ENCOUNTERS

A forgotten pandemic

Green, yellow, red. The interns in the trauma unit at Cape Town's Groote Schuur Hospital assess the incoming patients with a glance and, on instinct born of experience, point to one of the colour-coded trauma bays. It strikes me that this method of triage is as simple as asking: Can you sit in a chair? *Green.* Do you need a bed? *Yellow.* Do you need a bed and lots of tubing? *Red.*

It is the summer following my first year of medical school, and I am in South Africa to collect data on patients with trauma in order to validate a new clinical tool designed to increase efficiencies and reduce mortality in trauma units.

Day 1, 10 am, I stare, transfixed, over the elbow of the chief of the trauma unit as he repairs a left carotid artery severed by a gunshot wound "through and through." No appropriate-sized graft can be found; 25 minutes later, the anesthesia is still flowing, the carotid is clamped, and the surgeon calmly fashions a carotid from tubing the next size up. The air of routine seems shocking and surreal. *So* this *is Africa.*

My first overnight shift in the trauma unit is illuminating. At 6 pm, only one patient is in the red area. This tally will rise to 12 by 4 am. The first patient of the night — a stab wound through the left hand — is triaged to green. I am shocked at the consistent nonchalance of the emergency medical services staff as they roll in patients one after another. All of the patients are young, black and male. It seems as if they will never stop coming.

Under the intense, unrelenting onslaught of bodies damaged in unnatural and unforeseeable ways, charts are often neglected. Three unconscious patients arrive and are triaged to red. It appears that all three are from the same scene, and there are no uninjured witnesses. Several identification stickers read "Name: EMERG GSH, DOB: 01/01/83," and unless a disproportionate number of New Year's babies have been shot or stabbed tonight, it is clear that staff are guessing at ages.

fivepointsix/iStock

I spend most of the night in the red bay entering data into the electronic data-collection system I am piloting. When a chart is incomplete, my task switches from chart review to history taking. I am pretty sure that these are not your standard histories. The patients often know their assailant. They tell me — with shocking apathy — that they were stabbed or shot by a friend/schoolmate/brother. "Did he mean to?" I ask. They nod. "Why?" I ask, expecting a compelling motive. "I don't know, I think I was standing with someone he didn't like," "I don't know, we were drinking and a fight started," or "I don't know, he just did it." *Whatever.*

I never once meet a patient who was injured in a motor vehicle crash. The two red-coded patients I meet who were not stabbed or shot were injured in a PVA, shorthand for "pedestrian–vehicle accident." I see two gunshot wounds to the eye, and too many to the neck and chest to count. "Intubation," "chest x-ray," "head/neck CT" and "CT angiogram" are standard orders to rule out major structural involvement. If all is clear, leave the bullet in; if not, prep for surgery in the morning. Move on. *Next.*

Sometimes a chest wound is so severe that residents perform a thoracotomy in the front room when there is no time to get to the operating room. This will be the case a few nights later, in the middle of a gang war precipitating a hospital-wide lockdown. It will go something like this: a "family member" will call in to ask about the patient who had the thoracotomy; the hospital will flag the caller, suspecting him of being the assailant and a rival gang member. If the boy he shot is still alive, the caller will plan to visit the hospital to finish him off. Apparently, this is not uncommon.

Before my three weeks are over, I work two more night shifts. I see three young men die. Two are PVAs: both are brain dead and have to be extubated. The third man arrives with almost nonexistent vital signs. He was robbing a house when the owners returned home; he tried to flee by jumping from a third-floor window. His identification sticker reads "Name: EMERG GSH, DOB: 01/01/83." Bilateral chest tubes are

inserted while CPR is performed. I see the heart rate slow as the resident tires: they need another set of hands. There is no one else, so I am up. The chest tubes are in, but the heart isn't beating on its own. The defibrillator is a last-ditch effort, delivering a shock: once, twice, nothing. Time of death is called, and I am still holding the bag-valve-mask.

Although all these stories are tragic, I find none more devastating than the 17-year-old boy I meet on my last day who was simply in the wrong place at the wrong time. It is 8 am on a weekday, and he is brought in with a gunshot wound to his right shoulder. His mother tells me he was walking to school when a bullet struck him out of nowhere. The chest x-ray confirms that the bullet is lodged in the T5 vertebral segment. The resident confides that the best-case scenario is spinal shock, but she is not holding out hope. She explains what should have been obvious to me at first glance at the x-ray: the entry wound is through his right shoulder, and the bullet is sitting on the left side of his vertebral column. The bullet has likely severed his spinal cord; he will be paralyzed from T5 down.

The stories I am sharing here reflect a mere three nights in the trauma unit at Groote Schuur Hospital. I have seen enough trauma for three years. If my experiences there are typical, and I'm told they are, then I understand — in a way that goes beyond mortality statistics — that trauma is a major, heart-breaking public health crisis. Tragically, data to describe adequately the scope and depth of this crisis barely exist. No effective systems to collect injury data are in place.

We do know that trauma is the leading cause of death among children and working-aged adults in almost every country in the world.[1] We know little about what types of injuries are occurring, let alone where and why. According to the Director-General of the World Health Organization, "we must not forget that the real need is to close the data gaps, especially in low-income and middle-income countries."[2] Closing these gaps may be the best way to reduce the steady flow of tragedies in trauma units around the world.

Without reliable data, trauma in South Africa will likely remain overshadowed by better-known health crises. We have data for many global health epidemics: HIV, tuberculosis and malaria, to name a few. Why have we ignored the global health pandemic that is trauma and injury?

Lauren Adolph
Class of 2016, Faculty of Medicine,
University of British Columbia,
Vancouver, BC

References

1. Farmer PE, Kim JY. Surgery and global health: a view from beyond the OR. *World J Surg* 2008; 32:533-6.
2. Chan M. From new estimates to better data. *Lancet* 2012;380:2054.

This is a true story, but pertinent details have been changed to protect the identity of patients.

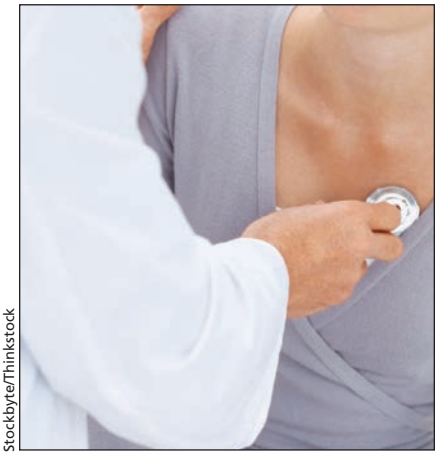
***CMAJ* 2016. DOI:10.1503/cmaj.150711**

Encounters

First exposure

"Go ahead, take a listen to her heart," the doctor said. "I'll come back in a few minutes and we'll discuss what you hear."

And we were alone. Alone with the patient, that is. Six students, uncomfortable in white coats literally too big for us, on the second day of medical school. The patient sat expectantly on the bed, waiting for one of us to approach. She wore only a hospital gown, a sterile green, of course, — some of her chest was exposed — our preceptor had (very quickly, I thought) modelled how to auscultate her heart sounds and had not completely replaced the patient's gown. Her husband looked on from the corner of the room, disapproving of our nervousness and hesitance, or so I imagined. And if he did, it was with good reason. Some of us had not even purchased all of our supplies yet and had to borrow them from a classmate. Others



Stockbyte/Thinkstock

had never spoken to a patient before. None of us knew how to use our stethoscopes. Or how to approach a patient's physical exam with dignity.

One by one, we crossed the distance that separated the patient's bed from the wall where we were all huddled, introduced ourselves, fumbled with our earpieces, worried about where to put the diaphragm of the instrument, whether we were actually hearing anything or just imagining it, how far we should displace the gown, what was the appropriate way to move her breast —

I was second in line. Some time to plan what I was going to say and how I was going to act. Some time to collect myself. Some time to put on the face of someone braver and smarter and older than I was. A minute, a few seconds in between my classmate's attempt and mine. Really, no time at all. Silence. A "Hello," a few instructions, a light pressure. Hand on shoulder. Metal on skin.

Heartbeats.

Bob Sun BA
Cleveland Clinic Lerner College of Medicine, Case Western Reserve University, Cleveland, Ohio

***CMAJ* 2016. DOI:10.1503/cmaj.150291**