

Listening to the Wounded

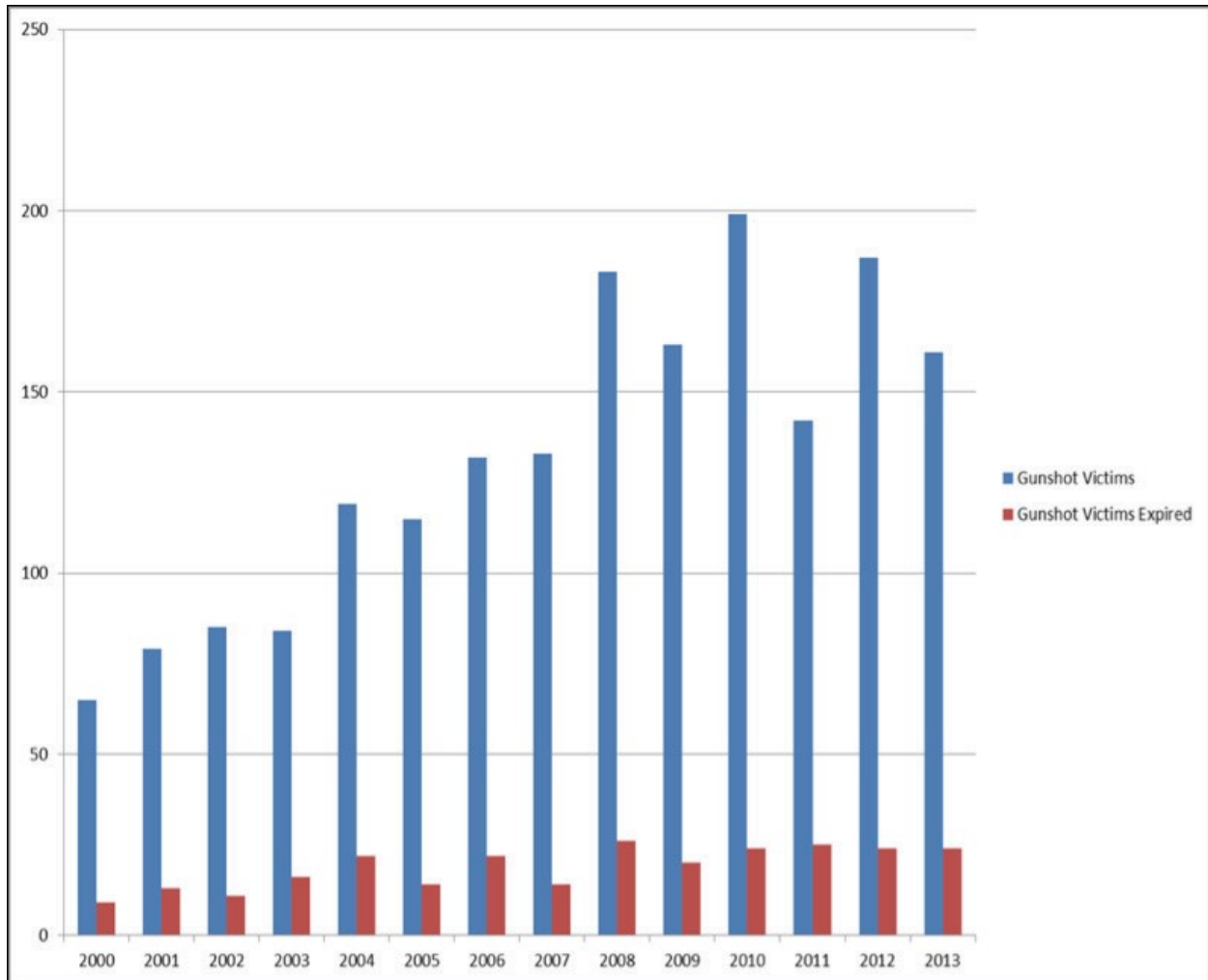
Sandra P. Medinilla, MD

C.H. came out of the operating room intubated, with an open abdomen, cold and scared. His eyes were wide open and he was shaking his head vigorously with a perfect unflinching gaze into my eyes saying “no, no, no”. He was shot in the chest and the pelvis and knew he was dying.

Paramedics brought him to us within the “golden hour”. As the area’s only Level I adult trauma, we had done this many times before. Our trauma resuscitation and surgical technique was rehearsed and precise. In order to get him out of the OR alive to the ICU for further resuscitation, we had opened his chest, performed open cardiac massage, repaired his aorta, ligated his inferior vena cava, ligated his right common iliac artery, repaired his left common iliac artery and resected devitalized portions of bowel. Our intensive care units, imaging modalities and laboratory tools are state of the art. The coordinated effort by the physicians, residents, nurses, pharmacists and techs spanning many different departments are embedded in a solid foundation of training, collegiality and respect for our patients. When it comes to caring for the traumatically injured, we have the resuscitation of our patients down to a science. Unfortunately, we still have not figured out how to prevent gun violence from occurring or what exactly must happen to facilitate the successful return of a traumatically injured patient back to the community where they were brutally violated.

Christiana Care Health System operates the only Level I trauma center that cares for both children and adults between Baltimore and Philadelphia. We see close to 5,000 trauma patients a year from the entire state of Delaware, southern Pennsylvania, northeastern Maryland, and southern New Jersey. The face of trauma is varied and can include an elderly woman who falls in her driveway, a family who is involved in a motor vehicle crash on their way home from the beach or a victim of stabbing at the hands of intimate partner violence. Twenty percent of our trauma cases are due to penetrating injury secondary to gunshot wounds (GSW) or stabbings. Since the year 2000, the number of GSW cases seen at Christiana has more than tripled from approximately 60 to 160 (see Figure 1).¹ This is consistent with what the city of Wilmington has experienced from 2011 to 2013, where the number of victims injured in shootings rose 60% from 95 to 154 individuals.² The American College of Surgeons’ Committee of Trauma requires that trauma centers must have an organized and effective approach to injury prevention and must prioritize those efforts based on local trauma registry and epidemiologic data.³ Trauma surgery has lead the way in optimizing seatbelt safety laws and awareness for distracted driving nationwide. We see the end result of public health epidemics and sound the alarm for our communities to act. Gun violence is no different. The late Dr. Jonathan Mann, a prolific advocate of health and human rights, wrote, “that until a health problem is named, described and until epidemiology defines its occurrence and distribution, the problem itself does not exist”.⁴

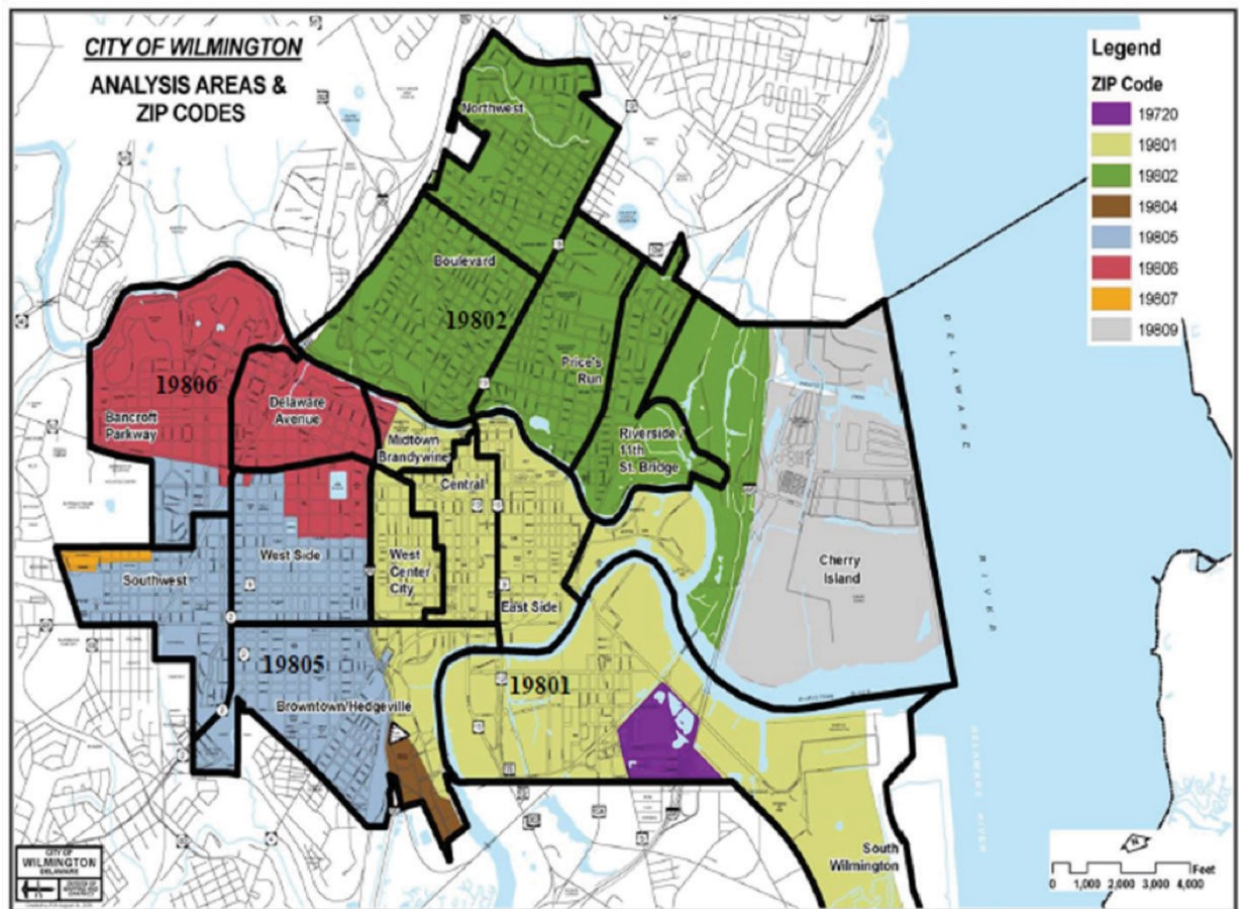
Figure 1. GSW Total and Expired, Christiana Care Trauma Registry Data 2000-2013



This is why as trauma surgeons, we cannot ignore that this is a disease of epidemic proportions affecting our young, black males worse than any other population. We must act. CCHS is proud to be a part of the CDC Community Advisory Council to increase collaboration between social service agencies preventing gun violence. To that end, not only trauma surgeons, but also primary care physicians, pediatricians, ob-gyns and other practitioners must be ready to create change within our practice to ameliorate this disease.

Dr. Gary Slutkin, an infectious disease specialist, spent a decade fighting tuberculosis, cholera and AIDS epidemics in Africa. When he returned to the United States, he thought he'd escape brutal epidemic deaths, only to identify that gun violence spread following the patterns of infectious diseases. His solution was to interrupt transmission by having credible messengers engage with the community and begin to help change the culture of violence in those areas most affected. By treating it like a disease, Cure Violence in Chicago was born and has seen reductions in affected areas by 40-70% (www.cureViolence.org). When the City of Wilmington mapped the violence in our area, it was predominantly 19801 and 19802 zip codes (see Figure 2).

Figure 2. City of Wilmington, Analysis Areas & Zip Codes



From an intervention perspective, CCHS engages our patients who have suffered an injury in the 19801 and 19802 zip codes with the City of Wilmington’s Cease Violence Hospital Responder. Similar to the Cure Violence model in Chicago, they come to the bedside (with the patient’s permission) and provide social and emotional support to the patient, family and friends. Our social worker works with the patient and the hospital responder to identify their needs once they are discharged. In their homes, the hospital responders, meet our patients in their homes, take them to appointments throughout the city and mediate conflicts on their behalf.

With respect to preventing gun violence, Christiana Care Health System has created and is implementing programs aimed at elementary and junior high school students. Currently, we have two prevention programs and one general educational program. The engaging session, “Choice Road,” is a 45-90 minute program for adolescents in grades 6-12 which includes the showing of a 15-minute film, “Choice Road: An American Tale.” The actors in the film include local students, police, emergency services, and medical professionals. In the film, a 16-year old boy decides to join a gang. He is shot and becomes a quadriplegic. A ‘credible messenger’ and the program coordinator engage the youth in an open discussion of friend choices and potential consequences. “YOLO” or You Only Live Once is a re-enactment of a trauma resuscitation inside Christiana Hospital. In the Virtual Education and Simulation Center at Christiana Hospital, a team of trauma nurses and physicians re-enact the resuscitation and death of Brandon Lee Brinkley. With permission from his mother, Robin White, we explore Brandon’s life and dreams. During the program, students see his trauma resuscitation simulation.

A re-enactment of emergency procedures with the use of a mannequin: insertion of various IVs, tubes, surgical procedures and the insertion of other emergency equipment such as breathing tubes and urinary catheters. Artificial blood. It is not the intent of this program to upset or frighten students, but rather to offer them an honest and unrestricted look at the consequences of violence. It is our hope that after participating in this program, students will be ambassadors for peace. “The ripple effect” is a 28 minute documentary filmed at Christiana Care. The documentary depicts scenes from the trauma bay during actual trauma resuscitations. It also includes an honest interview with a patient who talks about his injuries and how personal choices led to these injuries suffered secondary to violence. Medical professionals including physicians, trauma nurses, family support staff and mental health specialists are interviewed throughout the documentary. A medical professional concludes the program with a discussion of the documentary. This program is aimed at the broader community who may not live in high crime areas to shed light on how gun violence in the city affects all of us no matter where we live.

After multiple surgeries, CH is a survivor. We asked him later why he shook his head fervently “no, no, no” and what he was feeling at the time. He said that he had felt himself leave his body. He saw us working on him and didn’t want his mother to lose him this way. He fought to stay. He fought for a second chance for a new beginning. Now 22 years old, he is a “credible messenger” and shows our YOLO kids his scars and his artificial leg replacing the limb we couldn’t save. “I was just like you all - a young kid. I was running, living the fast life,” Harris said. “I came out to show you it’s real.”⁵ Even though our resuscitation and coordinated heroic efforts have been studied and vetted again and again, we have a long way to learn from our patients just how to prevent gun violence. If we start listening to them, maybe we can find the cure for gun violence.

References

1. Christiana Care Health System. Trauma Program Office Registry Data, 2000-2013.
2. Sumner, S., Mercy, J., Hillis, S., Maenner, M., & Socias, C. (2015, Nov 3). Elevated rates of urban firearm violence and opportunities for prevention – Wilmington, DE. Division of Violence Prevention, Centers for Disease Control and Prevention. Retrieved from: <https://dhss.delaware.gov/dhss/dms/files/cdcgunviolencereport10315.pdf>
3. American College of Surgeons. (2014). “Resources for optimal care of the injury patient.” Retrieved from: <https://www.facs.org/quality-programs/trauma/tqp/center-programs/vrc/resources>
4. Mann, JM. (1998, Jan 12). “White coat ceremony: Medical school of Grenada”
5. Giordano, R. (2016, May 29). Could YOLO cure gun violence? Philadelphia Inquirer.

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