one of the social service projects for a week.

Each morning when I arrived at the clinic there would be patients lined up and down the street waiting to be evaluated. Many waited in the streets for up to six hours to be seen; they never complained. Myself, Wilbur and Hugo were the three physicians at the clinic and we would divide and conquer to try to see as many patients as possible each day. While much of the pathology I saw in Guatemala was the same as in the US, the resources available to diagnose and treat these patients were extremely different. Even simple diagnostics such as blood work were rarely feasible due to cost. Of the hundreds of patients I saw during my month in Guatemala, I only ordered lab work on three patients. Imaging was similarly difficult to obtain and limited for very special circumstances. The vast majority of the time, you had to use your clinical judgment to make treatment decisions without additional diagnostic data.

While medicines were stocked at the clinic for free by the Timmy Foundation, there were some limitations. We had to prescribe what

was available from donations that month. Sometimes we had hydrochlorothiazide and sometimes we had lisinopril; they had to be used interchangeably for patients with high blood pressure. Not only were agents within a therapeutic class substituted for one another regularly but so were agents within a therapeutic category making dosing challenging. However, when these are your only options you learn to make do.

Another struggle I faced in the clinic was that prescriptions are only required for a few medications in Guatemala such as narcotics. Many times when patients are ill, rather than seeing a physician, they go to a pharmacy and the



View from mobile clinic



Local market dresses

pharmacist chooses a medication for them. People are frequently given inappropriate medications and antibiotics. I saw patients who were given antibiotics for eczema and vitiligo, and nebulizer solution was sold as cough syrup to people without asthma or nebulizer machines. Antibiotics were given for almost everything, and resistance is a huge problem. I had a patient who was sold oral contraception by the pharmacy and was told she only needed to take the pill when she had "relations" rather than every day. Educational hurdles were large and difficult to overcome especially with a language barrier.

One day a week our clinic went mobile and we traveled to one of the eight rural Mayan communities that Pop Wuj serves. These communities have no other access to health care and are reliant on the mobile clinics bimonthly visits for their medical care and prescriptions. These patients speak one of 20+ Mayan languages, and finding someone to translate into Spanish was always a challenge. The local school or a family in the community would host the clinic. Their yard would become our triage and pharmacy, and their bedroom would become the doctor's office. Farm animals traipsing through the triage area was standard. Most of the village would come to the clinic, even if they weren't there to be seen. During our mobile clinics one of the staff from Pop Wuj would come to teach the women in the community a new and simple recipe for a nutritious meal using locally available foods as an effort to overcome the severe malnutrition from a diet consisting primarily of corn tortillas, beans and coffee.



Starving street dogs

In addition to working in the health clinic, I was able to participate in a number of other community outreach programs through Pop Wuj. Twice a week there were stove-building sessions. Many Guatemalans cook over open fires on the floor of their 'one-room' home. As a result many of these people suffer significant lung disease although none of them have ever smoked, or even seen, cigarettes.

In addition, because they strap their children to their backs with a blanket and are always leaning over the stoves, the children frequently suffer burns. Pop Wuj builds stoves and installs them with a chimney to route the smoke out of the house and provide some protection from fire.

Another project I was involved with was malnutrition education in the community. Children in Guatemala are often breast fed until a very late age because there is no money for food. There are no nutritional supplements given to the breast milk. Over 50% of their children experience stunting from malnutrition and their infant mortality rate is more than three times higher than in the US. We traveled to the rural Mayan communities and visited the mothers and children. We provided moms with education about malnutrition, provided them with vitamins and nutritional supplements and plotted their children on growth curves over

time. Again there was a major education hurdle in orienting the moms in their Mayan language to the growth curves and helping them understand why malnutrition was such a problem. However, we provided them with a regular supply of vitamins and nutritional supplements to help prevent the children from falling further off the growth curve.

One of the most important lessons I have learned from my work abroad is to be flexible and adjust expectations. You learn to work with what medications you have available and you quickly get used to making decisions without lab results and imaging. In addition, teamwork is very important and you have to help out where you are needed. I spent a day doing well visits for 40 children at our daycare, helped out in the pharmacy and participated in nutrition education—none of these is similar to working in the ER, but you help out where you can.

Despite the earthquakes, modest living accommodations, and being covered in fleas bites for much of my trip I adored my time in Guatemala. I met a number of inspiring people both from the US and from Guatemala and made lifelong friends. Pop Wuj is an amazing organization and I am proud of the time I spent with them. They are working hard to make a number of positive and sustainable changes to improve the health of the people in Guatemala in many ways—through nutrition, safe stoves, clean water and through their clinics. I would highly recommend this experience to anyone interested in an elective abroad.



Dr. Kristin Dwyer in the Xela, Guatemala medical office of the social services organization Pop Wuj.



Pediatric well visit at Pop Wuj daycare.



Bridging Gaps in Medical Knowledge in Vietnam

TRAINING FOR THE FIRST CLASS OF EMERGENCY MEDICINE RESIDENTS

By Kristin Dwyer, MD, PGY 4

This past year, Vietnam began training their first class of Emergency Medicine (EM) residents. A result of a multi-national EM physician group effort that began in 2003, the goal is to develop a “coherent Emergency Medicine program including pre-hospital care” in that country.

The group ran symposiums in Vietnam in 2010, 2011 and 2012 to educate Vietnamese physicians in Emergency Medicine. These symposia heightened awareness of and commitment to the need to develop EM as a specialty. Hue College of Medicine and Pharmacy sponsored the first group of residents, who began training in the spring of 2013.

Historically primarily surgeons and family medicine physicians with no formal EM training have staffed emergency departments in Vietnam. The country has a significant volume of blunt trauma due to motor scooter accidents, and patients often do not wear helmets. In addition, ambulances are called infrequently, and trauma victims roll in to the ED via rickshaw or taxi without backboards or collars.

I was fortunate to work in Hue for a month with these five new residents. The ED where we worked had 10 beds, each fitted with linens that were changed infrequently and usually only when blood soaked or visibly soiled. Often more than one patient was put into a single bed and family members did most of the bedside care. If a patient needed medicine, the patient’s family was sent to the pharmacy to purchase it. For example, one patient came into the ED after an overdose and the family was sent out to buy charcoal, provided with a mortar to pulverize it in themselves and they also were expected to administer the charcoal. When family members ran out of money for testing, medications and interventions, the patient was sent home. Another patient presented with shortness of breath and the family was quickly sent out for antibiotics for presumed pneumonia. Then it was decided the cause was asthma and the patient was sent back to the pharmacy for new medicines. Once the physicians realized he was in heart failure, the family had no more money for medicines and the patient — saturating in the upper 70s — was sent home without appropriate treatment. Coming from Boston Medical Center, where we provide “Exceptional Care without Exception,” it was hard seeing extremely ill patients sent home due to lack of available funds. It was immediately clear that things were done very differently and that there was room for improvement even within the bounds of their healthcare system.

The new EM residents at Hue do not have any EM-trained Vietnamese mentors or teachers available to them; their program director is a surgeon, who coordinates EM trainers from the US and other countries to come to Vietnam, but isn’t available to train the residents himself. The residents have multiple weekly lectures over the Internet from the US, and a visiting EM trained physician based at Hue one month at a time. The initial assignment for the visiting EM trained provider was to see patients with the residents in the ED and to deliver three formal lectures for the residents, medical students and attending physicians over the course of

the month. Upon arrival, it was clear the expectation (and the need) was different. I was to be wholly responsible for their training for the month: bedside work, daily lectures, and a written examination at the end of the month. In the mornings we saw patients together in the ED, ICU and trauma wards. We also spent time in the echo lab learning ultrasound. In the afternoon we did SIM cases, procedure labs and formal lectures. Evenings I gave lectures for the medical student interest group.

I quickly realized that large knowledge gaps existed. Many of the EM residents had solid book knowledge, but had difficulty applying this knowledge clinically. For example, I taught an ACLS class, and the EM residents knew the ACLS pathways well. However, when my lecture transitioned from reviewing the ACLS pathways to going through interactive cases to apply what we had learned, they had significant difficulty. The first case involved interpretation of an EKG of ventricular fibrillation. They knew the ventricular fibrillation pathway, but didn’t recognize ventricular fibrillation in a patient or on an EKG strip. Much of their training to date had been lecture based and independent reading at home. They had spent very little time with direct patient care.



We were able to accomplish a fair amount in one month: EKG training, ACLS, ATLS, ultrasound, suturing workshops, central line workshops, shoulder reduction workshops and many other fundamental EM topics. Moving forward, the need is to formalize the curriculum for consistency. With a new teacher each month there are bound to be redundancies and gaps. Ideally, someone with a formal EM training should be based in Vietnam full-time, but until that is possible a more formal curriculum is being developed.

I had a great experience in Vietnam. Seeing how other cultures practice differently and understanding that any change has to take place within this framework is vital to the success of all global health endeavors. While I was able to make a contribution I was proud of during my month there, the development of a new specialty is no small project and ironing out a consistent curriculum that is based on the constraints of the Vietnamese healthcare system will take some time to perfect.



Effecting Health Policy Change in Low-and Middle-Income Countries

A SYSTEMATIC REVIEW OF BURNS

By Megan Rybarczyk, MD, PGY 1

Attending physician Dr. Gabrielle Jacquet, PGY 3, Dr. Jesse Schafer, PGY 1, Dr. Megan Rybarczyk and Courtney Elm, MS 4 are currently working on a systematic review of burns in low- and middle-income countries (LMIC). In October, I received a grant through TeamHealth to present a subset of the data from this project with a poster highlighting intentional burn injuries in India at the INDUS-EM 2013 Summit in Thrissur, India. This conference is the major Emergency Medicine conference in India where Emergency Medicine is a newly emerging specialty.

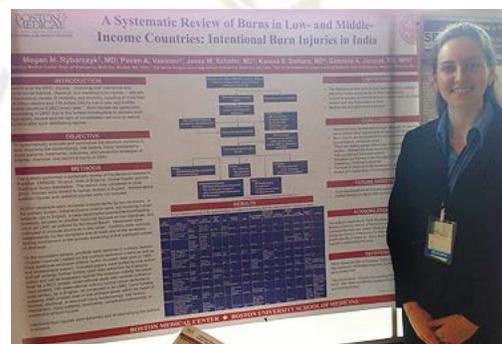
The objective of this ongoing project is to systematically evaluate and summarize the literature available to date regarding the epidemiology, risk factors, injury mechanisms, injury patterns, treatments, outcomes, and prevention strategies of thermal, chemical, and electrical burns in LMIC. The results will be used to inform key stake holders and affect public health policy change at the local level in these countries.

According to the WHO, injuries – including both intentional and unintentional thermal, chemical, and electrical burn injuries – are one of the leading causes of morbidity and mortality, resulting in more than 4.5 million deaths and 176 million DALYs lost in low- and middle-income countries (LMIC) every year.¹ Burn injuries are particularly devastating in

LMIC due to the limited infrastructure to address such high-acuity trauma and the lack of rehabilitation services to restore function after such debilitating injuries.

Efforts are now underway to extract and analyze data from the 1500+ papers identified for inclusion in this review with the hopes of presenting the results at upcoming conferences in the United States and, eventually, in print!

If you are interested in learning more about this project, please contact me at Megan.Rybarczyk@bmc.org.



Megan Rybarczyk, MD, PGY 1 Presents results at INDUS-EM Summit in India.

¹WHO Global Burden of Disease: 2004 Update. Accessed June 2013. http://www.who.int/healthinfo/global_burden_disease/2004_report_update/en/index.html



In October 2013, Megan Rybarczyk, PGY 1, and Gabrielle A. Jacquet (faculty) taught at the 9th annual Indo-US Emergency Medicine (INDUS-EM) Summit in Thrissur, India. This conference is the major Emergency Medicine conference in India where Emergency Medicine is a newly emerging specialty.

Each year, Team Health awards a small number of residents a grant to cover their trip there to present their Emergency Medicine research. Dr. Jacquet became involved when she was awarded the grant as a resident, and has been going as supervising faculty every year since then. Dr. Rybarczyk was awarded the grant this past year as the only intern accepted; she presented a subset of the data from an ongoing systematic review of burns in low- and middle-income countries. Dr. Rybarczyk is grateful to her PGY 1 class for covering her shifts and to the Chief residents for manipulating her schedule so that she could have this unique opportunity in her intern year.

Additionally, Dr. Jacquet gave lectures on venous thromboembolic disease and wound care. Dr. Rybarczyk assisted Dr. Jacquet in her annual wound care afternoon workshop, which had over 150 attendees this year.

The 10th Annual INDO-US Emergency Medicine Summit will be held at Lucknow, Uttar Pradesh, India, October 15-19, 2014. If you have questions or are interested in applying for the Team Health grant for INDUS-EM 2014, please visit http://www.indusem.com/indusem_2014.pdf or send an email to gabrielle.jacquet@bmc.org.



Dr. Gabrielle Jacquet leads a Splinting and Suturing Workshop, INDUS EM 2013



La Havana Cuba

2013 DEVELOPING EM INTERNATIONAL CONFERENCE

By Camilo E. Gutiérrez, MD



During the week of September 16-20, 2013, more than 185 doctors from 18 countries, including many from the United States, gathered in La Havana for a conference sponsored by the Australian group Developing EM lead by Dr. Steven Lee Finberg and Dr. Mark Newcombe. The meeting was supported by international EM organizations such as IFEM, ACEP, AAEM and ACEM.

The conference focused on clinical aspects of emergency care and related public health issues, with a robust schedule that encompassed Adult and Pediatric Emergency Medicine and Critical Care topics and two days of exclusive Politics in Emergency Medicine and Global Health. The implications of the discussion were profound and to the extent that a letter to US President Barak Obama was published in the British Medical Journal¹ discussing the repercussions on the embargo toward the emergency and acute care of Cuban citizens.

An Ultrasound course directed by Dr. Ashley Bean and Dr. Camilo Gutiérrez offered two distinct tracks, in Spanish and English, for different audiences

encompassing basic US skills and hands-on experience. After the Havana, a group continued to St. Lucia to recreate a similar US experience for the Caribbean island.

The development of a conference like this one, needless to say, was a huge undertaking for several reasons including the limitations for travel to US representatives, the complicated work to bring (and return) US equipment, and the need to involve parties at the international and local level such as the Cuban Ambassador in Australia and the head of the Cuban Ministry of Health.

The real value of the conference was that through most of the guest speakers and other delegate's registration fees and other donations in kind, the organization was able to sponsor at least 70 physicians from Cuba and other Caribbean islands which would have not been able to attend otherwise. It was a highlight for Med-ED and training, and a true experience of multinational collaboration.

2014 DEVELOPING EM INTERNATIONAL CONFERENCE IN BRAZIL



Following the success of Developing EM Cuba in 2013, organizers are planning the next Emergency Medicine conference in Salvador da Bahia Brazil, September 8-12, 2014.

We are looking actively for speakers in different areas. The academic program will cover adult emergency medicine and critical care, pediatrics and trauma medicine. This year we are featuring a Global Health and Emergency Medicine session!

Optional sessions last year included a Medical Simulation workshop, a CT Interpretation workshop, an Ultrasound workshop and presentations on Information Technology in Emergency Medicine and Politics in Emergency Medicine.

For more information check the website www.developingem.com and contact Dr. Camilo Gutiérrez in the Pediatric Emergency Department.

¹ Lenzler J. US doctors join call for end to embargo against Cuba. BMJ 2013;347:f6537



International Education

ULTRASOUND AND EMERGENCY MEDICINE CONFERENCES IN CHILE

By Camilo E. Gutiérrez, MD

Since 2004 a continuous Emergency Medicine training program has been developed in Chile, and currently the country counts with seven programs and more than 150 physicians in-training.

The EM Residency program at the Pontificia Universidad Católica, one of the pioneers, has a similar curriculum to that of EM residencies in the US, Canada and Australasia and has attracted residents from several countries in Latin America.

Last year, the EM Residency leadership at the Catholic University organized "Ultrasound Concepts," designed to introduce the use of bedside sonography to the EM Residents and few subspecialists in their program and in the city of Santiago.

In November 2013, a core group led by the Yale Ultrasound group with Dr. Chris Moore at the helm, supported by more than 10 sub-specialists from Yale, Boston Medical Center, and North Shore's LIJ, trotted down to lead the course in Santiago, a beautiful city surrounded by mountains in the northern part of Chile.



Yale Ultrasound Faculty teaching "Ultrasound Concepts" in Santiago, Chile.

The intensive program focused primarily on bedside ultrasonography skills, with lectures ranging from basic ultrasound concepts to advance trauma, resuscitation and cardiac ultrasonography as well as common organ systems (lung, renal, ocular). The theory aspect was followed by hands-on practice in multiple stations each, with an individual instructor. The course counted with the participation of over 80 residents.

Following the completion of the course, the delegation flew to the city of Valdivia on the southwest pacific coast of Chile, as invited faculty to the Third International Symposia on Emergency Medicine, organized in collaboration between the Catholic University and the Universidad Austral de Chile. It included a broad curriculum in reanimation, ED critical care, Pediatric EM, trauma care and toxicology, along with a smaller ultrasound workshop. Conference



attendees included a wide variety of health care providers, such as general practitioners, pediatricians and allied staff who work primarily in the rural and less urban areas surrounding this southern city of the country.

What's Next?

Ample opportunities are available for BMC residents and faculty to travel and participate in these academic meetings. This year meetings will be held in Argentina, Poland, Hong Kong and Brazil. Please contact Dr. Camilo Gutierrez if interested in participating in these meetings either as faculty or sponsor. It is our goal for residents interested in Global Health to travel and gain experience in the international academic arena, learn how to speak in a global forum and at the same time travel and learn from the contact with like-minded colleagues!



EM Residents and Faculty at "Simposio de Medicina de Urgencia" in Valdivia Chile (pictured here visiting the Kunstmann brewery).



Ultrasound Training in Rwanda

A NEED FOR MEDICAL VOLUNTEERS FOLLOWING THE GENOCIDE

By Megan Leo, MD, RDMS, and Kristin Dwyer, MD, PGY 4

Rwanda developed a critical shortage of medical providers after the 1994 genocide resulted in approximately two million deaths over a three-month period. Many of the former healthcare providers were killed or fled the country during this time. As a result, there have been an insufficient number of providers in the country to meet the health care needs of the people. Rwanda has been very dependent on medical volunteers since this time, but now the healthcare ministry is trying to regain self-sufficiency through prioritization of the training of Rwandan providers. Their goals are “to provide and continually improve the health

The “Train the Trainers” course started with an OSCE (Objective Structured Clinical Examination) to assess the retention of ultrasound knowledge and skills since the last PURE training. Our trainees were then given additional training to help refresh their ultrasound skills. We also held a workshop to develop the trainees’ ultrasound teaching techniques for the upcoming mini-course they would run for a group of Rwandan medical students. The following day, they presented lectures on ultrasound physics, FAST exam and echo to the medical students and ran the bedside hands-on portion of the ultrasound training. The session was a huge success and evidence of the sustainability of the work being done in Rwanda by PURE. The trainees not only retained the knowledge we provided them over the past year, but also were able to transfer that knowledge to other Rwandan medical providers.



Kristin Dwyer, MD, lectures during an ultrasound training session in Rwanda.

PURE’s trip to Kigali last October impacted more than 150 clinicians and clinicians-in-training. In addition to the “Train the Trainers” portion of our initiative, the PURE group did eight full days of ultrasound teaching with several groups of new residents (OB, anesthesia, and pediatrics) and medical students. Ultrasound training sessions were held in the new simulation center at the CHUK hospital in Kigali with the new residency programs developed through the HRH (Human Resources for Health) initiative. To impact the medical students, we traveled to several Rwandan hospitals to deliver a one-day introductory course in clinical ultrasound to all the Doc 4 (4th year) medical students in the country. Many of the district hospital are equipped with ultrasound technology but the physicians have not been trained to use the machines. This group of students will move on to work in the district hospitals next year and we hope their introduction to ultrasound will lay the groundwork for future trainings at these sites.

services of the Rwandans through the provision of preventive, curative and rehabilitative healthcare.” The Kigali institute has functioned to train nurses, radiologists, dentists, lab technicians, etc. There currently exists a significant unmet need not only in access to health care technologies, but also to healthcare providers.

The non-profit group PURE (Physicians for Ultrasound in Rwanda Education) began a clinical ultrasound education initiative in September 2012 with a five-month pilot program that trained a cohort of Rwandan physicians from several district hospitals. Dr. Megan Leo, a member of the operational team of PURE, was a part of the initial pilot program and has continued to work on the project over the past year. She and Boston Medical Center Emergency Medicine resident Kristin Dwyer returned to Kigali, Rwanda, with the PURE group in October 2013 as part of a “Train the Trainers” program. Over the past year, PURE has visited Rwanda six times to train a core group of physicians in the country to become local bedside ultrasound clinician experts and to become trainers for their own Rwandan colleagues.



Megan Leo, MD, conducts an ultrasound training with medical students in Rwanda.



A Critical Need for Ultrasound Instruction in Thailand

TRAINING THE TRAINERS AT A BURMESE REFUGEE HEALTH CLINIC

by **Brian Guercio, MD, PGY 3**

Burma is home to the world's longest-running civil war. It began during WWII, when various groups within the country aligned themselves with either the Japanese or the British. Following independence in 1948, an oppressive military government came to power, economically crippling the country. By the early 1990s, the democracy movement in Burma gained widespread support. Subsequently, brutal government crackdowns led



The Mae Tao Clinic serves a displaced population along the Thai-Burma border.

to the house arrest of Aung San Su Kyi, the departure of several hundred thousand refugees, and internal-displacement of thousands more. One of these individuals was Dr. Cynthia Maung, a young physician who established a clinic to care for people crossing the Thai border to seek personal safety, political freedom, and economic opportunity.

Since 1989, the Mae Tao Clinic has grown to become the primary medical and social service institution for approximately 150,000 Burmese migrant workers, refugees and displaced people who live along the Thai-Burma border. The clinic is staffed almost entirely by Burmese medics trained in-house. Despite the scope of its mission and international renown, the clinic's resources are extremely limited. When I first visited there in 2011 as a medical student, there was a single veterinary ultrasound machine that no one knew how to use. After 10 weeks there, I decided to return to the clinic during residency to teach ultrasound.

Fortunately, we have excellent ultrasound training during our first year at BMC. This provided me with both ultrasound skills and a model for ultrasound education. I was also fortunate to find a group of people at BMC with the motivation and diverse skills necessary to establish an ultrasound training program at the Mae Tao Clinic.

In 2012, Dr. Brandon Libby, MD, PGY 4, Dr. Jesse Schafer, PGY 3, and I began to design a self-sustaining training program that eventually could be run by clinic's medics alone. Our project combines a "train-the-trainers" model with longitudinal teaching by Emergency Medicine residents. Hani Mowafi, MD supported our desire to measure outcomes and guided us through the IRB process. Megan Leo, MD provided insights based on her experience with ultrasound training in Africa. Dr. Neil

Hadfield PGY 4 created several instructional videos designed to overcome the language barrier we faced as trainers. In late 2012, I did the first training session at the clinic. Two months later, Brandon did the second training session. Together, we taught about 30 trainees and, of these, about 15 got six weeks of training by attending both sessions.

Due in part to our success in 2012, the project received an International Health Studies grant from the Massachusetts Medical Society and the Alliance Charitable Foundation. This year, we revised and expanded the curriculum. I returned to the clinic in October 2013 working with nearly 40 trainees and to facilitate medic-led training. Dr. Cassidy Dahn, PGY 2, arrived in November 2013 to provide training in both ultrasound and EKG reading. We anticipate that Brandon will return to the clinic this spring to work towards an entirely medic-led training course.

Despite our success, there is still much to be done. Our project aims to formalize ultrasound usage at the clinic by establishing an ultrasound committee, developing ultrasound protocols, creating standardized reporting forms and instituting a quality assurance review process. Beyond ultrasound, medics have asked for additional EKG training and training in acute care and emergency medicine topics. One exciting possibility for the future is to develop a curriculum to train an "emergency team" for treating unstable patients at the clinic based on the BMC model of an ED "trauma team."

Both the clinic's potential and its needs are great. Despite media reports that Burma is "opening up," systematic oppression of ethnic groups through violence and extortion-based cease-fire agreements continues. Few citizens without ties to the military and government will benefit from Burma's expanded relations with China, India and the US. As a result, the clinic expects to see increasing patient volume. At BMC, we understand the socioeconomic and political significance of providing health care to those who have no other options. In that spirit, I hope our ultrasound training program is the beginning of a bidirectional educational partnership between the BMC Emergency Medicine residency and the Mae Tao Clinic.



The view from the Mae Tao Clinic.



Needs Assessment and Curriculum Development in a Resource-Limited Setting

ELECTROCARDIOGRAPHY TRAINING IN THAILAND

By Cassidy Dahn MD, PGY 2



Cassidy Dahn, MD, PGY 2 conducting EKG training at the Mae Tao Clinic in Mae Sot, Thailand.

With the intention of teaching ultrasound and continuing the education that my co-workers had begun, I planned an elective at the Mae Tao Clinic in Mae Sot, Thailand. Prior to my arrival, I learned about the need and desire for electrocardiography teaching.

The Mae Tao Clinic’s health care providers are primarily medics. Medics are members of the community who do not have the formal medical training that we are used to, but rather, plenty of on-the-job training. Some of the supervisory medics have been working in the clinic providing care for more than 10 years. In my short time with them, I have found them to be brilliant clinicians, eager and fast learners, and very compassionate toward their patients, each other and visiting health care providers and educators such as myself. Working and teaching within this community has been rewarding and enjoyable, despite some of the difficult circumstances in which we find ourselves.

While teaching ultrasound had already been organized, started and a plan was in place for my arrival, this was not the case for ECG training. Before I left, I considered the fact that teaching them the same information we were all taught in our medical school curriculum might not be applicable or useful in this setting. How would the medics prefer to learn? What would they benefit from learning? To answer these questions, I performed a needs assessment for electrocardiography to better format a curriculum that will serve the particular needs of this community with far fewer resources than we have at BMC.

Is it helpful to diagnose an ST elevation myocardial infarction if there is no way to have a catheterization for treatment and there are no thrombolytics? The medics answer (unanimously):

Yes. Having a diagnosis is helpful for direct patient care and to communicate prognosis to the family. The search for a diagnosis is complete and the treatment for ischemia, acute or chronic in this population is aspirin and a beta-blocker.

Is it helpful to diagnose hyperkalemia by ECG in a clinic when you cannot get a basic metabolic panel? One might think this could be very useful. Is it still helpful, even if there is no access to IV calcium or hemodialysis or other typical treatments? Again, I received an emphatic yes from the medics. They can give furosemide and salmeterol; but more importantly, they can give prognosis to a family, for example, of a patient with severe renal disease and hyperkalemia.

The discussions that I’ve had surrounding particular patients and theoretical patients, the treatments that may or may not be possible in resource-limited settings, and resource allocation have been educational on their own. I am inspired by the clinical and administrative work that the people of Mae Tao Clinic do to provide the best care for the largest number of patients. I am honored to have been a small part of it even for a short time. I hope I have offered even a miniscule piece of education in return for the wealth of knowledge and experience I’ve received.



Cassidy Dahn, MD, PGY 2 (right) with eager medics at the clinic.



Department of Emergency Medicine

2013-2014 PUBLICATIONS – PUBLISHED AND IN-PRESS

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DEPARTMENT OF EMERGENCY MEDICINE 2013-2014 Publications *continued*

Dresden S, Mitchell P, Rahimi L, Leo M, Rubin-Smith J, Bibi S, White L, Langlois B, Sullivan A, Carmody K. Right ventricular dilatation on bedside echocardiography performed by emergency physicians aids in the diagnosis of pulmonary embolism. *Ann Emerg Med.* 2014;63(1):16-24.

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IN-PRESS

Jacquet GA. The state of emergency care in the republic of the sudan (L'etat des soins d'urgence en Republicque du Soudan). *African J of Emerg Med.*

Moll J, Krieger P, Moreno-Walton L, James T, Lee B, et al. The prevalence of lesbian, gay, bisexual, and transgendered health education & training in emergency medicine residency programs: what do we know? *Acad Emerg Med.*

James TL, Bibi S, Langlois BK, Dugan E, Mitchell PM. Boston Violence Intervention Advocacy Program: a qualitative study of client experiences and perceived effort. *Acad Emerg Med.*

Krellenstein N, Lu E, Diop H, Hackman H, Nelson K, Howland J. Assessing disparities in infant safe sleep practice by maternal WIC status in Massachusetts. *Injury Epidemiology.*





AWARDS AND RECOGNITION



Edward Bernstein, MD, MPH

Professor and Vice Chair for Academic Affairs, Department of Emergency Medicine, Boston University School of Medicine; Medical Director, BMC ED Project ASSERT; Professor of Community Health Sciences and Director, BNI-ART Institute, Boston University School of Public Health

Appointed to Massachusetts Public Health Council

Dr. Bernstein has been appointed a member of the Massachusetts Public Health Council, Commonwealth of Massachusetts, Executive Office of Health and Human Services (EOHHS) by Governor, Deval Patrick.



Thea James, MD

Attending Physician, Department of Emergency Medicine, Director/Founder, BMC Violence Intervention Advocacy Program (VIAP), Boston Medical Center; Associate Professor, Boston University School of Medicine

Appointed to Mayor's Transition Committee

Dr. James has been appointed a member of Mayor Martin J. Walsh's Transition Committee.



James Feldman, MD, MPH, FACEP

Vice Chair, Research, Department of Emergency Medicine, Boston Medical Center; Professor of Emergency Medicine, Boston University School of Medicine

Massachusetts Medical Society 2014 Grant V. Rodkey, MD Award

Dr. Feldman was the recipient of the Massachusetts Medical Society 2014 Grant V. Rodkey, MD award. Established in 1995, the award is presented annually to a physician who has demonstrated outstanding commitment to the education and welfare of medical students in hospital and in organized medicine.

Annals of Emergency Medicine TOP 50 Peer Reviewer

Dr. Feldman was also selected as a TOP 50 Peer Reviewer of 2013 by Annals of Emergency Medicine. This elite recognition is for excellence in peer review and critical analysis of scientific manuscripts.



Jeffrey I. Schneider, MD, FACEP

Residency Program Director, Department of Emergency Medicine, Boston Medical Center; Assistant Professor, Boston University School of Medicine

Recipient of Distinguished Educator Award

Dr. Schneider was named recipient of the 2014 Distinguished Educator Award from the Council of Emergency Medicine Residency Directors (CORD) Academy for Scholarship in Education in Emergency Medicine. This prestigious national award recognizes outstanding educators meeting standards of academic excellence.

Academic Emergency Medicine National Award

Dr. Schneider was recognized with a National Award by Academic Emergency Medicine as a 2013 Outstanding Reviewer.



AWARDS AND RECOGNITION *continued*



Judith A. Linden, MD

Vice Chair, Education, Department of Emergency Medicine, Boston Medical Center; Associate Professor, Boston University School of Medicine

Community Clinician of the Year

Dr. Linden has been named 2014 Community Clinician of the Year, by Suffolk District Medical Society of the Massachusetts Medical Society, the statewide professional association of physicians.



Elizabeth L. Mitchell, MD

Attending Physician, Department of Emergency Medicine, Boston Medical Center; Clinical Associate Professor, Boston University School of Medicine

Recipient of "Women Amongst Us" Award

Dr. Mitchell was the recipient of the 2014 "Women Amongst Us" award presented at the Hyde Park Women's History Celebration to honor women of character, courage and commitment in recognition of service to the Boston Community, and actions at the Boston Marathon. The event was attended by Mayor Martin J. Walsh, members of the Boston City Council, and the House of Representatives.



Gabrielle Jacquet, MD, MPH, RDMS

Recipient of Early Career Faculty Award

Dr. Jacquet has been selected for the Early Career Faculty Award by the Academy of Women in Academic Emergency Medicine (AWAEM).

Associated Faculty at Boston University Center for Global Health & Development

Dr. Jacquet has been named as Associated Faculty of Boston University Center for Global Health & Development (CGHD) for a three-year term (2014-2016).



Jolion Mcgreavy, MD, PGY 3

Appointed to SAEM Ethics Committee

Dr. Mcgreavy was selected to serve on SAEM Ethics Committee. The Ethics Committee is responsible for developing and formulating policies concerning ethical issues in the practice of emergency medicine for the Society and for the practice of emergency medicine in general.



Cassidy Dahn, MD, PGY 2

Advances to Finals in the Clinical Pathologic Case Conference (CPC)

Dr. Dahn was the 2014 National Emergency Medicine CPC Semi-Finals Division 4 winner at CORD Academic Assembly in New Orleans, LA. She now advances to finals to be held at ACEP in October 2014.



Future Conferences Covering Emergency Medicine

PUBLIC & GLOBAL HEALTH, RESIDENCY AND PRE-HOSPITAL EDUCATION

National Events

SAEM	May 13-17, 2014	Dallas, TX
ACEP	October 27-30, 2014	Chicago, IL
APHA	November 15-19, 2014	New Orleans, LA
CORD	April 12-16, 2015	Phoenix, AZ
NAEMSP	January 22-14, 2015	New Orleans, LA

International Events

ICEM	June 11-14, 2014	Hong Kong, China
DEVELOPING EM	September 8-12, 2014	Salvador da Bahia, Brazil
EUSEM	September 28 - October 1, 2014	Westergasfabriek, Amsterdam
INDUS EM	October 15-19, 2014	Lucknow (UP) India
AFCEM	November 4-6, 2014	Addis Ababa, Ethiopia
EMCON	November 6-9, 2014	Mumbai, India

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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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