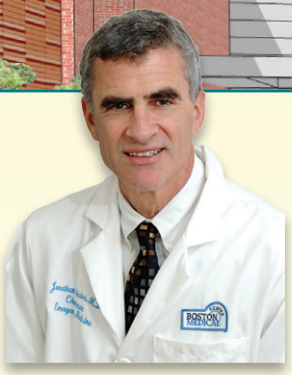
Department of Emergency Medicine

PUBLIC & GLOBAL HEALTH SECTION

Spring 2015



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It is a pleasure to introduce the 2015 edition of the Boston Medical Center's Department of Emergency Medicine's Public and Globe Health Newsletter which highlights the many department programs and endeavors dedicated to improving public health and patient well-being locally, nationally and throughout the world.

This year Project ASSERT celebrated its 20th anniversary of providing essential alcohol and substance abuse services, education and referral to treatment. The work ethic and dedication of its team was formally recognized in a congratulatory video message from the White House, featuring Michael Botticelli, Director of National Drug Control Policy. In addition, Project ASSERT distributed 478 nasal naloxone rescue kits in the last two years, playing a role in the state-wide response to the opioid epidemic — a priority of both former Governor Deval Patrick and present Governor Charles Baker. Governor Baker recently led a summit meeting at BMC on fighting this major problem.

The Violence Advocate Intervention Program (VIAP) led by Thea James, MD, continues to be a successful national model, offering comprehensive violence intervention services for patients and their families. VIAP staff members focus on safety planning and work to decrease recidivism and retaliation. VIAP currently boasts a 7% recidivism rate compared to national averages of more than 30%. Of note, Dr. James was recognized with the 2014 Schwartz Center Compassionate Care Giver Award, one of the region's most prestigious honors in health care.

The BMC Injury Prevention Center, founded by the Department of Emergency Medicine, continues its advocacy and research on falls, college binge drinking, sports concussions, opioid prescribing and various other areas. Traci Green, PhD, MSc, an internationally recognized leader in opioid overdose prevention, joined the center this past February.

The department's global health initiatives continue to flourish under the direction of Gabrielle Jacquet, MD, MPH, including a new online open-access curriculum for global health rotations and the formation of a major collaboration between Boston University and the Society for Emergency Medicine India.

In addition we are pleased to present guest commentary on guns and public health from Sandro Galea, MD, DrPH, the new Dean and Professor of the Boston University School of Public Health.

We invite you to read about these programs as well as other exciting public health work ongoing throughout the department.

Jonathan Olshaker

Contents

PUBLIC HEALTH AND THE COMMUNITY

BMC Responds to Opioid Overdose Epidemic: A Public Health Emergency 2
The Violence Intervention Advocacy Program at BMC 4
Project ASSERT Celebrates 20th Anniversary 6
Health Advocacy and Youth Intervention in the Pediatric Emergency Department: 8
BMC Funds Adolescent PED Project ASSERT 8
Intern Orientation: Beyond the Emergency Department 9
Second-Year Orientation 9
ED-Based Violence Intervention 11
Guest Commentary by Sandro Galea, MD, DrPH: Guns and Public Health 13
BMC's Injury Prevention Center 2014 Update 16
Ethanol Abuse on College Campuses: New Program For Managing Binge Drinking 18
The Sixth Annual National Network of Hospital-based Violence Intervention Program: Understanding Key Issues In Violence Intervention Research 18

GLOBAL HEALTH

A New Chapter in BMC Emergency Medicine 20
Women in Global Emergency Medicine Spotlight Interview: Thea James, MD 20
Global Health Preparation and Re-entry Modules 22
The First Haitian Emergency Medicine Residency 23
EM Training Standards: Collaboration between BU and the Society for Emergency Medicine India 24
Emergency Medicine in China: Nanjing Drum Tower Hospital Emergency Department 25
The Epidemiology of Drowning Injuries in Low- and Middle-Income Countries 26
Violence Intervention Programs in Low- and Middle-Income Countries 27
Public and Global Health 2014-15 Publications 29
Future Conferences 31
Public and Global Health Awards and Recognition 31

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).

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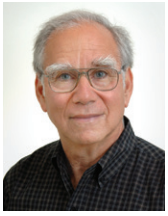
BMC RESPONDS TO OPIOID OVERDOSE EPIDEMIC: A PUBLIC HEALTH EMERGENCY

By Edward Bernstein, MD, Professor of Emergency Medicine, Medical Director, Project ASSERT, Director of the BNI-ART Institute, and Representative to Massachusetts Public Health Council



We were encouraged in Massachusetts when on March 27, 2014, then-Governor Deval Patrick declared a public health emergency in response to the opioid epidemic. The Massachusetts Public Health Council gave the commissioner approval to take the following emergency action: 1) to ensure that first responders, pharmacies, and friends and family members of individuals at risk of overdose have access to the lifesaving antidote, naloxone, 2) to educate physicians about safe prescribing practices and how to use the mandatory prescription drug monitoring program, and 3) to improve access to drug treatment for all Massachusetts residents. Six months later the governor signed into law an "act to increase the opportunities for long-term substance abuse recovery," dedicating over $10 million in funding to expand treatment access and an additional $300,000 to increase naloxone distribution.

Despite these policies and funding streams, the year 2014 ended with some discouraging revelations with an estimate 1,004 opiate opioid deaths, 33% higher than 2012. The Massachusetts State Police reported 114 fatal opioid overdoses during December alone — double the rate of November (and this data did not include Boston, Springfield and Worcester). This rise in the overdose rate has been attributed to higher drug potency, the addition of fentanyl and other adulterants to heroin, and the initiation of cheaper and more accessible heroin use by those who "graduate" from tightly controlled prescription opioids to heroin. Although education on preventing overdose is critical (e.g., information about not combining opioids with alcohol, benzodiazepines or other drugs, or not returning to the same heroin dose after periods of abstinence as a result of relapse after treatment or picking up again after incarceration), education alone is not sufficient to prevent fatalities.

In Boston, if not for our life saving overdose prevention and naloxone programs, matters would have been much worse. In December, Boston EMS reported that they administered naloxone to 138 opioid overdose patients, and the Boston syringe exchange (AHOPE) reported 205 opioid OD reversals by trained layperson bystanders in the past six months. The Boston programs began back in 2006 when the Public Health Commission (BPHC) passed a regulation that authorized intranasal naloxone distribution by trained, nonmedical public health workers and EMS personnel under a standing order from Peter Moyer, MD, EMS Director. In 2007, Massachusetts adopted a similar program, and now provides free nasal naloxone rescue kits and training on rescue breathing. The program also encourages bystanders to call 911 and remain with the victim until emergency responders arrive.

Boston Medical Center patients have been the beneficiary of these city and state programs. Over the past two years Project ASSERT, a team of licensed alcohol and drug counselors, distributed 478 nasal naloxone rescue kits to our patients and their social networks, twice the number of kits distributed during the first two years of our overdose education and naloxone distribution (OEND). This program began in September 2009 as a partnership between Project ASSERT and the BPHC, MA DPH and the South End Healthy Boston Coalition. The increase in distribution was sparked by a meeting between BMC President & CEO Kate Walsh and the Boston Public Health Commission to partner to prevent opioid overdose deaths. The meeting lead to a hospital policy establishing a standing discharge order protocol and a dispensing procedure for nasal naloxone kit discharge prescriptions in the BMC Emergency Department. BMC is the first hospital to pioneer a policy and program to ensure that patients at risk for opioid overdose are offered education and naloxone free of charge in the ED. The policy was intended to extend the reach of Project ASSERT's OEND program so that other providers could prescribe after hours of operation under the standing order protocol and have rescue kits brought down to the ED for patients to take home. Alex Walley, MD, BMC Injury Prevention Center Faculty and Medical Director of the state opioid overdose prevention pilot program, provided his license so that naloxone can be distributed as a standing order throughout the state, including the BMC ED and outpatient pharmacy. BMC's ED policy and program was featured at the June 2014 Whitehouse Summit on Heroin and Prescription Drugs.

Associate Professor Mari-Lynn Drainoni, Elisa Koppelman of the SPH Health Policy and Management Department and Patricia Mitchell, RN, recently evaluated the ED overdose prevention effort with a series of interviews with nurses, physicians, pharmacists and Project ASSERT staff.

On August 6, federal, state and city leaders in opioid abuse treatment, prevention, and research gathered at BMC to discuss this growing problem. Lead by U.S. Senator Edward Markey and Director of National Drug Control Policy Michael Botticelli, these leaders, along with BMC physicians and nurses, discussed both the progress made in treating opioid abuse and the challenges that lie ahead. While there is much to be done, the success of BMC programs such as Project ASSERT led Senator Markey to say that "BMC has come to stand for Brilliant Medical Champions."

> Boston EMS transported 642 opioid overdose patients to BMC in 2014 compared to 527 in 2013. Total transports for the city increased from 1,518 in 2013 to 2,037 in 2014.
>
> *— Boston Public Health Commission*

Preliminary results from the interviews revealed support for policy goals but multiple implementation barriers. Patient barriers include a lack of receptiveness to naloxone rescue kits and patients not accompanied to ED by a supportive other. Staff barriers included unfamiliarity with policy, lack of clarity regarding responsibility for distribution, and lack of consensus on patients appropriate for naloxone rescue kits. Process barriers included method of obtaining kit as unclear, confusion around standing verbal order, and order not integrated into the electronic medical record (EMR). Staff suggestions to improve uptake include uniform and targeted training, role clarification, integration into EMR and restructuring implementation.

We are starting to address these findings. In April 2015, an order set for NNRK take-home and a discharge NNRK prescription to the outpatient pharmacy were added to the EMR. We have incorporated a night social worker and ED pharmacist into the OEND program to ease the burden on the clinical staff. Also, we are in the process of establishing a reliable denominator for those patients at risk to determine an accurate capture rate and track how well we are closing the service gap between those at risk and those receiving education and rescue kits.

Even if we can develop a more efficient system, we also face serious barriers to treatment access due to shortages of acute treatment and limitations on length of stay and after-care transitional beds. Additionally, patient readiness is a challenge, as individuals who just overdosed are not necessarily open to learning about overdose prevention. Many patients were initially hesitant to accept rescue kits because they feared that possession of naloxone, calling 911 and remaining at the scene would put them at risk for arrest or police harassment. This resistance has lessened because Massachusetts is among 25 U.S. states and the District of Columbia that have amended laws to allow physicians to prescribe and dispense the drug and allow the lay public to administer naloxone without legal consequence.

Just as BMC needs a hospital-wide collaborative approach to improve the care and survival of our patients with unhealthy opioid use, Boston needs all its EDs and hospitals to implement OEND programs. Despite great strides in research, we must face the reality that addiction is a challenging, highly stigmatized complex bio-psycho-social problem that we are only beginning to address in the medical setting. Overdose education and naloxone and treatment referrals to quality modalities of treatment constitute strategies on the demand side of the equation. However, as a society we will be doomed to failure if we neglect the supply side, the market place of narcotic prescription diversion and highly organized industry of street sales of opioid and heroin. As Senator Edward Markey stated at his hearing in August 2014 at BMC, "There is no one solution to cure this problem. We need to bring together science, medicine, public health, and law enforcement to comprehensively address this epidemic that's tearing our families and neighborhoods apart." We have made important strides, yet there's still much work to be done.

Massachusetts Hospital Association provides guidance for a stronger ED role in stemming the tide of the opioid epidemic

The nine principles of the Substance Abuse Prevention & Treatment Task Force are:

1. Emergency Departments, with resource support from the hospital or health system, should develop a process to screen for patient substance misuse risk that includes services for brief intervention and referrals to treatment programs for patients who are at risk for developing or who actively have substance use disorders. All patients for whom Emergency Department providers are considering writing an opioid prescription should be screened.
2. When possible, Emergency Department providers, or their delegates, should consult the Massachusetts Prescription Monitoring Program (PMP) before writing an opioid prescription.
3. Hospitals should develop a process to share the Emergency Department visit history of patients with other providers and hospitals that are treating the patients in their Emergency Departments, by using a health information exchange system.
4. Hospitals should develop a process to coordinate the care of patients who frequently visit Emergency Departments.
5. For acute exacerbations of chronic pain, the Emergency Department provider should notify the patient's primary opioid prescriber or primary care provider of the visit and the medication prescribed.
6. Emergency Department providers should not provide prescriptions for controlled substances that were lost, destroyed, or stolen. Further, Emergency Department providers should not provide doses of methadone for patients in a methadone treatment program, unless the dose is verified with the treatment program and the patients' ED evaluation and treatment has prevented them from obtaining their scheduled dose.
7. Emergency Departments should not prescribe long-acting or controlled-release opioids, such as OxyContin®, fentanyl patches and methadone.
8. When opioid medications are prescribed, the Emergency Department staff should counsel the patient to:
   - store the medications securely, not share them with others, and dispose of them properly when their pain has resolved
   - avoid using the medications for non-medical purposes
   - avoid using opioids and concomitant sedating substances due to the risk of overdose
9. As clinically appropriate, the Emergency Department should prescribe no more than a short course, lasting no more than three days, of opioid analgesics for serious acute pain, to ensure that the patient seeks appropriate follow up care.

From the MDPH guidance:

The Massachusetts Department of Public Health has published an opioid overdose prevention and reversal information sheet, which lists locations where patients can obtain naloxone.

Remember that opioid use disorder is an illness, just like a severe allergy or uncontrolled diabetes. Naloxone can be a life-saving prescription for patients struggling with chronic opioid use disorder, just as an epi-pen can save a patient from an allergic reaction.

Emergency departments seeking information on starting a naloxone program can visit prescribetoprevent.org. BMC's discharge protocol is available on this site along with other helpful information and resources.

Online references:

Opioid policy and guidance: www.mhalink.org Click "Newsroom" tab and select "Substance Abuse Prevention and Treatment Task Force."

Download MHA's "Emergency Department Opioid Management Policy" for detailed guidance on policy implementation.

Visit epmonthly.com and search for Edward Bernstein, MD, to read *How Emergency Physicians Can Face the Twin Epidemics of Opioid Abuse & Chronic Pain.*

The Violence Intervention Advocacy Program at Boston Medical Center:

EXPANDING OUR COMMITMENT TO BREAK THE CYCLE OF VIOLENCE

By Thea James, MD, and Elizabeth Dugan, LICSW

In 2014, Boston Mayor Marty Walsh showed his commitment to the issue of community violence by visiting the Violence Intervention Advocacy Program (VIAP) at BMC during his first week in office. With 72% of Boston's penetrating trauma victims (gunshot and stabbing) arriving in BMC's Emergency Department each year, VIAP is uniquely suited to intervene and serve this vulnerable population. Engaging patients in the hospital during their recovery provides a unique opportunity to change lives while reducing retaliation and recidivism. VIAP advocates work to address the unique needs of these patients from basic necessities to employment, housing and legal services. Since its inception in 2006, VIAP has served 3,972 clients. Violence intervention programs like VIAP are a powerful way to help break the cycle of violence.

New members of the VIAP team, Laura Smith Crowe and Cibel Barros (R) of the Healthy Baby, Healthy Child Program, provide family support.

Over the past year, VIAP expanded its Family Support Department and now provides violence intervention services for anyone in the family. In particular, VIAP aims to serve females impacted by violence while pregnant or parenting a child under the age of 5 years. To this end, a mental health clinician and case manager have joined the VIAP team. These new full-time positions are supported by a partnership with the Boston Public Health Commission's Healthy Baby, Healthy Child Program.

Additionally, VIAP had its first intern from the College of Public and Community Service at the University of Massachusetts Boston. UMass student Annette Hadden worked closely with VIAP advocates to provide case management and family support services.

Rusti Pendleton and Donald Osgood, VIAP Streetworkers

StreetSafe Boston, a longtime VIAP partner, recently merged with the City of Boston Streetworker Program. The plan is to increase the BMC Hospital StreetWorker team from two to five staff, bridging the gap and integrating the new streetworkers fully into the VIAP team. This exciting partnership provides seamless care for clients returning to the community, with a strong focus on retaliation and recidivism.

VIAP staff members initially focus on safety planning and work to decrease recidivism and retaliation. VIAP currently boasts a 7% recidivism rate, compared to national averages of more than 30%. Additionally, total numbers of VIAP clients have decreased over the past three years, from 498 in 2012 to 385 in 2014.

VIAP has grown from a two-person bedside intervention-only model of service delivery to a nine-person, trauma informed care (TIC) model that provides comprehensive services to victims and families. TIC grows from the understanding that trauma has both biological and psychological effects on how people think and behave. TIC is the commitment to neither punish nor re-traumatize people for showing symptoms of trauma and to care for them in ways that promote healing by helping them experience peace, safety, understanding and control.

Professional Development

VIAP was one of the founding members of the National Network of Hospital Violence Intervention Programs (NNHVIP) and has representation on each of its four working groups. All members of the VIAP team traveled to Philadelphia in September 2014 to participate in the annual NNHVIP conference. The theme was "Diverse Roles and Common Goals: Hospital-Community Partnerships to Reduce Trauma and Violence." VIAP staff presented on a panel discussing client services, vicarious trauma and self-care. For information on NNHVIP, visit nnhvip.org.

A key component of the NNHVIP mission is to develop and support new hospital-based violence intervention programs. VIAP serves as a training center, providing technical assistance to these new programs recently training partners from Sacramento, Minneapolis, Brooklyn and Philadelphia. Partners spend two full days in the VIAP program, learning day-to-day operations and going out into the community with the VIAP

staff. VIAP also serves as a mentor for other new hospital programs, including the Brigham and Women's Hospital in Boston and our new international partners at the Oasis Youth Support Services in London, England.

Internally, VIAP strives to enhance the connection between hospital staff, victims and families. The VIAP team regularly participates in panel discussions with departments throughout BMC. Educating physicians and medical staff about the social issues and barriers facing victims and their families has broadened awareness of the trauma-informed approach within the hospital. VIAP also runs an elective for the internal medical residency at BMC. Medical residents participate in the daily operations of VIAP, engage in clinical meetings and conduct home visits with VIAP advocates.

Research, Policy, and Advocacy

NNHVIP brings together hospital-based programs to share knowledge, collaborate on research and affect policy change. For example, legislation was recently passed in California to fund reimbursement for violence intervention services. The NNHVIP and its members are working on advocacy that would bring these reimbursements to all programs nationwide. They hope to go one step further: providing equal access to services for all victims of violent crime through reimbursements for outpatient violence peer counseling-related expenses.

Hospital-based violence intervention programs are also participating in research studies. VIAP conducted a qualitative research study and published their findings in the Journal of Academic Emergency Medicine, in a study entitled "Boston Violence Intervention Advocacy Program: A Qualitative Study of Client Experiences and Perceived Effect." In addition, a recent article, "Cost-Benefit Analysis Simulation of a Hospital-Based Violence Intervention Program," described the cost effectiveness of hospital-based programs.

Awards and Accolades

Kendall Bruce, Violence Intervention Advocate for VIAP, received the Louvenia Brewster Community Spirit Award from the Quincy Geneva Housing Corporation/ New Vision Community Development Corporation. The award was given in recognition of Bruce's "relentless and selfless service to the community" and for her work to "keep the peace and heal the community" from all aspects of trauma. The VIAP team celebrated with Kendall at the award ceremony held at the Franklin Park Clubhouse.

Looking to the future

With Mayor Walsh's commitment to address community violence, VIAP continues to be instrumental in the citywide plan. While VIAP has become a well-known leader in community violence services, funding and sustainability continue to be a focus. Hopefully the future will bring greater financial support for these much-needed violence services. Immediate intervention following a violent injury presents a unique opportunity as the most vulnerable, teachable moment for our victims, and one that VIAP approaches with extreme thoughtfulness. Making sure the right person is doing the right intervention is instrumental in bringing about the most optimal outcomes for victims. VIAP will continue to build capacity and provide resources and hope for some of Boston's most vulnerable families.

VIAP Team: (Back row, left to right) Monica Figureo, Cibel Barros, Elizabeth Dugan, Kendall Bruce, Laura Smith Crowe and Dave Wiley. (Front row) Feliciano Tavares, Johnny Colon and Ariana Perry.

A Milestone for a Dedicated, Caring Group of Medical Professionals:

PROJECT ASSERT CELEBRATES 20TH ANNIVERSARY

By Jennifer R. Masdea, MPH(c), Education Manager and Deric Topp, MPH, Associate Director BNI ART-Institute

BMC's Project ASSERT celebrated its 20th anniversary on December 11, 2014. This commemorative event was attended by over 80 guests, including hospital staff and patients, community agency representatives and government officials. Speakers included Kate Walsh, President and CEO of Boston Medical Center, Brendan Little, Project Manager for the Mayor's Office of Jobs and Community Services, Tina Davis, Interim Director of Nursing for the Department of Care Management, and Jon Olshaker, MD, Chief and Chair of the Department of Emergency Medicine. It was co-hosted by Ludy Young, Supervisor of Project ASSERT and Edward Bernstein, MD, Medical Director of Project ASSERT.

Several patients and audience members shared their experience with Project ASSERT and lauded the program for its compassionate and unconditional approach to patient care. "Project ASSERT has been doing much needed and groundbreaking work and I truly appreciate the program's efforts in helping those seeking recovery. Project ASSERT is there at the most critical and vulnerable moments in a person's life," said Karen Pressman, Director of Planning and Development at the Massachusetts Bureau of Substance Abuse Services. The work ethic and dedication of the Project ASSERT team was formally recognized in a congratulatory video message from the White House featuring Michael Botticelli, Director of National Drug Control Policy. Speaking from his office, he said, "The individuals of Project ASSERT make such a difference on men and women in Massachusetts with substance use disorder. I cannot thank you enough for your dedication, your commitment and your empathy."

Michael Botticelli, Director of National Drug Control Policy, sent Project ASSERT a congratulatory video message from the White House.

View the video, search YouTube.com for the title "ONDCP Director Michael Botticelli Commends Project ASSERT."

The emotionally charged and joyous occasion closed with the presentation of citations for outstanding community service issued by state representative Gloria L. Fox to all Project ASSERT staff. Project ASSERT's health promotion advocates John Cromwell, Daniel Heenen, Leah Randolph, Brent Stevenson, Moses Williams, Ludy Young, and Emma Riley, LICSW, Program Manager, received awards and recognition for their unconditional and compassionate service. Brent Stevenson received special recognition as the senior staff member who was there during the very first months of Project ASSERT.

Project ASSERT, an acronym for improving Alcohol and Substance Abuse Services, Education and Referral to Treatment, began in 1994 at Boston Medical Center. as a U.S. Department of Health and Human Services Substance Abuse and Mental Health Services Administration sponsored demonstration project and was the first Screening, Brief Intervention and Referral to Treatment (SBIRT) program in an emergency department. Members of the surrounding community who had experience in substance use services and outreach were brought into the Emergency Department to work as peer service providers called health promotion advocates (HPAs). By 1997, Project ASSERT was recognized as an integral and crucial emergency department service and became a line item in the hospital's budget. Over 80,000 patients have been served since the program's inception.

Beyond screening, Project ASSERT now receives many direct referrals from ED staff. Its services include brief intervention and referral to individualized and culturally appropriate treatment services and linkages to primary care, financial services, other hospital resources, and shelters.

Today, Project ASSERT has been integrated into the Department of Social Work, which has expanded the program's reach to inpatient floors. Most recently, Project ASSERT has channeled its advocacy efforts towards improving the accessibility of substance abuse treatment services for LGBTQ patients. Project ASSERT, in partnership with the Bureau of Substance Abuse Services and the Boston Public Health Commission, is also providing overdose education and naloxone rescue kits to patients with opioid related emergency department visits. Visit the Boston Trauma Facebook page to view a video of Bernstein reflecting upon the history of Project ASSERT.

Project ASSERT Staff Awards

At the Project ASSERT 20th anniversary celebration, Kate Walsh, BMC President and CEO, presented awards to the Project ASSERT staff. "You represent the best of health care," said Walsh. "You are strong, patient, loyal, and believe in your patients and us as health care providers. You meet patients where they are and get them to where they need to be." Below are additional comments about each of the deserving award recipients:

Emma Riley, LICSW, has been Program Manager since 2011 and successfully integrated Project ASSERT into the Social Work and Care Management Department. Emma has worked tirelessly to expand the reach of Project ASSERT and is an effective advocate for the program. Under Emma's leadership, Project ASSERT has implemented a variety of initiatives to better address patient health needs such as inpatient consultation services and creating a safe zone for LGBTQ patients and human trafficking survivors.

Ludy Young, MEd, LADC I, joined Project ASSERT in 1996 as a health promotion advocate and was promoted to HPA supervisor in 2011. Each morning, Ludy arrives in the Emergency Department and says with a warm smile, "I am here to serve." Ludy has made health promotion and linkage to primary care services a top priority at Project ASSERT and is a strong advocate for staff professional development. Ludy is currently serving on the Mayor's Office of Recovery Services Taskforce and CEASE Network to combat human trafficking.

John Cromwell, LADC II, has been a health promotion advocate at Project ASSERT since 1997 and is known for his calm demeanor and gentle spirit. In September 2009, John spearheaded Project ASSERT's opioid education and naloxone distribution program in partnership with the Boston Public Health Commission and South End Healthy People Coalition. John is a fierce advocate of harm reduction and "meeting people where they're at." John has also channeled his talents toward establishing substance abuse consultation on inpatient floors.

Daniel Heenan, MS, LADC I, joined Project ASSERT as a health promotion advocate in 2011 and his experience in both mental health and substance abuse counseling has made him a true asset to the team. While Daniel may be soft-spoken, his voice is heard by all who work with him. His passion and commitment to BMC's patients are evident to anyone who has the privilege of interacting with him. Daniel has also worked closely with John to establish Project ASSERT's inpatient consultation program.

Leah Randolph, CADC II, LADC I, has been a health promotion advocate at Project ASSERT since 2012 and is a notable community activist. She is a strong advocate for improving LGBTQ health care services and consistently goes the extra mile to help anyone in need. Leah's professionalism and work ethic gives us all something to aspire toward. Leah also serves on the Mayor's Office of Recovery Services Taskforce and is a leader on the National Black Alcoholism Council.

Moses Williams, LADC II, joined Project ASSERT as a health promotion advocate in 2004 and proudly declares, "I am in the life saving business." While he is best known for his no-nonsense approach, Moses has a heart of gold and works tirelessly to advocate for patients in need. Moses' ability to recognize everyone as family is a testament to his compassionate spirit. Moses has worked alongside Ludy to improve services for human trafficking survivors and currently serves on the HUES to Home program.

Brent Stevenson, LADC II, has served as a health promotion advocate with Project ASSERT since the program's inception in 1994 and coined the phrase "unconditional service." Brent's stoic nature, high level of competence, and unique ability to de-escalate any situation has earned him the title of "Project ASSERT rock." Brent's altruistic nature shines through during his interactions with BMC patients and he teaches us all that "it is better to identify than compare." He is always available to lend a helping hand and share his experience and insight to improve patient services. Together with Ludy, Brent received the Mayor's Customer Service Award in 1997. This honor perfectly exemplifies Brent's commitment to providing high-quality services in a respectful and compassionate manner.

BMC President and CEO presented awards to Project ASSERT staff at the 20th Anniversary celebration (left to right): Emma Riley, LICSW, Project ASSERT Manager; Ludy Young, M.Ed., Project ASSERT Supervisor; John Cromwell, LADC II, HPA; Leah Randolph, CADC II, LADC I, HPA; Moses Williams, LADC II, HPA; Brent Stevenson, LADC II, HPA; Kate Walsh, BMC President and CEO; and Edward Bernstein, MD, Project ASSERT Medical Director. (Not pictured: Daniel Heenan, MS, LADC, HPA).

Health Advocacy and Youth Intervention in the Pediatric Emergency Department:

BMC FUNDS ADOLESCENT PED PROJECT ASSERT

By Edward Bernstein MD, Professor of Emergency Medicine, Medical Director, Project ASSERT, Director of the BNI-ART Institute

The BMC Pediatric Emergency Department (PED), under the leadership of David Dorfman, MD, Director, and Pearl Cunningham, RN, Clinical Director of Emergency Services, has hired Ellen Kreida, LICSW, MPH, as a full-time PED health-promotion advocate. After a year-long gap in services, the PED worked with the Department of Nursing to fill the position. Kreida will collaborate with Project ASSERT to implement a comprehensive youth intervention program to address a wide variety of adolescent developmental and preventive needs, including food and housing insecurity, access to primary care and behavioral health, unhealthy alcohol, tobacco and drug use, risky sexual behaviors and violence. She will be joined by BU School of Public Health maternal child health fellows Christina Rico and Bianca DiChiaro. Together, they will complement and extend the reach of services already provided by ED social workers and adult ED Project ASSERT staff.

Ellen Kreida, LICSW, MPH, HPA (right) with Christina Rico, BU School of Public Health maternal child health fellow and pediatric ED ASSERT intern. Not pictured: Bianca DiChiaro, BU School of Public Health maternal child health fellow and pediatric ED ASSERT intern.

The current program results from a long history of blending research with practice in the BMC PED. Its roots go back as far as 1994, to the implementation of the Project ASSERT model for adults. A youth and young-adult adaptation of the model was tested in a randomized control trial from 2001-2008 with the pilot support of the Robert Wood Johnson Foundation, followed by NIH/NIAAA funding as a research component to the Youth Alcohol Prevention Center. PED patients who enrolled described many challenges: a 23% rate of PTSD, 6% rate of major and 9% minor depression and 58% involvement with criminal justice (Department of Youth Services) or children in need of services (CHINs). The findings of the study showed that among the intervention group, there was a greater reduction in days of marijuana use and a commitment to cut back, quit, or use alcohol more safely.

These study findings provided the impetus in 2008 for the Massachusetts Department of Public Health Bureau of Substance Abuse to fund the BU SPH BNI-ART Institute to hire, train and support a full-time HPA and two fellows to deliver prevention services in the BMC PED. Between 2009 and 2013, the HPA and School of Public Health student fellows screened 2,149 patients in the PED utilizing a health and safety needs survey. Among the PED patients screened, 834 screened positive for at least one health risk and received referrals to hospital and community resources:

- 267 to a primary care appointment,
- 186 to STI/HIV testing,
- 151 to mental health services,
- 126 to shelters or housing-assistance programs,
- 17 to the violence intervention advocacy program (VIAP),
- 38 to education and GED service, and
- 44 to job placements.

Of the 785 patients who screened positive for unhealthy alcohol and drug use, 81% received a brief 20-minute conversation to enhance their motivation to change (the brief negotiated interview) and 546 accepted referrals to the specialist treatment system.

The 13-year transition from an externally-funded research program to a line item in the BMC budget for a service delivery program is no small accomplishment. Similar programs are hard to sustain despite real benefits to quality of care. Hats off to PED leadership and staff for recognizing the importance of the broad range of services provided by an HPA, and working hard to ensure that patients get all their needs met. Project ASSERT has become an integral part of BMC over the years; expansion of their reputation, knowledge, resources and skills through locating an HPA in the PED is an important advance in our efforts toward comprehensive care for teens at risk.

INTERN ORIENTATION: BEYOND THE EMERGENCY DEPARTMENT

By Alison Jaworski, PGY 1

If there is one thing I've learned about emergency medicine, it is that it does not exist in a vacuum. The community from which our patients come and go matters, and our understanding of that community affects how we treat them. While it would have been easy to focus our intern orientation solely on learning our way around the hospital, navigating a new electronic medical record and reviewing common diagnoses and treatments — daunting tasks as they may have been —the Emergency Medicine Residency Program at Boston Medical Center took things a step further.

During our first week in Boston, we boarded a bus bound for the South End, Roxbury and Dorchester, leaving the newly-found familiarity of the hospital quickly behind. We not only toured interesting sites in these areas, but we also visited an addiction recovery home and met with local leaders trying to revitalize the community.

Rather than any specific piece of information, the most valuable aspect of this tour for me was a general reinforcement of complexity. I left impressed by the sheer persistence of the Dudley Square Neighborhood Initiative that had been able to recreate a beautiful and vibrant environment by halting illegal dumping practices. But I was also shocked by the wasteland that had preceded this and the challenges that still remain. I was impressed by the honesty of a resident in the addiction recovery home who told his story and described both how much recovery means to him and how difficult and tenuous it still is. I was impressed by the positive attitude of Hope House Director Frederick Newton as he described the challenges of long waiting lists, relapses and funding difficulties. And I was overwhelmed by the overall dedication of the members of Project ASSERT, who have made great strides in their public health work at BMC and continue to be an invaluable resource for both physicians and their patients.

These few hours certainly cannot make me comprehend the entire experience of our patients and their families, but it did start a process of understanding that I know will continue in the Emergency Department throughout the coming years.

SECOND-YEAR ORIENTATION

By Travis Manasco, PGY 2

Today, I am the procedure resident. The one you usually see running around the department with a half-tied mask and pockets stuffed with lidocaine and syringes, pulling an ultrasound behind me (always with extreme caution, of course, Dr. Dewitz).

Around 3am on one such shift, my pager vibrated: "Abscess – Room B3." I gathered my supplies, entered the room, and met my new patient, Ms. M. She looked scared. Scars and track marks covered her body. Her history confirmed the physical findings of a tough life leading to this encounter.

As I described the procedure, the needle, the initial burn, and the multiple circumferential injections around the abscess, she listened intently. "Is it going to hurt?" She stared through me with sad, tired eyes. "The last time it really hurt," she said.

"The worst part is the numbing medication," I said. I set up and began the procedure. We talked about her life. She was a mother of three and headed to rehab for the third time. This time, she vowed, was the last. She was finally ready to take the next important step in her life

This experience reminded me of what my class and I had gone through over the last year. We had completed intern year and, at our orientation in July, we were finally prepared to take the next important step in our lives: the transition from intern to resident. We welcomed the new challenges and the opportunity to become "the procedure resident." After experiencing the successes and challenges of intern year, and after watching and learning from our more senior colleagues expertly running traumas, placing chest tubes, and replacing our feeble ultrasound line attempts, we were ready to fulfill our new roles.

Our orientation included touring two pillars of the Boston healthcare community, the Dimock Center and Pine Street Inn (PSI). The PSI is well-known to BMC Emergency Medicine providers. Many of our homeless patients spend or have spent some time there during their lives. The PSI provides many services to more than 1,600 homeless individuals. Residents receive all basic necessities: a safe bed, clothing, and two hot meals a day.

During our orientation, we also learned that the PSI offers permanent housing to over 800 tenants in the Boston and Brookline areas. Job training is provided on-site for employment in food services, building

continued on page 10

Dimock Center

maintenance, and housekeeping. In the kitchen, we watched the social enterprise iCater in action. iCater serves local businesses and nonprofits, and provides training and employment opportunities for PSI residents.

Similarly, the Dimock Center, located on a beautiful nine-acre campus in Roxbury, offers an impressive amount of services to the people of Boston. Founded on July 1, 1862 as the New England Hospital for Women and Children, it is now a comprehensive health care facility for all individuals with a particular focus on substance abuse, women's health, HIV/AIDS, eye care, and dental care. Additionally, many of our patients requesting detox use the behavioral health program at the Dimock Center to overcome their addictions. We toured its outpatient clinics, inpatient detox units, and the multiple residences for patients recovering from substance abuse or mental illness.

The Dimock Center offers many innovative services to its patients. This includes an intensive Women's Renewal program for women in early recovery, My Sister's House, which is a healing community for up to 22 women needing long term (1 year) housing, and the Flowers Recovery Home, which helps over 80 men a year rehab from drugs and alcohol.

I finished the procedure and placed a bandage over the incision. As I was cleaning the room, I kept looking at that small bandage – a superficial symbol to both Ms. M and myself – of the challenging and sometimes painful underlying work necessary to physically progress through life.

SEX- AND GENDER-SPECIFIC MEDICINE

By Carole Douriez, PGY 4

I was first introduced to sex- and gender-based medicine by Judith Linden, MD. As Vice Chair for Education in the Emergency Department at Boston Medical Center, Linden has been a strong advocate of including gender-specific outcomes and of analyzing data with gender as either a covariate or an independent variable in her research. Sex- and gender-specific medicine is the study of differences in the normal function of men and women and in their experiences of the same disease. Sex refers to the biological and physiological characteristics, while gender refers to behaviors, roles, expectations and activities in society. Sex and gender are often intertwined in the health of a patient. Emergency medicine physicians have the distinctive opportunity to evaluate and observe the acute presentation, exacerbation and progression of disease with a sex- and gender-based approach.

As a result of my growing interest in this topic, I was able to be the first resident to participate in the Sex and Gender in Emergency Medicine (SGEM) resident elective at Rhode Island Hospital, under the direction of Alyson McGregor, MD, and Esther Choo, MD, co-founders and co-directors of the SGEM Fellowship and Division. My choice to participate in this elective stemmed from my desire to incorporate gender-based medicine in my research studies, with the intention of improving my clinical practice and my approach to individualized patient care in the emergency department. The objective set forth for this elective was to gather an understanding of current data related to sex- and gender-specific research and to demonstrate how a sex- and gender-specific focus in patient encounters plays a role in presentation of a disease entity, occurrence of injury and acute management.

There are many examples of the influence of sex and gender on disease states and care, but some are better known than others. For example, aspirin reduces primary risk of stroke in both women and men, but only reduces the risk of myocardial infarction in men. Females have significantly higher rates of anterior cruciate ligament tears than males in the same sport and significantly higher rates of tears in noncontact sports. Female sex is an independent risk factor for torsades de pointes – women make up more than 70% of all cases. Finally, in my particular area of interest, substance use disorders (SUDs), there are several differences between men and women. My research, done under the leadership of Drs. Edward and Judith Bernstein, on SUDs among women of reproductive age revealed that the presence of SUDs increases the likelihood that women will present to the ED with injury. Conversely, women with injury may be more likely to be involved in alcohol abuse or other substance use. The high rates of injury identified among women with SUDs suggests the utility of including a brief screen for substance use as part of an ED injury treatment protocol.

Another notable finding is that gender has emerged as a distinguishing factor in the epidemiology of prescription opioid abuse. Emergency Department visits related to prescription opioid misuse are on the rise. The rate of rise in fatal prescription opioids overdoses in women has been higher than in men, which was the basis of my second study on gender

differences in SUDs. The study, "Gender and Prescription Opioid Misuse in the Emergency Department," done in conjunction with Choo and Traci Green, PhD, MSc, utilized the U.S. Department of Health and Human Services Substance Abuse and Mental Health Services Administration's Drug Abuse Warning Network (DAWN) data set. We found that women were more likely to have opioid ingestions in combination with antidepressants and men and were more likely to use opioids with alcohol. ICU admission was associated with opioids and antidepressants for both women and men and with opioids and anxiolytics only for men. These findings suggest gender differences in patterns of co-ingestions of specific drug combinations and hospital admissions. This further emphasizes that a better understanding of the role of sex- and gender-based factors in disease processes may guide the development of specific and more effective interventions and preventive measures.

It is through the support of the BMC Emergency Medicine Department and a generous travel scholarship from the Emergency Medicine Residents' Association (EMRA) and the Academy for Women in Academic Emergency Medicine (AWAEM) that I was able to attend the 2014 Society for Academic Emergency Medicine (SAEM) Consensus Conference, "Gender- Specific Research in Emergency Care: Investigate, Understand, and Translate How Gender Affects Patients Outcomes" in Dallas, Texas. The aim of the conference was to summarize and consolidate current data, as well as to create a research agenda for sex- and gender-specific research. It was a fantastic opportunity to meet other emergency medicine physicians throughout the nation with similar interests and to be a part of advancing sex- and gender-specific research in our field.

It is increasingly evident that biological, psychological, social and economic factors are intertwined in personalized patient care. It is important to understand the role and importance of sex- and gender-specific characteristics in order to understand illness and disease. My research and participation in the 2014 SAEM Consensus Conference have allowed me to further delve into this rapidly-growing discipline within emergency medicine. It is my hope that we will see an increase in research sex- and gender-based medicine, and that it will continue not only to be an important part of the care we provide at BMC, but throughout the world.

For more information on the 2014 SAEM Consensus Conference, visit the Society for Academic Emergency Medicine website at *www.saem.org*.

Emergency Department Based Violence Intervention:

EXPERIENCE FROM BOSTON MEDICAL CENTER

By Michelle Kuo PGY 2, Jesse Schafer PGY 4, and Elizabeth Dugan, LICSW

Violence was recognized as a major public health concern long before the World Health Assembly convened in 1996 to call for increased action from the public health sector. In 2002, the WHO outlined the far reaching social and economic implications of violence with the first World Report on Violence and Health.[1] Today, there is still a lot of work to do. In 2010, 4,828 of our nation's young people between the ages of 10 and 24 died as result of intentional violence. That is roughly 13 each day. In 2011, there were 707,212 Emergency Department visits by young people aged 10 to 24 for injuries related to physical assault.[2] In Massachusetts, homicide was the second leading cause of death for individuals between the ages of 10 and 24 from 2008 to 2010.[3] Additionally, recidivism is high in this vulnerable population. In some studies, 35 - 49% of patients who were victims of violence were reinjured as a result of violence and up to 20% were dead within five years of the initial injury.[4-6] As we can see from these staggering numbers, Emergency Department staff frequently care for victims of violence as they present in this potentially life-changing window of intervention and thus have the opportunity to effect change.[7]

In the 1990s, communities around the country recognized a need and developed hospital-based violence intervention programs on the trauma-informed framework.[8] This model recognizes behavior after victimization as a survival strategy rather than pathology. Trauma triggers a complex biopsychosocial cascade of fear, hyperawareness and insecurity that can lead to retaliation as a means to restore a sense of safety and security.[9,10] The trauma-informed care model takes a multidisciplinary approach involving emergency physicians, social workers, nurses, family members and others from the community to support victims and break the cycle of violence. Trauma informed care has been shown to decrease re-victimization and facilitate recovery.[10-13] It is on this model that Boston Medical Center's Violence Intervention and Advocacy Program (VIAP) was developed.

VIAP at Boston Medical Center was started by Thea James, MD, in 2006 at the request of the late Mayor Thomas Menino and with the help of a grant supported by the City of Boston. Since that time it has grown to a team of nine passionate providers who help bring VIAP's mission to life. With 72% of Boston's penetrating trauma victims presenting to the

continued on page 12

Emergency Department each year, BMC is uniquely suited to reach this vulnerable population. After each victim of a shooting or stabbing arrives at the hospital, they are automatically referred to the VIAP program. From there, they are assigned an advocate who coordinates their care. Separate from the medical team and social workers available to all patients in the hospital, the advocates work to address the specific needs of these patients. From coordinating follow-up medical appointments, to providing applications for GED or driver's licenses, to accompanying clients to court dates – the needs are case-specific and services vary widely. An advocate's work continues long after the patient is discharged from the hospital, often lasting for years. Using the trauma-informed care model of service delivery, the advocates provide the social support these clients need most. Research has shown that outcomes are much more positive when at-risk youth maintain a meaningful relationship with a caring adult.[7, 14] Additionally, after recognizing the need to involve the entire family in the healing process, the Family Support Department was developed to provide clients' family members access to a support coordinator, behavioral health clinician and a case manager. Any family member impacted by violence can access these services. Since its inception, VIAP has seen an amazing decrease in recidivism among its clients — from 30% to 7%.

On a weekly basis, the VIAP team comes together with its partners to discuss the specific needs of each client. One such partner is the Community Violence Response Team (CVRT), which provides mental health services to the clients and their families throughout their hospital stay and back into the community. Another is the Boston Partners Advancing Communities Together (PACT) Initiative. This multidisciplinary, comprehensive service-delivery strategy works to increase positive outcomes for youth who are most at risk of being victims or perpetrators of gun violence. Partners work together to connect youth to long-term, meaningful relationships with trusted adults and to education and employment services. VIAP also partners with the City of Boston Streetworkers Program, which is involved in outreach activities for at-risk youth and gang members. The team of five streetworkers are considered part of VIAP. They respond to the hospital 24 hours a day, 7 days a week, either minutes before or after a young person arrives injured from violence. They provide critical crisis stabilization for families and are a bridge the VIAP team, particularly during off-hours. Finally, VIAP is also a founding member of the National Network of Hospital Violence Intervention Programs (NNHVIP). This network brings together nearly forty programs from around the United States to share knowledge, develop best practices, collaborate on research, and affect policy change regarding the care of survivors of violence and violence prevention.

Violence prevention and intervention programs are a powerful way to stop the revolving door of violent injuries that present to our Emergency Departments. Engaging patients in the hospital and both during and after their recovery is a golden opportunity to change lives and to reduce retaliation and ongoing violence in our communities. For more information on trauma-informed care and resources related to violence intervention in your community, visit *www.nnhvip.org*.

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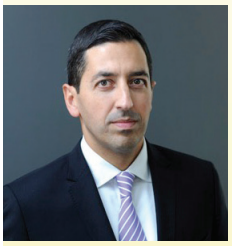
SANDRO GALEA, MD, DrPH, DEAN OF BU SCHOOL OF PUBLIC HEALTH

Guest Commentary By Art Jahnke, Executive Editor, BU Today

Originally published in *BU Today* on September 15, 2014



Sandro Galea, an internationally respected physician and epidemiologist known for his research linking health to such social disadvantages as poverty and lack of education, has been appointed the next dean of the School of Public Health. Galea, previously the Anna Cheskis Gelman and Murray Charles Gelman Professor and chair of the department of epidemiology at Columbia University's Mailman School of Public Health, assumed the BU post on January 2015.

Galea, who in 2006 was named one of *Time* magazine's epidemiology innovators, serves on the New York City Board of Health and is chair of the New York City Department of Health and Mental Hygiene's Community Services Board. His research has examined many aspects of public health, from the causes of brain disorders to the consequences of mass trauma and conflict worldwide, including the September 11 attacks, Hurricane Katrina, conflicts in sub-Saharan Africa, and the American wars in Iraq and Afghanistan. He was the lead author on a groundbreaking study published in the *American Journal of Public Health* in 2011 that calculated the number of deaths caused by six social factors. That study, a meta-analysis of 47 earlier studies, concluded that each year 133,000 deaths could be attributed to poverty and 176,000 deaths could be attributed to racial segregation.

He has published more than 450 scientific journal articles, 50 book chapters and commentaries, and nine books. His latest book, coauthored with Katherine Keyes, is the textbook Epidemiology Matters: A New Introduction to Methodological Foundations. He is a past president of the Society for Epidemiologic Research and an elected member of the American Epidemiological Society and of the Institute of Medicine of the National Academy of Sciences. Galea trained as a primary care physician at the University of Toronto and practiced in rural communities in Canada and Somalia. He then returned to academia and earned a master's degree in public health at Harvard and a DrPH at Columbia.

"These are tremendously exciting times in public health," Galea says. "A great school of public health has the responsibility to produce the scholarship that informs public health action and educates students and leadership for the coming decades. I am thrilled to be part of the community that embraces this responsibility."

Guest Commentary (Dean's Note, *BU Today*):

GUNS AND PUBLIC HEALTH

by Sandro Galea, MD, DrPH, Dean and Professor, Boston University School of Public Health

The recent shooting death of Dr. Michael Davidson at Brigham and Women's Hospital was deeply saddening. A physician doing his job, helping many, was gunned down in broad daylight by an individual, clearly troubled, who then took his own life. This tragic loss of life was compounded by the patients whom Dr. Davidson will no longer help, and the terror that many went through on hearing about the event.

We have, of course, been here before. The daily news cycle is punctuated by reports of firearm violence, some high profile and dramatic, and many not. We were all horrified to hear of the Newtown Sandy Hook Elementary School massacre, where 20 children and 6 adult staff members were shot on December 14, 2012. However, perhaps less well noticed is that between the Sandy Hook shooting and the school shooting at Reynolds High School in Oregon on June 10, 2014, one and a half years later, there were 73 school shootings in the US, an average of one school shooting per school week.

The extraordinary prevalence of firearm-related violence in the US stands in harsh contrast with our peer nations. Between the Columbine High School shooting on April 20, 1999, and December 31, 2012, for example, there were 66 school shootings in the world, of which 50 occurred in the US. In 2003, the US had the highest rate of firearm homicide (6.9 times higher than others) and firearm suicide (5.8 times higher than others) among 23 populous high-income nations.

The US clearly has a long and complicated relationship with firearms, and, constitutional rights aside, there are abundant organizations and large numbers of high-profile arguments on the side of unfettered firearm availability in this country. But it seems, for a moment, worthwhile to set aside the rights argument, and ask a simpler question: what is the role of public health in an issue that has clear public health consequences?

While arguments around the rights to gun ownership often center around self-protection from other firearms, the evidence is overwhelmingly clear that this argument is not supported by the data. Extant studies on

continued on page 14

the risks of firearm availability on firearm mortality have provided clear evidence of an increased risk of both homicide and suicide. A recent meta-analysis of 16 observational studies, conducted mostly in the US, estimated that firearm accessibility was associated with an odds ratio of 3.24 for suicide and 2.0 for homicide, with women at particularly high risk of homicide victimization (odds ratio 2.84) compared to men (odds ratio 1.32). In the case of firearm suicide, adolescents appear to be at particularly high risk, relative to adults. A 2013 study led by SPH researcher Michael Siegel found that US states with higher estimated rates of gun ownership experienced a higher number of firearms-related homicides. That study, covering 30 years (1981-2010), found a robust correlation between estimated levels of gun ownership and actual gun homicides at the state level, even when controlling for factors typically associated with homicides.

Another recent study examined the association between firearm legislation and US firearm deaths by state between 2007 and 2010, creating a "legislative strength score" based on five categories of legislative intent: curbing firearm trafficking, strengthening Brady background checks, improving child safety, banning military-style assault weapons, and restricting guns in public places. Higher legislative strength scores were associated with lower firearm mortality [see figure 1], and adjusted multivariable models showed that compared to those in the lowest quartile of legislative strength scores, those in the highest quartile had a lower firearm suicide rate and a lower firearm homicide rate.

These studies are roundly supportive of causal relationships between firearm availability and firearm mortality, and conversely, of firearm legislation as protective against firearm deaths. Some concern about "reverse-causation" explaining the relationship between firearm availability and firearm homicide has been raised, suggesting that gun availability increases as a reaction to rising homicide rates or personal threat. However, while some studies indicate that higher homicide rates may precede higher gun ownership, this bias is unlikely to explain away a majority of the observed effect. In particular, it would likely not account for women and children—those most frequently affected by firearm homicide. Importantly, by contrast, the literature on firearms and firearm-related suicide is not subject to the same potential of reverse causation, but does suffer from a dearth of longitudinal studies.

Despite the clear evidence that guns pose a threat to health, the public health community has been unable to get traction as an effective voice on this issue. Unfortunately, instead of quality scholarship and policy efforts to map and respond to the risks of guns, we have seen the silencing of gun researchers, health practitioners, and policymakers intent on addressing these problems. Actions by Congress fueled by the National Rifle Association (NRA) in 1996 effectively defunded federal gun research, a still extant legacy, and to date, the CDC website lacks materials on prevention of gun-related injury or violence. While translatable lessons from successful public health campaigns on smoking, unintentional poisonings, and car safety abound, the political will necessary to implement and test them has been absent and under unremitting attack.

In Florida in 2011, physicians and other health practitioners have been subject to legislation that, in effect, restricts discussion with patients on guns or gun safety (HB 155), legislation that has been challenged but recently upheld in court. Similar efforts have been pushed in other states. Finally, while manufacturers of a wide range of products including cars, medications, and medical devices are subject to regulation and legal action that hold them accountable for product safety risks, gun manufacturers appear to be immune to such forces. Indeed, perhaps that lack of accountability stems from the fact that guns like the Bushmaster AR-15 semi-automatic rifle, used in the Sandy Hook massacre, are designed explicitly to "deliver maximum carnage with extreme efficiency" and have no place in civilian settings, as the parents of several victims of Sandy Hook argue in their current lawsuit against Bushmaster Firearms. While the outcome of that case is pending, the broader question of how to break down the social and political blockades that have prevented a public health approach to guns remains pressing and unanswered.

While acknowledging the broader issues around the balance of rights and privileges, and with a nod to the challenges embedded in thinking about paternalism in public health (subject of a future comment), it seems to me that it falls to public health to be a clear voice against the legal widespread availability of a pathogen, firearms, that other peer nations have long conquered.

Would we tolerate such lapses in our legal response to other prevalent health challenges? Imagine for a moment that, because of emphatically articulated rights-based arguments, the US remained alone among peer countries in not having automobile seatbelt laws, and that our automobile death rate was seven-fold greater than that of Canada. Would that be tolerable?

This then comes back to the question posed at the beginning of this commentary. What is the role of public health in this discussion? In many ways, I worry that the voice of academic public health has been far too quiet on this issue, simply because the typical mechanisms that support our scholarship—extramural funding chief among them—have not been conducive and, as noted above, actively discouraging of this work. This suggests, then, that it falls to academic public health to organize itself in a way that will allow us to be a clear and compelling voice on the issue. It argues for an active role in translating scholarship, and a full engagement with the public conversation around this issue.

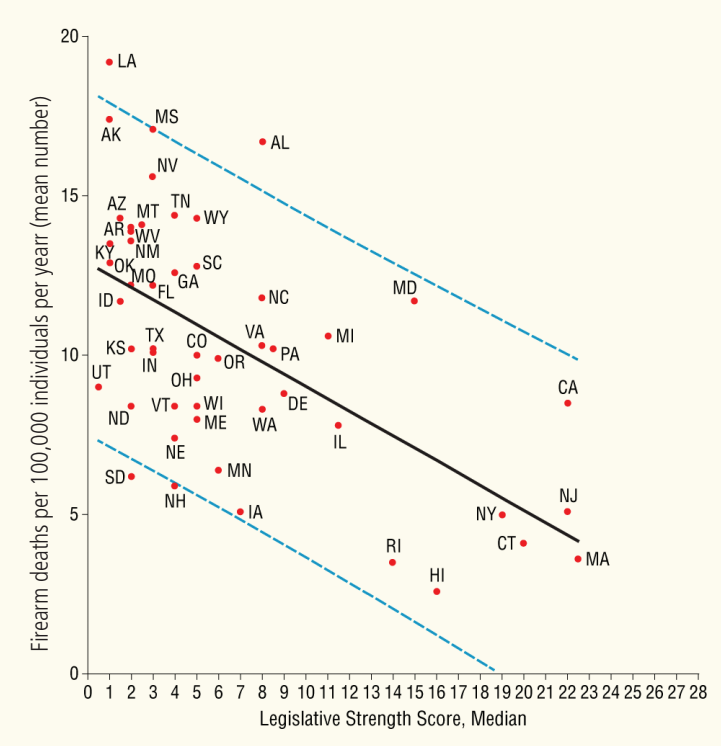


Figure 1

Association between firearm legislation and U.S. firearm deaths by state

Fleegler EW, Lee LK, Monuteaux MC, Hemenway D, Mannix R. Firearm legislation and firearm-related fatalities in the United States. *JAMA Intern Med*. 2013; 173(9): 732-740.

The ultimate solution to the firearm epidemic does not lie with the doctors who treat firearm victims, nor with the community-based providers who try to keep youths away from guns. It lies rather with policymakers and legislators. An activist academic public health community needs to play a central role in engaging this constituency through clear and compelling data-driven research and scholarship. It is only then that we have any hope of turning the tide on what is truly a preventable epidemic.

BMC INJURY PREVENTION CENTER 2014 UPDATE

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

The Boston Medical Center Injury Prevention Center (IPC) was created in July 2010 with support from the Department of Emergency Medicine and the Section of Acute Care & Trauma Surgery. Their joint investment reflects a commitment to expand the missions of each to develop a viable, self-sustaining, long-term institution for injury prevention research and practice. These are some of the highlights of the past year:

Traci C. Green, PhD, MSc, joins the IPC and Emergency Medicine Faculty

In 2015, Traci C. Green joined the Department of Emergency Medicine as Deputy Director of the IPC. She also serves as a Senior Scientist for the IPC and an Associate Professor of Emergency Medicine. She is a nationally recognized leader in opioid overdose prevention. Her research and advocacy have centered around prescription/opioid use, injection drug use, opioid overdose surveillance, public health strategies for community-wide naloxone distribution, and prescription monitoring programs to address the epidemic of opioid overdose. Green was previously Director of Public Health Research and Methodology at Inflexxion, Inc. and an Associate Professor of Emergency Medicine and Epidemiology at Brown University, where she was a faculty member of the Injury Prevention Center at Rhode Island Hospital.

Green is known nationally for her ability to translate research to public policy and was recently a featured speaker at the White House Summit on Heroin and Prescription Drugs. Green serves as an expert panel member for the National Alliance for Model State Drug Laws naloxone workgroup, the Brandeis Prescription Drug Monitoring Program Center of Excellence, and co-founded Prescribetoprevent.org. She has developed innovative community-based programs for overdose prevention in Rhode Island and Connecticut and has worked extensively with substance abuse clinicians and researchers at the BU Schools of Public Health and Medicine. Her role as the Associate Director of the IPC will greatly expand our ability to address the growing epidemic of opioid overdose in Massachusetts.

Prevention and Wellness Trust Fund Grants

Falls are significant and costly public health problems that affect millions of older adults nationwide. At least 30% of those ages 65 and older experience at least one fall each year and half of these fall repeatedly. In Massachusetts, as elsewhere, falls are the leading cause of injury-related deaths and non-fatal injuries among older adults. Of the Massachusetts older adults hospitalized for fall injuries in 2010, 20% had traumatic brain injury and 10% had hip or other femur fractures. Non-fatal fall injuries are associated with decreased quality of life, lower functioning and increased healthcare utilization.

In 2010, fall-related injuries caused 434 deaths among Massachusetts older adults, 21,375 hospital stays, and 40,091 emergency department visits. That year, costs attributable to falls were $512 million for inpatient care, $100 million for emergency room visits and $19 million for observation hospital stays, a total of $631 million in direct medical care expenditures.

As part of the State's Prevention & Wellness Trust Fund (P&WTF) grant program, the IPC is providing technical assistance on falls prevention to New Bedford and Boston. The P&WTF grants aim to increase referrals from local clinicians to community-based chronic disease self-management programs. IPC staff has worked with New Bedford and Boston to train physicians and other healthcare providers on fall risk assessment protocols and the research supporting the effectiveness of community-based fall prevention programs. In New Bedford, IPC staff has worked with the municipal Health Department to implement a falls prevention pilot project in which the local community health center performs falls risk assessment on older adult patients and refers at risk patients to falls prevention programs conducted by a local home health agency. The City Health Department provides trained community health workers who follow-up with physician referrals to schedule patients for falls prevention programs and resolve barriers to attendance, such as transportation problems. Presently, the fall prevention program serves patients in English, Spanish, and Portuguese. A similar program that links community health centers with an area agency on aging is being developed with IPC staff

support in Boston. These demonstration programs are unique with respect to engaging physicians in falls prevention assessment and deploying evidence-based falls prevention programs to which physicians can refer their patients. As such, they serve as models for other communities in Massachusetts and the country.

Opioid Prescribing Study

Opioid abuse and overdose among patients receiving pain medications is a major problem in our city. In hopes of developing interventions to reduce this risk, the IPC is implementing a CDC-funded evaluation of an opioid prescription protocol for patients being discharged from trauma services.

Promoting Infant Safe Sleep

On average, in Massachusetts, 41 infants per year died of sudden unexplained infant deaths (SUIDs) between 2004-2010. The IPC has recently completed an evaluation of a DPH program to promote infant safe sleep practices by training Women Infants and Children (WIC) staff. The aim of the training program is to reduce SUIDs in Massachusetts. Given that 40% of Massachusetts' new and postpartum mothers are enrolled in WIC, it was proposed that deploying safe sleep education along with nutrition education and supplemental food would be an efficient and inexpensive intervention. The IPC evaluation found that the training program increased WIC staff knowledge about safe sleep practice recommendations and increased the likelihood that staff counseled their clients to place infants on their back to sleep in a crib without pillows, rail bumpers, stuff animals and other objects that could impair breathing.

Prevention Children's Injuries

The IPC is submitting a proposal to the National Institute of Child Health and Human Development for the development and evaluation of an intervention to reduce injuries among infants and toddlers of teenage mothers. This intervention will be a joint venture in partnership with the injury prevention centers at Rhode Island Hospital and Connecticut Children's Medical Center (CCMC). The proposed intervention uses text messaging to promote home safety with links to videos modeling installation of child safety equipment. The study will recruit teen mothers from teens and tots clinics at BMC, Hasbro Children's Hospital in Providence, and CCMC in Hartford.

Sports Concussions

The IPC is working with the Massachusetts Department of Health to conduct focus groups with school nurses and athletic trainers to assess implementation of new state laws and regulations aimed at reducing sports concussions among school children. These regulations call for reporting student sports concussions, as well as medical clearance for return to class and return to athletics. Implementing these regulations, however, requires cooperation and adherence among stakeholders, including school staff (nurses, athletic trainers, coaches and administrators), parents, student athletes and local physicians. This will be the first in a series of focus groups involving these stakeholders. The focus groups will inform the development of formal surveys that will help officials identify and resolve barriers to the new Massachusetts sports concussion regulations.

Trends in Older Adult Hip Fractures

The IPC is collaborating with scientists at the University of Copenhagen to examine potential causes of declining trends in older adult hip fractures in Denmark. The trends in Denmark and other European countries mirror declines in hip fracture in the U.S. The single-payer system and medical records databases in Denmark provide an opportunity to examine the potential roles of behaviors, physical characteristics, co-morbidities, medications and other factors that might explain decreases in hip fracture incidence.

IPC Grand Rounds Series

The 2014-2015 IPC Grand Rounds lecture series included the following presentations:

- Edward Bernstein, MD: "Building a Relationship Between Emergency Medicine and Public Health Research and Practice"
- Emily Rothman, ScD: "A Brief Intervention in the Emergency Department to Prevent Adolescent Dating Violence Perpetration"
- Traci Green, PhD, MSC: "Opioid Overdose Prevention Interventions: Novel Models for the Emergency Department, Criminal Justice, and Pharmacy Settings"

Ethanol Abuse on College Campuses:

NEW PROGRAM FOR MANAGING BINGE DRINKING

By Ward Myers, MD, MPH

Binge drinking on college campuses continues to be a major public health threat. While sometimes seen as a rite of passage into young adulthood, excessive alcohol consumption is also a major source of morbidity and mortality. Direct toxicity from alcohol is uncommon in young adults, but still results in over 100 deaths per year (MMWR Jan 2015). Far more common, however, is the indirect but pivotal role excessive alcohol use plays in motor vehicle collisions, falls, physical altercations and sexual assaults.

Beginning in the summer of 2009, Boston University Student Health and Boston Medical Center undertook a new program for managing binge drinking on campus. This new program focused on identification of students with severe apparent intoxication. If needed, these students were transported to the Emergency Department at Boston Medical Center for acute management. All students identified with severe alcohol intoxication later underwent a student health directed program designed to teach safe alcohol use.

We are currently in process of analyzing the results of this new approach, but it is apparent that it identified a very high-risk cohort. The average alcohol level for transported students was near 2.5 times the legal limit in Massachusetts with many individuals only minimally responsive to painful stimuli. All identified students completed a program for safe alcohol use, and repeat transports were very rare. We hope to follow this cohort in the future to better gauge the success of this new approach.

The Sixth Annual National Network of Hospital-based Violence Intervention Program:

UNDERSTANDING KEY ISSUES IN VIOLENCE INTERVENTION RESEARCH

By Emily F. Rothman, ScD, Associate Professor, Department of Community Health Sciences, BUSPH, Secondary appointments in the Departments of Pediatrics and Emergency Medicine, BUSM

In September 2014, I attended the National Network of Hospital-based Violence Intervention Programs (NNHVIP) Conference in Philadelphia, PA as a representative of the Department of Emergency Medicine. It was my first time at the conference, and I will definitely be returning. It was a unique event and very inspiring. I encourage others with an interest in community violence prevention to join as well.

To provide a bit of background about the NNHVIP: This organization was started in 2009 in order to create a collaborative community of practice for violence advocacy programs in hospital settings. The first of these programs was Caught in the Crossfire, which started in Oakland, CA in 1993 to put an end to what they call the "revolving door" of trauma patients who were admitted with gunshot or stab wounds. According to multiple research studies, in the absence of intervention, 36% of these trauma patients are re-admitted within 24 months for another traumatic injury. One-fifth of patients seen in emergency departments for gun shot or stab wounds ultimately become victims of homicide, almost 1% of them within two years of their original assault-related injury.[1] The Boston Medical Center's Violence Intervention Advocacy Program (VIAP) was established in 2006 by Thea James, MD. James, along with her close colleagues John Rich, MD, Ted Corbin, MD, and others, also established hospital-based violence intervention programs in other cities to facilitate recovery for victims of violence treated in the emergency department. There are now 38 member or emerging member programs affiliated with NNHVIP, which reflects the tremendous expansion of hospital-based efforts to prevent interpersonal violence.

I am a relative newcomer to the Department of Emergency Medicine and I'm not a clinician — I'm a full-time researcher. In early 2014, I was invited to accept a secondary appointment in Emergency Medicine so that I could contribute to research efforts in emergency medicine and provide mentorship. One of my first projects within the department has been to team up with James and her colleagues in the VIAP program, including Lisa Allee, Elizabeth Dugan, and Ariana Perry. My role is to design and obtain funding for an outcome evaluation that contributes to the growing evidence base demonstrating the effectiveness and cost-effectiveness of hospital-based violence intervention programs. However, given that the majority of my own research expertise has been in partner and sexual violence, I have been on a learning curve to understand key issues in community violence intervention research. Attending the sixth annual NNHVIP conference entitled "Diverse Roles and Common Goals: Hospital-Community Partnerships to Reduce Trauma and Violence" was an ideal way to get up to speed fast. I was able to hear about the latest

Reference:

[1] Cunningham et al., 2015, published in *JAMA Pediatrics*

developments in research efforts across the country, meet other social epidemiologists who are implementing large-scale evaluation research studies in cities such as Philadelphia, Baltimore, and San Francisco and take in the exceptionally collaborative and inspiring culture of the community violence advocacy and research collaborative.

At the conference, I attended several informative sessions about evaluation research and hospital-based violence intervention programs. The National Network is currently using an iterative Delphi process to compile a list of outcomes that would be ideal to assess when evaluating programs like VIAP. The question of which outcome variables should be assessed to provide information about the success of violence intervention program is complex; on the one hand, many advocates who work for the programs object to research studies that focus on whether patients are re-admitted to hospitals for subsequent injury, or have engaged in assault or other criminal behavior, because it further stigmatizes the patient population. At the conference, one advocate asked: "Why aren't our outcome evaluations focused on positive things, like attitudes about life or engagement with family?" On the other hand, the researchers attempting to demonstrate the effectiveness of the programs know that in this competitive funding environment, only programs that can demonstrate progress on outcomes that will reduce a cost burden to society are likely to impress funders or decision-makers. Therefore, the advocates and researchers are working together to devise a full complement of outcomes that could be assessed, with the hope that stakeholders will be persuaded that it is valuable that violence advocacy programs are able to reduce PTSD, increase "personal mastery," and social connectedness as well as reduce gun-carrying, violent re-injury and arrest for violent crime.

Another highlight of the conference included James' presentation of results of a qualitative study of patients enrolled in the Boston VIAP programs, which showcased the importance of trust-building and relationships between the patients and the advocates who work for VIAP. (Note that the results of that study can be found in the July 2014 issues of *Academic Emergency Medicine* and is entitled: "Boston Violence Intervention Advocacy Program: A Qualitative Study of Client Experiences and Perceived Effect").

On a personal level, I was deeply moved by the short speech given by a mother of a homicide victim during the group lunch on the first day of the conference. She spoke eloquently about her own grief and loss, and about how much it had helped her and her family to have a connection with a hospital-based program. She thanked the advocates, clinicians, and others assembled for persevering with their work despite the many disheartening moments and challenges of staying in operation. In my opinion, the personal connections that so many members of the NNHVIP have to violence survivors and their family members set it apart as an extraordinary professional society. I am grateful and excited to collaborate with Boston VIAP staff and their national partners in a shared effort to prevent community violence. The next NNHVIP conference will likely take place in September 2015. If you are interested in attending, or volunteering to assist with VIAP-related research efforts, please contact me at *erothman@bu.edu*.

A New Chapter in Boston Medical Center Emergency Medicine:

THE COLLEGE OF PUBLIC AND GLOBAL HEALTH

By Megan Rybarczyk, PGY 2

This year, along with many other exciting changes, BMC Emergency Medicine unveiled four colleges that will allow residents to sub-specialize in some key areas within emergency medicine: Public and Global Health (PGH), Ultrasound, Education, and Administration.

The PGH college is headed by Gabrielle Jacquet, MD, and Elissa Schechter-Perkins, MD, who will be helping residents develop the knowledge, skills and experience necessary to succeed in public and global health activities and careers once they graduate from BMC. Through a combination of journal clubs, lectures, PGH-focused electives and scholarly work, residents will develop proficiency in several areas, including capacity strengthening, ethics, partnering and communication and population-based health both within the local BMC and Boston communities and throughout the world. To date, residents have already organized international electives in places like South Africa and Kenya, applied to present research at international conferences, participated in small group simulations modeling epidemics and heard lectures from internationally-renown visiting faculty.

Completion of all requirements within each of the four colleges will allow residents to graduate 'With Distinction' and make them more competitive in their respective fields. In the case of PGH, that includes fellowships or specialized faculty positions. BMC already has a strong public health presence throughout the local community (e.g. Project ASSERT, VIAP) as well as a growing international presence (e.g. ultrasound teaching in Thailand and Rwanda and education in Haiti and India). The new PGH college will not only allow residents to continue that tradition, but to also foster its growth and advancement in the ever-changing field of emergency medicine.

For more information on the PGH College, please visit our website *www.bumc.bu.edu/emergencymedicine* or contact *gjacquet@bu.edu*, *Elissa.Schechter@bmc.org*, or *Megan.Rybarczyk@bmc.org*.

Women in Global Emergency Medicine Spotlight Interview:

THEA JAMES, MD

By Megan Rybarczyk, PGY 2

Originally published in the AWAEM Newsletter, January 2014

Thea James, MD, at the 2014 Schwartz Center Compassionate Caregiver Award.

Thea James, MD, is an Associate Professor of Emergency Medicine and Director of VIAP at BMC as well as an Assistant Dean of the Office of Diversity and Multicultural Affairs at Boston University School of Medicine. Her professional interests include global health, developing educational partnerships and public health topics such as Health Literacy and Violence Intervention. She has traveled to and taught in many different areas of the world. For more than twenty years, her passion and focus has been in Haiti where she has been a part of several endeavors prior to and through her co-founding of the non-profit Unified for Global Healing and as a recent member of Physicians for Haiti. She has won numerous awards not only at BMC but also throughout the city of Boston, including the prestigious Schwartz Center Compassionate Caregiver Award in 2014.

What is your focus and interest within global emergency medicine (GEM)?

It's interesting: What it is now is not what it was when I first started out — it has evolved. My interest in global emergency medicine began during my EM residency, at the *then* Boston City Hospital, with one of my patients. We had just diagnosed him with HIV. He was Haitian. When I told him his diagnosis he replied, "I don't have that — if I do, you gave to me." Initially, I was stunned. I didn't know why he responded that way, but because I was concerned about the consequences of his rejection of the diagnosis I wanted to work to understand. I decided to go to Haiti. I learned that Haiti was the poorest country in the Western Hemisphere, largely because it was the first Black republic to be formed after their slave revolt in 1860. That victory resulted in their being victimized by the entire world.

Additionally, when HIV was spreading in the early 80s, a list of high-risk groups was announced: intravenous drug users, homosexual males, hemophiliacs and Haitians. Haitians vehemently rejected this. This new knowledge gave me insight to fully understand my patient's response. It was based on his reality. Had I known all of this, I would have delivered his diagnosis with sensitivity and insight, hopefully gaining his trust and partnership. That way we could have moved forward with his receiving optimal opportunities and comfort available at that time. What I learned from that experience transformed me and became my permanent approach to all clinical medicine: the greatest opportunity for a successful patient-physician interaction and outcome

is an approach and intervention that focuses on what matters most to patients and supports their reality.

With that change in perspective and subsequently, my practice, I realized I had gained more than I had given. After my first trip to Haiti, I was hooked on the country, the people and global health. My first goal in working abroad was ensuring no matter what I did or where I did it, the effort would always be collaborative — partnerships and sustainability. I returned to Haiti every year during residency. After completing residency, I took one of my residents to Haiti every year (Sandra Scott, Chair, Dept. of Emergency Medicine at Lincoln Hospital Bronx, NY). When she graduated, together we took teams of residents and a social worker who encouraged us to become multidisciplinary. Eventually we co-founded Unified for Global Healing. Our vision and mission as a nonprofit organization is providing culturally competent health services, promoting the advancement of health education and improving the well being of under-served communities internationally using multidisciplinary teams and through collaboration with global partners. Our multidisciplinary teams have consisted of diverse physician specialties, nurses, artists, social workers, physical therapists and others. Our organization has engaged in public health teaching at the population level including students of all ages, training-the-trainer using mirrors and visual feedback for phantom pain treatment, teaching ultrasound to providers, stroke prevention and rehabilitation therapy and midwifery as examples of the scope of our work.

Most recently, I became a member of the Board of Physicians for Haiti (P4H), and have focused primarily on education — I've been a member for a little over a year. The group is multidisciplinary and was founded the day after the January 2010 earthquake in Haiti by a group of Boston-area physicians. P4H is unique; the vision and focus is "capacity-building and empowerment of Haitians themselves." The organization "works to foster sustainable progress in Haiti by providing Haitian physicians, nurses, educators, and other medical providers with high-quality continuing medical education (CME), leadership training and professional development opportunities."

When the group formed,I observed from the sidelines as it evolved exponentially over four short years. Their rapid growth and accomplishments was (and is) amazing! I have a strong work ethic, but when an opportunity was presented for me to join P4H, I thought long and hard about being able to meet their expectations. P4H members are efficient and focused. The group accomplishes every goal it sets. Several P4H members who are conducting research on our work had three abstracts accepted to the 2015 Consortium of Universities for Global Health Conference in Boston. We have also sponsored an annual conference in Haiti for the last four years. I'm very proud and fortunate to be a member of this organization and I enjoy working together. I believe the imprint of P4H will be perpetuated for years to come.

Q ***What drew you to GEM as a career?***

A Haiti is like magic. You can't help but be drawn in and return repeatedly to continue to partner in teaching, learning and to be involved. I have been going since 1993 and have traveled and worked in other places but none as addictive as Haiti. After my 'work' is done there, I always stay a few extra days to continue to immerse myself in the culture and spend time with people and places I have grown to know and love over the years.

Q ***What percentage of time do you spend abroad?***

A Previously I was able to spend a month each time I traveled to Haiti. Presently I can only spend one to two weeks there at a time, or a few days to attend a special event. For me, the luxury of spending more time in Haiti is prohibited by the combination of the rest of my professional life responsibilities and a lack of a standard of integration of global health into academic medicine.

Q ***What have been some of the challenges of working in GEM? Are there any specific to being a woman?***

A I think the biggest challenge is getting academic medicine to buy into global EM — to get academic medicine to create room for people to grow and develop and evolve in Global Emergency Medicine. There are only a handful of academic EM programs that "fully" support GEM. It is not as well funded and fully integrated into academic medicine as it could be. It is not that it cannot be done — academic EM just hasn't figured out a way to do it. It will require academic EM department leaders and administrators to have a goal of creating a space to integrate GEM into the departmental and institutional academic and financial goals and strategy. I believe we will get there eventually, but it will require a lot of persistent advocacy.

Regarding challenges specific to being a woman, I grew up with a mother who dispelled any notions of gender-based limitations. I grew up believing that. Of course later, I matured and learned about things like unconscious bias that can affect women on multiple levels during their career such as job opportunities and equal compensation. But personally, I have yet to experience a situation where I perceived a barrier based upon my gender. Of course I could be naive and things could be happening to me that I'm unaware of!

A presence of women's voices and perspectives in all areas and at all levels of medicine is crucial. While being involved in Global Emergency Medicine. I have observed that when there are diverse minds (especially women) at the table, and in the conversation, there are more opportunities for innovation, creativity and nuanced thought, which can lead to excellence and higher levels of achievement. I encourage residents, and especially female residents, to become involved early in leadership roles to gain insight into the big picture of department and more importantly, hospital administration, and to bring their special perspectives to shape the future and strategic planning.

continued on page 22

Has a career in GEM impacted your decision regarding marriage/partnership and children/family, and if so how?

No, but it wasn't always easy. Initially, when I started traveling, my partner was not completely on board because she didn't share my sense of safety. I have never felt unsafe any place — including traveling through Haiti alone and traveling to Iran after the earthquake in 2003. Nonetheless, because she was not at peace, I was not at peace — so I didn't feel great when I was away from home and abroad. But we worked through it and got over it. She became more comfortable as I returned home safely after every trip. She evolved to support me 100%. Now, she literally packs my clothes for disaster deployments!

What advice do you have for women who are pursuing or who are interested in pursuing a career in GEM?

- If you're thinking about it, do it. At least allow yourself one or two GEM experiences as a member of a team or group with visions and goals focused on partnership and, most of all, sustainability.
- Start early. if you are planning a family, consider if it will factor into your personal level of comfort. I know many people who have practically raised their families abroad. However if having a family might cause you to delay experiencing GEM, consider doing it earlier.
- When you experience GEM, the experience itself should enlighten you. My personal recommendation is to establish and nurture partnerships, listen, seize opportunities to exchange and learn, and again, make sustainability your mantra. Remember that it's about your global partners and what they identify as their needs, not what you think they need. Make it a partnership and find out how you can work together.
- Once you learn, mentor others. Empower as many women in medical school as possible; of course I'm not suggesting at the exclusion of men, but you get what I mean. Sometimes, while working a case in the trauma room, I look around and all the surgical and EM residents and interns are females — that can be pretty cool.
- Strategize and constantly advocate to fully integrate global emergency medicine into academic Emergency Medicine. Advocate and help people to change the paradigm. It is absolutely possible.

Global Health Preparation and Re-entry Modules:

AN INNOVATIVE, INTERACTIVE, ONLINE, OPEN-ACCESS, MODULAR CURRICULUM FOR GLOBAL HEALTH ROTATIONS AND PROJECTS

By Gabrielle A. Jacquet, MD, MPH, and Megan Rybarczyk, PGY 2

Two surveys published in *The Journal of Emergency Medicine* in 2013 and 2014, showed that the vast majority (74-80%) of EM programs have at least one resident participating in an international elective per year. A 2002 cross-institutional survey published in *Academic Emergency Medicine* reported that 86% of EM residents were interested in participating in a global health rotation and that the majority of residents ranked EM programs with global health rotations higher than those without them. These findings are mirrored in other specialties and other countries as well: In 2008, *Canadian Journal of Surgery* reported that 63% of surveyed Canadian General Surgery residents were interested in completing a GH rotation. This increased to 98% if they had completed a GH rotation as a medical student or resident. Here at BMC, our 14 graduate medical education programs send approximately 50 residents abroad every year.

Global health rotations place trainees in high-risk situations with regard to ethics, cultural sensitivity and personal safety. It is important that academic institutions provide proper guidance and education to prepare trainees for safe and effective global health rotations. Many sources, such as the CDC Global Health website and the book *International EM: A Guide for Clinicians in Resource-Limited Settings* (EMRA 2013), provide information about global health rotations. However, none of these resources provide a timeline-based schedule for preparation. In addition, none of these resources provide an online interactive environment for participation or an evaluation tool that residency program directors and medical school deans can track electronically.

In 2014, Gabrielle Jacquet, MD, was awarded an American College of Emergency Physicians Section Grant to work on global health preparatory modules. Through this grant and funding from the Boston University School of Medicine, Jacquet is working with Suzanne Sarfaty, MD, Assistant Dean of Academic Affairs, BUSM, Megan Rybarczyk, MD, PGY 2, Matthew Fleming, BUSM MS 4, and a team of experienced global health practitioners from institutions across the world. Together they are creating a series of interactive modules that will prepare learners, including medical students, resident physicians and fellows, to safely and effectively participate in global health rotations and projects. This series of timeline-based and interactive preparatory modules spans early preparation to readjustment on return, and has been designed to be a resource that all academic institutions could potentially use. The outlines and content of all modules have been finalized, and the online media and material is currently under construction. Once the modules have been released online and are available to all residencies, medical schools, and hospitals, data can be collected to track completion, performance vand corresponding Accreditation Council for Graduate Medical Education milestone levels for residents and medical students.

THE FIRST HAITIAN EMERGENCY MEDICINE RESIDENCY

By Gabrielle A. Jacquet, MD, MPH

October 2014 marked a monumental day in the history of emergency medicine in Haiti, when the first-ever class of emergency medicine residents began their training at Hôpital Universitaire de Mirebalais (HUM). Until this program began, there had been no practicing trained emergency physicians and no emergency training programs in Haiti. Currently, 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. However, evidence shows that seven of the top 15 causes of morbidity and mortality worldwide can be reduced with high quality, cost-effective emergency care, making this a much-needed program.

HUM opened in April 2013, under the leadership of Regan Marsh, MD, and Shada Rouhani, MD, of Partners in Health. Partners in Health focuses its work on three pillars: research, service and training. HUM focuses on training, particularly on training the trainers, which is one of its most exciting features. Visiting faculty, including BMC doctors Gabrielle Jacquet, Thea James and Megan Mickley, serve as clinical teachers and supervisors for the new residents in the busy HUM Emergency Department.

Partners in Health is currently recruiting volunteers for a 4-week commitment as visiting faculty members. Visiting faculty's roles include:

- Serving as clinical supervisor and educator for new residents in the ED
- Participating in didactic resident education sessions
- Mentoring other members of our Haitian team in the practice of emergency medicine

The role provides a great opportunity to help develop the new specialty of EM in Haiti! The team is eager for teaching and mentorship from emergency physicians. PIH will provide in-country transportation, lodging, and food. If interested or for more information, please contact rmarsh@pih.org or srouhani@pih.org.

Congratulations to the first EM resident physicians in Haiti!

Emergency Medicine Training Standards:

COLLABORATION BETWEEN BOSTON UNIVERSITY AND THE SOCIETY FOR EMERGENCY MEDICINE INDIA (SEMI)

By Gabrielle Jacquet, MD, MPH, and Liz Clark, MA, MPH (BUSPH '07)

Road traffic accidents, myocardial infarction and cerebrovascular accidents are the most commonly cited sources of death and disability in India. While the healthcare focus in India is often on the burden of infectious diseases that menace its population, an epidemiological transition is slowly occurring. Chronic diseases and the by-products of modernization are becoming increasingly prevalent and creating new challenges for the Indian healthcare system. For example, the World Health Organization estimated in their 2013 report on road safety that India experiences 18.9 traffic-related deaths per 100,000 people, and accounts for 10 percent of all road-related fatalities globally.[1] This trend of chronic disease and injury displacing infectious disease provides compelling reasons to strengthen India's emergency medicine services and to train the first generation of Indian physicians to deliver emergency care for treatable acute conditions and acute exacerbations of chronic conditions within the first few hours of onset.

Currently in India there are less than 1,000 trained emergency medicine (EM) physicians to serve the health needs of 1.2 billion people. In July of 2009, after years of fragmented and sporadic training, emergency medicine was formally recognized as a medical specialty by the Medical Council of India. The National Board of Examinations (NBE), an agency created by Parliament to create and regulate graduate medical education, approved the creation of the Diploma of the National Board (a three-year residency) in 2013, and is preparing faculty, students and hospitals to teach the first batch of EM residents. While formal recognition is important and helpful, Indian EM is still in a nascent stage and requires significant support from both Indian and external resources. Some American universities have already begun to provide academic support; now the Indian doctors who are members of the Society of Emergency Medicine India (SEMI) have requested Boston University's support to upskill and transition key faculty and research assignments to Indian doctors.

In 2014, Allison Leeman, BUSPH '15, and Jessica Watson, BUSPH '14, performed a retrospective chart review of cases seen in two Indian emergency departments, under the field supervision of Liz Clark, MA, MPH, a BUSPH alum, and Boston-based support from Gabrielle Jacquet, MD, MPH. They recorded demographic information, chief complaint, ED procedures, ED diagnosis and disposition. The results of the study were analyzed and presented by Clark on behalf of the BU team at SEMI's annual conference, EMCON, which took place in Mumbai in November 2014. The results will be used to inform NBE EM residency curriculum development, as well as an upcoming faculty development program. This will be the first formal collaborative product of the recently signed agreement between BU and SEMI, which was announced at EMCON. Two other BU faculty, Rich Feeley, JD, Chair and Associate Professor of Global Health at BUSPH, and James Wolff, MD, MPH, Associate Professor of Global Health at BUSPH, are contributing to this collaboration as well. This coming summer, three BUSPH students and one BUSM student will perform a similar chart review, this time focusing on the utilization and knowledge of the EMS system in India to help inform a national EMS curriculum and training standard.

Development of Indian EM faculty will promote a knowledge exchange with a primary goal of developing Indian EM physicians who can provide high-quality residency training for Indian EM residents. The training would involve about 100 hours of curriculum, including 60 hours of online education and evaluation and 40 hours of in-person workshops conducted by BMC/BUSM and SEMI physicians in two Indian locations.

As EM slowly becomes a more acceptable career option in India, there is a significant need to upskill faculty to provide high quality EM residency training. In the current model, EM faculty usually transition to EM from another medical specialty, such as general internal medicine or anesthesia, without receiving formal training in EM. As such, most of the faculty teaching EM residents are not prepared to care for (let alone teach) the wide range of high-acuity patient conditions that EM physicians need to know how to manage (e.g. triage, emergency resuscitation, managing the initial stages of a polytrauma, pediatric complaints, responding to a mass casualty or disaster and so on). Very few faculty have undergone formal EM training programs, and far fewer have learned how to prepare a curriculum and to assess EM residents. As evidenced by the literature on Indian EM, there is an overwhelming call for EM faculty and curriculum development nationwide. India needs to train and develop a cadre of EM teachers who can play a leadership role in advancing EM training in India.

There is also a strong demand from the NBE and SEMI to create sustainable and self-perpetuating faculty development modules to help further develop and define this specialty. Many current EM residencies were launched with academic support from foreign training partners, primarily from the U.S., but the demand to increase Indian EM residencies exceeds the availability of such partnerships and many of the U.S.-supported programs are beyond the means of most Indian hospitals. To truly develop a strong group of Indian faculty leaders who can teach successive generations of EM residents and start to create the number of doctors that will be necessary to care for the Indian people, a long-term, sustainable "teach-the-teacher" module is recommended by both the NBE and SEMI. Current Indian EM leadership recognizes that they must assume more teaching and evaluation responsibilities. They aim to implement programming that will help them upskill and be on par with international EM training standards. The goal will be to transition faculty roles and interactive module revisions to Indian faculty over a three-year period.

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[1] WHO. *Global status report on world safety. 2013, http://www.who.int*

[2] EMCON , *www.emcon2015hyderabad.com*

Emergency Medicine in China:

NANJING DRUM TOWER HOSPITAL EMERGENCY DEPARTMENT

By Travis Manasco, PGY 2

The stretcher rushed through the doors and the nurse assumed control of a mechanical CPR device which rhythmically compressed the patient's chest. Another nurse inserted an IV and epinephrine was administered. The modern medical machine came to life.

As an emergency medicine resident, I am used to the clockwork precision of a code. This time, however, was a little different. This time I attended the code in an emergency department 7,000 miles away from Boston Medical Center in Nanjing, China.

The Nanjing Drum Tower Hospital is one of the earliest modern medical hospitals in China. Edward Macklin, MD, a Canadian physician, founded the hospital in 1882 with the cooperation of local missionaries and the Nanjing community. Over the course of more than 120 years, this modest four-story hospital transformed to an expansive, high-tech health care and research center. There are now 1,600 inpatient beds, five floors of outpatient specialty and sub-specialty clinics, multiple radiology and surgical suites and a sprawling, shiny, new Emergency Department.

China recognized emergency medicine as a medical specialty in 1983[1] and uses three models to provide emergency care[2]. The first, deemed the "independent" model, resembles EDs in the United States. A trained emergency provider assesses the patient, performs necessary interventions and decides the patient's disposition. The "semi-independent" model is the second type, where EDs are staffed by a mixture of emergency physicians and physicians trained in different specialties. The third one is the "direct care" model, in which no ED-trained or other physicians work in the ED. Patients are seen instead directly by doctors in the relevant disciplines.

Travis Manasco, PGY 2, teaches a class of residents at Nanjing Drum Tower Hospital in China.

The Nanjing Drum Tower Hospital ED combines the semi-independent and direct care models to provide patient care. Emergency physicians are present in the ED 24/7 and evaluate all non-surgical patients. All patients with possible surgical complaints are immediately evaluated by the appropriate surgical service.

Many Chinese academic tertiary medical centers face severe overcrowding issues. Reasons include lack of primary care infrastructure, rural patients paying out of pocket and postponing care until it is absolutely necessary and long wait times for outpatient visits.[3] Once admitted from the ED, patients can wait over a week for a hospital inpatient bed. To correct this problem, the Chinese Ministry of Health formally recommended that all tertiary hospitals have their own ED intensive care unit.[4] This recommendation has led to the development of small "hospitals within hospitals" in Chinese academic medical centers.[5]

As in the U.S., patients enter the ED and register at a large, triage desk. Patients state their chief complaint and are triaged, based on illness severity, to a large ED clinic, ED resuscitation room or the ED ICU. Unless they are critically ill, patients pay for their visit before being seen by a physician. On an average day, 400-500 patients visit the Nanjing Drum Tower ED.

The ED clinic works like an urgent care clinic. Patients present with common maladies like sprained ankles, headaches or chest pain. They are evaluated with the appropriate labs, studies or imaging and a disposition is determined. If a patient needs to be admitted, they go to the main inpatient hospital (if there are beds available) or to the ED ward, a 40-bed short-stay inpatient unit next to the resuscitation room.

The resuscitation room is similar to a modern U.S. ED acute or resuscitation section. All beds are equipped with monitors, and a nurse, resident and attending physician provide care to each patient. Patients may stay in the resuscitation room for 2-3 days depending on illness severity and bed availability.

The ED ICU includes 12-beds. All critical interventions (invasive monitoring, respiratory support, etc.) are available to every patient. These beds function as an adjunct to the hospital medical, surgical and neurological critical care units. Patients stay in the ED ICU until they are stable for transfer to the floor or a bed becomes available on the inpatient units. During my visit, I saw multiple patients who had stayed in the ED ICU for over 6 months because of family, social or financial concerns.

A stark contrast exists between ED rounds in China and the U.S. in that China's system is much more hierarchical. In China, the department chair, all vice-chairs, junior attendings on shift, residents and medical students

continued on page 26

attend ED rounds. Beginning in the resuscitation room and continuing through the ED ICU and ED ward, junior attendings present patients to the Chair. They report the history, physical exam and current management then the Chair makes final decisions on the patient's management. In 3-4 hours, the Chair rounds on 50-60 patients.

As I watched the ED team run the code, I realized that illness and despair freely crosses all borders, as do many practices of modern medicine — at least in certain areas throughout the world. As EM physicians, we cannot master every language spoken or all aspects of medicine. Our unique medical training, however, represents an invitation to help ease suffering and assist with the worldwide growth and expansion of emergency medicine.

Travis Manasco, PGY 2, engages residents with hands-on ultrasound training at Nanjing Drum Tower Hospital in China.

THE EPIDEMIOLOGY OF DROWNING INJURIES IN LOW- AND MIDDLE-INCOME COUNTRIES

By Matthew D. Tyler, PGY 3, and Gabrielle A. Jacquet, MD, MPH

According to the World Health Organization, drowning is the third leading cause of unintentional injury-related deaths worldwide, accounting for 370,000 annual deaths and 7% of all injury-related deaths. Low- and middle-income countries (LMICs) are most affected, accounting for 91% of unintentional drowning deaths. In a recent study, Matt Tyler, MD, PGY 3, sought to systematically review the literature on the epidemiology of drowning-related injuries in LMICs and to highlight preventive strategies.

The authors performed a systematic review of literature indexed in EMBASE, PubMed, Web of Science, Cochrane Library and Traumatology journals through January 2014. Abstracts were limited to human studies in English, conducted in low- and middle-income countries, containing quantitative data on drowning epidemiology.

A total of 4,372 articles were retrieved and 71 met criteria for further analysis. The majority of studies were conducted in Asia (61%) and Africa (19%). The remaining were from Europe (8%), South America (4%) and North America (1%). Risk factors for drowning included being a young male, living in a rural environment (77% vs. 23% urban), being near small bodies of water such as ponds, ditches and wells (54% vs. 26% in large bodies of water such as the ocean, lakes, rivers), lack of supervision by an adult (78% vs. 17% with supervision) and lacking swimming ability (86% vs. 10% with swimming ability). Further data analysis is underway and should be available for publication later in 2015.

The incidence of drowning is likely underreported and the data provided in this systematic review does not cover near-drowning cases. Understanding drowning risk factors aids in the implementation of effective preventive strategies. For example, young children should receive swimming instruction, wear personal floatation devices, and communities should implement daycares to ensure adult supervision, especially in the daytime . Swimming pools should be encircled with fences and cisterns or wells covered by grates to prevent falls. More research on the epidemiology of drowning injuries and funding for implementation of preventative strategies in LMICs is needed.

An oral presentation, "A Systematic Review Of The Literature On The Epidemiology Of Drowning Injuries In Low- And Middle-Income Countries" was recently presented at the 2015 WCDEM Conference in Cape Town, South Africa.

VIOLENCE INTERVENTION PROGRAMS IN LOW- AND MIDDLE-INCOME COUNTRIES

By Jesse Schafer, PGY 4

Violence can take many forms. It can be subtle as when an individual caring for an elderly family member limits access to food or overt as in armed conflict between nations. The public health community around the world has struggled to put violence prevention on the global health agenda and slowly gained traction through the last decades of the 20th century. In 1996, the World Health Assembly targeted violence prevention as a public health priority. In 2002, the WHO went further to strengthen the argument that violence prevention is a public health priority by outlining the social and economic consequences of violence in the first World Report on Public Health and Violence.[1] Within a few years of this report, the number of countries implementing and funding violence intervention programs increased dramatically.[2]

The WHO defines violence as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in, or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation." To better understand the factors that contribute to violence and to develop intervention strategies, the WHO categorizes violence as self-directed, interpersonal and collective. Interpersonal violence is defined as violence inflicted by an individual or small group of individuals. This includes youth violence, child maltreatment, intimate partner violence, sexual violence and elder abuse. Youth violence is a term used by international organizations to describe violence by or toward an individual who is 10 to 29 years of age.[1]

In 2012 there were an estimated 475,000 homicides globally. Low- and middle-income countries (LMICs) have the highest rates of homicide, particularly in the Americas (28.5 per 100,000 people) and the African region (10.9 per 100,000 people). Males between the ages of 15-44 made up 60% of these deaths in 2012, which makes homicide the third leading cause of death in this age group.[3]

Youth violence accounted for over 270,000 deaths globally in 2004. That translates to 677 youth deaths per day. For each death, there are roughly 20-40 violence related injuries that present for treatment.[4] Additionally, recidivism is high in this vulnerable population. In studies from the United States, 35-49% of patients who were victims of violence were reinjured as a result of violence and up to 20% were dead within five years of the initial injury.[5,6,7] These are staggering numbers with far reaching social and economic impacts, particularly in the developing world where capacity to deal with the impact and prevention of violence is often limited.[8]

In an effort to describe causes of violence, understand risk factors, and more efficiently direct intervention strategies, the WHO adopted a four-level ecological model.[1] This framework is based on the understanding that categories used to describe violence are not mutually exclusive and there are strong links between each type, based on risk factors such as poverty, prior exposure to violence and social inequality. Because the risks factors for each type of violence are interrelated, the WHO has called for a multidisciplinary approach to violence prevention, involving health care workers, families, social service providers, public health workers and law enforcement.[9,10] This multidisciplinary approach is similar to violence intervention programs currently in place in the United States.

In the 1990s, communities around the United States recognized a need for violence prevention. Hospital-based violence intervention programs started cropping up across the country in cities with high rates of youth violence. Many of these programs were developed on the trauma-informed framework.[11] This model recognizes behavior on the part of the victim after violence as a means of survival rather than pathology. Trauma triggers a complex biopsychosocial cascade of fear, hyperawareness and insecurity that can lead to retaliation as a means to restore a sense of safety and security and thus contributes to the cycle of violence.[12,13]

continued on page 28

The trauma-informed model takes a multidisciplinary approach involving physicians, social workers, nurses, family members and others from the community to support victims of violence in an effort to break the cycle of violence. Trauma-informed care has been shown to decrease re-victimization and facilitate recovery.[12,14,15,16,17,18]

The Violence Intervention Advocacy Program (VIAP) at Boston Medical Center was started in 2006 based on a peer model of intervention. VIAP is one of the founding members of the National Network of Hospital Based Violence Intervention Programs (NNHVIP). Through multidisciplinary collaboration, the breadth of services and team members has grown significantly over the last decade (see related article on page 4). Since its inception, VIAP has seen a dramatic decrease in recidivism among its clients — from 30% to 7%.

VIAP at BMC has been very successful at addressing youth violence in Boston. The trauma-informed model now utilized by VIAP is in line with the WHO's call for a multidisciplinary approach to violence intervention. Would a similar multidisciplinary hospital-based trauma-informed model work in LMICs? To better understand this question and to evaluate the programs available in LMICs, a systematic review of the literature is underway. The results should be available later in 2015.

19th World Congress on Disaster and Emergency Medicine

Cape Town, South Africa

Presentations, April 2015

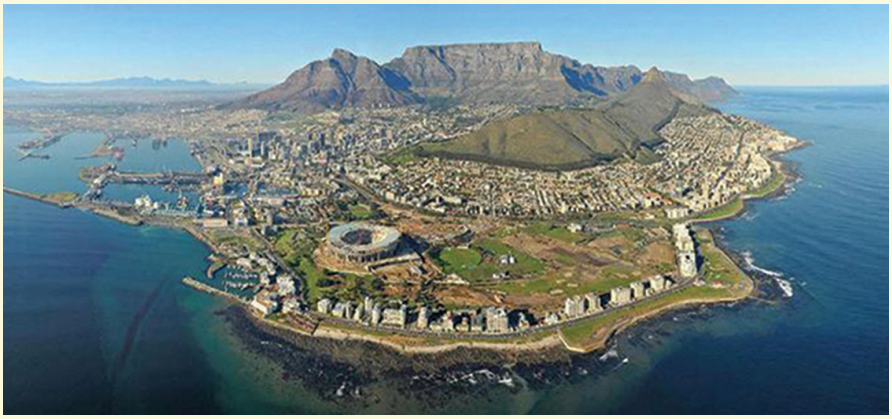
Carlson LC, Rogers TT, Kamara TB, **Rybarczyk MM**, Leow JJ, Kirsch TO, Kushner AL. Deaths and injuries from petroleum pipeline explosions in Sub-Saharan Africa: A comprehensive systematic review of the academic and lay literature. *(oral presentation)*

Dahn CM, **Langlois BK**, **Mitchell P**, **Jacquet GA**. Electrocardiogram Knowledge and Utility in a Resource-Limited Setting in Thailand. *(poster)*

Rybarczyk MM, **Schafer JM**, Elm CM, Sarvepalli S, Vaswani PA, Balhara KS, Carlson L, **Jacquet GA**. A Systematic Review of the Literature on Burh Injuries in Low- and Middle-Income Countries. *(oral presentation)*

Tyler MD, Richards D, Morse EA, **Reske-Nielsen C**, Saghafi O, Carey B, **Jacquet GA**. A Systematic Review of the Literature on the Epidemiology of Drowning Injuries in Low- and Middle-Income Countries *(oral presentation)*

For more information, visit *wcdem2015.org*



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PUBLIC AND GLOBAL HEALTH SECTION AWARDS AND RECOGNITION

Thea James, MD, Director and Co-Founder of the Violence Intervention Advocacy Program (VIAP) and attending physician in the Emergency Department

Honored by the Greater Boston Chamber of Commerce with the 2015 Pinnacle Award

The Pinnacle Award recognizes the accomplishments of women in Greater Boston who have achieved excellence in business and management.

Received the 2014 Schwartz Center Compassionate Caregiver Award

The Schwartz Center Compassionate Caregiver Award, is given annually to an "extraordinary caregiver." James was honored for her dedication and life-long commitment to reducing community violence and health care disparities among vulnerable populations at BMC and through her organization Unified for Global Healing, a foundation aimed at improving health outcomes across the globe. "She has a natural ability to normalize events for people in crisis, and provide a safe environment free of judgment, shame and fear," said a colleague. "It is this very environment that cultivates hope and promotes the physical, mental and spiritual wellness of our patients."

James Feldman, MD, MPH, FACEP, Professor of Emergency Medicine and Director of Emergency Medicine, Research

Received the 2015 Massachusetts Medical Society Chair Service Award

The award recognizes exceptional leadership and service to the Massachusetts Medical Society.

Ryan Sullivan, PGY 4

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Presented by Massachusetts Organization of Addiction Recovery on September 22, 2014 at their Recovery Day Celebration held at the Massachusetts State House, City of Boston.

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APHA	October 31-November 4, 2015	Chicago, IL
NAEMSP	January 14-16, 2016	San Diego, CA
CORD	March 6-9, 2016	Nashville, TN
SAEM	May 10-13, 2016	New Orleans, LA

INTERNATIONAL CONFERENCES

ORGANIZATION	DATE	LOCATION
DEVELOPING EM	September 13-17, 2015	Havana, Cuba
INDUS EM	September 30-October 4, 2015	New Delhi, India
EUSEM	October 10-14, 2015	Torino, Italy
EMCON	November 21-24, 2015	Hyderabad, India
ICEM	April 18-21, 2016	Cape Town, South Africa
AFCEM	TBD 2016	Egypt

Department of Emergency Medicine

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