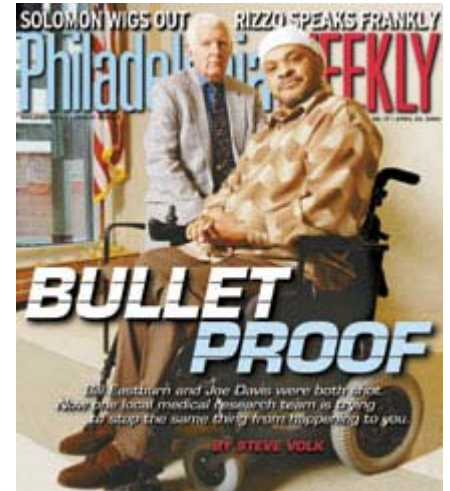


Stopping a Bullet

Dr. Schwab and his trauma team want to

by [Steve Volk](#)

William Schwab breezes into a conference room at the Hospital of the University of Pennsylvania (HUP), unclips his emergency beeper from his belt and snaps on a television that receives a live feed from the trauma bay downstairs.



Warm and mild, with glasses and thin, graying hair, Schwab keeps an eye on the monitor for emergencies as he talks, pausing every so often when it looks like something might be happening, but the bay remains empty except for hospital employees.

For now, it's a rare quiet night.

Over the years, Schwab's built such an impressive operation that doctors come from all around the world--Sweden, New Zealand, Germany--to see how his team handles gunshot patients. Even the U.S. military has sent surgeons to learn from Schwab, a level of respect the doctor greets with some displeasure.

"That's how it's done now," he says. "The military sends its doctors to inner cities to get familiar with what they'll be seeing on the battlefield."

After a while, Schwab relaxes enough to put his feet--he wears dress shoes covered in blue nylon footies--on the conference table. "11:39 p.m. and 3:39 a.m.," he says. "That's when it all goes to hell."

By the time Therese Richmond first met Schwab at a federal panel for the Department of Health and Human Services in the early '90s, she'd already experienced what she calls her "a-ha" moment.

She was working as a nurse in Washington, D.C., when the trauma bay's double doors swung open with alarming suddenness. A man she recognized stormed through. A former patient, he'd suffered a shotgun blast at close range during a holdup. He drifted in the gray zone between life and death for a while but survived after multiple surgeries and months in recovery.

"You sent me home and said I was fine," he hollered, slamming a heavy palm on the front desk. "But I'm not! I'm not fine."



For Richmond, 49, a nursing professor and researcher, the moment was revelatory. "I realized there were wounds that don't entirely heal," says Richmond now, nearly 20 years later, in her office at Penn. "When someone is shot it has a ripple effect on that person and society--an impact on the victim's psyche and on their family, and I understood we had to do something about that, too."

Richmond helped organize a support group for victims of violence at Washington Hospital Center, where she worked during the late '70s and early '80s. The program later expanded to include the family members of victims. With these first steps, Richmond started down the road toward the position she now holds with Schwab, a leading medical

authority on gunshot wounds.

In 1997 Schwab founded the Firearm Injury Center at Penn (FICAP), an organization dedicated to curtailing gun violence. Richmond now oversees the researchers there.

"When I met Dr. Schwab, we discussed how we could just get better at saving lives," says Richmond. "But we felt a responsibility to also work so that fewer people end up in this position in the first place."

FICAP defines gun violence as a public health problem, just like cancer, cholera or any disease.

Unlike cancer, however, the argument that gun violence is a disease seems certain to provoke debate on both sides of the political aisle. But Schwab wants to set those polarized arguments aside.

"We're trying to find the common ground," he says. "There are more than 200 million guns already in circulation in America. We're not going to get rid of them all, so if we've decided we're a culture that *will* have guns, how do we live with them?"

Together with a team of 15 researchers, Schwab and Richmond are working to reveal the connections between the lives people lead, the communities they reside in and the bullets that ultimately intersect their paths. (See "Live Through This," p. 26.)

"We're trying to illuminate that journey people go through from being safe to being shot," says Richmond. "And we're trying to find intervention points, where we can get people off of that path."

As a trauma surgeon, Bill Schwab, 56, had no single moment of revelation equal to Richmond's. Instead, he found he was leading an a-ha life.



"I was struck by the sheer overwhelming number of young, otherwise healthy patients who were getting shot and dying on my table," he says. "In the late 1980s, early 1990s, with crack and the spread of semiautomatic handguns, it was an epidemic. And it's still going on."

To put some perspective on this, the total number of coalition casualties in the war on Iraq is about 160, including everything from gunshot wounds to hand grenades and helicopter accidents. Philadelphia typically surpasses those numbers, in shooting deaths alone, in less than a year--every year.

Around 100,000 people are shot in the United States each year, and about 28,000 of those people die from their wounds. HUP itself treats an average of one gunshot victim per day, playing a significant role in Philly's 2002 distinction as the third-worst city for homicides in the country.

For the moment, Schwab's attempts to reduce gun violence operate mostly under the radar, and he believes that in the end his contributions as a researcher will bear little fruit until after he's dead and gone.

"It will be many, many years until we see meaningful legislation," he says. "The country isn't ready for it."

Still, he firmly believes researchers might ultimately save more lives by educating the public than trauma teams will by tending to people who've already been shot.

FICAP's already revealed some important statistics about guns and suicide. For instance, they found that men over 75 who just lost a spouse or contracted a debilitating illness comprise one high-risk group. Middle-aged men who just lost a spouse or job represent another. Teenagers and young adults facing myriad adolescent pressures represent what Schwab calls "the third peak."

Scwhab himself cites some particularly disturbing statistics from the *New England Journal of Medicine*, which found that merely keeping a handgun in the house exponentially increases a person's risk of being shot.

Homicide in a home with a handgun is three times more likely--suicide, five times more likely. Put a 15- to 24-year-old in the same house with a gun, and the chance of suicide is 10 times greater.

Some might see stats like these as powerful arguments in an antigun initiative, but Schwab and the people at FICAP avoid such talk. They are against gun violence--not guns.

They are, if nothing else, a savvy bunch, recognizing that there are too many guns already in circulation to remove them all, and that the political momentum--and huge lobbying dollars--rest with the NRA.

"This is where we are as a country now," says Schwab, smiling. "We simply aren't that civilized."

A steady, misting rain falls as Charlie Branas walks through Southwest Philadelphia.

He's agreed to walk 19 blocks of Woodland Avenue, from 46th to 65th, at the invitation of *PW*. The reason: According to city police statistics, for the period from May 1 to Dec. 31, 2002, Southwest Philly's 12th District had the third-highest number of shootings in the city--85--making it a prime supplier of gunshot victims for Schwab's trauma team at HUP and a good place to engage in what Branas terms "shoe-leather epidemiology."

A trim, athletic 35-year-old with an eager smile, Branas speaks a mix of academic jargon and more informal patter. He takes special note of empty lots and abandoned buildings, freestanding bars and what he calls the neighborhood's "shameful" lack of grocery stores. In this 19-block stretch Branas sees just two stores that offer any fresh food at all--a butcher shop and a very small market. To Branas, a preponderance of establishments selling alcohol and a dearth of anchor businesses like banks and grocery stores could mean trouble.

"Liquor outlets wind up filling some of the gaps," he says. "They take over check-cashing duties, maybe they sell food. But they've got alcohol, too, already chilled and ready to drink."

As an epidemiologist, Branas studies epidemic diseases and looks for ways to prevent them. As an epidemiologist who specializes in violence prevention--specifically the prevention of gunshot wounds--he is either on the cutting edge of research or particularly lonely, depending on how you look at it.

"When you go to an epi conference," he says, "there are 50 presentations on heart disease and cancer and maybe just two on violence."

But he's convinced gun violence meets the required characteristics of a disease: "The disease that provided the foundation for epidemiology was malaria," says Branas. "With malaria, we defined what a disease *is*."

The way Branas explains it, malaria involves a mosquito, which he calls the vector, a plasmodium, which carries the disease, and a host, or person, which the vector injects with the disease. Malaria also requires a particular environment--in this case a swampy one--to enhance its ability to infect as many hosts as possible.

"In injury prevention," says Branas, "particularly with firearms, we're trying to demonstrate an analogous relationship, which involves a gun as the vector, a bullet as the disease and the shooting victim as the host. And there's also an environment which fosters the spread of this disease."

In Philadelphia, that means a dilapidated urban environment, subject to high crime rates, drug or alcohol use and a poor local economy. Southwest Philly, with its lack of basic services and history of drug-dealing and related violence, surely fits the bill.

"Cold beer," says Branas, eyeing one of the neighborhood's many takeouts. "I'd like to go in there."

Like Richmond, Branas, too, was ultimately brought here by an a-ha moment.

One night he attended an emergency call at a Baltimore bar. The victim was drunk, his assailant was drunk, everyone in the bar was drunk.

"A shooting is a chaotic environment," he says now. "But when you throw alcohol into the mix, it gets that much more chaotic. This guy was shot in the lower abdomen, but with all of these people surging around me, acting a little bit nuts and each trying to be the one to tell me what happened, it was hard just to get the patient out of there."

Inside the Southwest Philly takeout, Branas points at the small selection of 40s in the cooler and says he's seen worse. "This isn't so bad," he says. "But still, when you sell alcohol in this kind of environment, without giving people a place to drink it indoors, they could end up just standing around drinking it in the street. What happens then," he asks, "if someone gets a buzz and misses a social cue and thinks someone is challenging them when they're not? What if one of them has a gun?"

The people at FICAP seem to be researching just about everything related to gun violence--from the economic and sociological conditions present in high-crime neighborhoods to the economic impact on a society when so many people lacking basic health insurance wind up filled with lead. They are researching the lives people lead before they get shot and the lives they lead afterward, to advise people on how to avoid becoming a statistic, and to teach those who have already become stats about the kinds of post-traumatic stresses they might face.

Branas' chief research project seems fairly typical of both FICAP's approach and its aims. It is, all at once, academic, immediate, hopelessly remote and terribly real.

Branas' "Alcohol Outlet Study" aims to find answers to several questions, including whether there's a link between the geographic distribution of liquor licenses and the incidence of shootings. In other words, is a neighborhood heavy with bars and takeout liquor stores more prone to gunplay?

Further, are you more likely to be shot, or shoot someone, if you or your assailant is drinking alcohol? What's the impact of getting a load on in a neighborhood rife with other people doing the same?

Branas also intends to hold a research trial testing the impact of alcohol use on a person's ability to appropriately wield a gun. "Since the legal use of a handgun is tied to self-defense," says Branas, "we're going to conduct a trial that demonstrates whether or not drinking alcohol has an adverse impact on their ability to use a gun for that purpose."

At first blush, the "duh" factor of a study like this seems awfully high. That violence emerges from the stew of alcohol and crowds seems like common sense. And hey, if tossing back a few beers has a negative impact on a person's ability to drive a car, then it would be pretty naive to think that same drinker could shoot straight. But Branas knows studies like this one are necessary and the potential stakes are as high as they come--even life and death.

In 1999 the Centers for Disease Control got in on the millennial madness and issued its "Ten Great Public Health Achievements" of the 20th century. Several of the achievements, including motor vehicle safety and the reduction in tobacco use, were based less on technological advancements and more on public education and legislative efforts.

Branas says the example of motor vehicles provides the most apt analogy for what FICAP wants to do with gun violence.

Was it not, he asks, at one time common sense that a driver without a seatbelt would hurtle through the windshield after a violent impact? But until studies were conducted--relevant statistics assembled in neat, orderly rows and given a scientific stamp of credibility--the highways were a bloodbath.

According to the CDC's 1999 report, "Six times as many people drive today as in 1925, and the number of motor

vehicles in the country has increased elevenfold." But the death rate has decreased 90 percent.

To have that kind of impact on gun violence, Branas says FICAP will eventually need to make a meaningful impact on the laws of the land. There are myriad pieces of legislation that could potentially arise from Branas' alcohol study alone. If a preponderance of liquor licenses correlates with heavy shooting stats, FICAP might recommend legislation reducing the number of liquor licenses that could be issued within a specific area.

If people, in fact, can't shoot straight when they're drunk (we're betting that's the case), FICAP might recommend legislation equating carrying a gun while under the influence with driving a car in the same condition. People with carry permits might have their privileges suspended or even revoked. People carrying guns illegally could face stiffer penalties for the offense if they committed it while drunk.



The car analogy, however, also provides a sobering timeline for FICAP's supporters. The greatest achievements in motor vehicle safety occurred only after the creation, in the 1960s, of the National Highway Safety Bureau (now the National Highway Traffic Safety Administration). With that federal organ in place, pursuing an agenda of safety, it took three and a half decades to get where we are now.

The gun issue might finally have its own federal vehicle in the National Violent Death Reporting System, a pilot program in several states, which will report to the CDC every year. According to the American Association for the Surgery of Trauma, "by collecting and linking data on all violent deaths (approximately 50,000 a year), the NVDRS will provide answers to critical questions about violence-prevention strategies."

With gun deaths comprising the majority of those numbers each year, says Schwab, the problem guns represent will become unavoidably clear. Give the system, oh, 30 or 40 years, and some meaningful changes may finally come to pass.

Doctor Pat Reilly, a 10-year veteran of Schwab's trauma team, does not double as a FICAP researcher. Still, he expresses genuine optimism about FICAP's aims, though he also comes off as frustrated with the whole process of *talking* about gunshot wounds and surgery.

"I don't know," he says, "that words can convey what goes on here ... I think to really understand it, you need to see it. People come to us because they are in the process of dying--some of them quite far in the process of dying. Part of it might be that, for me, who deals with this in person, reading it doesn't put it across. Reading it doesn't do it justice. It's not the same as being there, in real-time, yourself ..."

"The fact that we have specific discharge instructions for gunshot wounds is laughable. The fact that we have people come here from as far away as Sweden to see how we handle penetrating trauma wounds, to see how we handle gunshot wounds, is wacky. They come here from *Sweden*. You'd think they could go somewhere closer. But they come to Philadelphia--specifically to West Philadelphia. That's sort of wacky."

Later, in the conference room, Schwab nods when Reilly's comments are relayed to him. "I don't believe words *can* convey it," he says. "We see awful things. We get people from the scene so quickly that there is still smoke coming out of them. There's goddamn smoke coming out of their wounds."

Within the hour, his beeper goes off, and Schwab's back downstairs tending to a gunshot victim: an African-American man in his late 30s. After the doctors scissor away his clothing, a large pool of blood forms under one of his legs. In other places, he simply appears to have been shredded.

He's laid on a gurney in the center of the room so bright and clean it could induce white blindness if it weren't for the luminous scrubs the doctors wear.

They count "one-two-three" and turn the patient on his right side, "one-two-three" and turn him again to his left. They take X-rays, trying to get a handle on how many wounds he suffered tonight, which holes represent entrances and

which represent exits.

They are more concerned now with methodology than anything else. They've got a plan and they're working it, but the man on the table is looking for help from some other agency. "Oh God," he hollers through his oxygen mask. "Oh God."

Two cops, then a third, peek over a workstation in a trauma bay to see the patient. Each of them winces. The third cop shakes his head.

"My man," he says, looking over at the patient on the gurney. "My man's got to change his lifestyle."

It takes nearly a half-hour, the man on the table is so full of holes, but the team puts together a pretty complete picture of their patient before they make a single incision.

As the staff wheels the man upstairs for surgery, Schwab sits down at an X-ray monitor and taps the screen twice where a bullet may have cleaved through gallbladder, liver, kidney and intestine. "That's a bad spot," he says, rising, then adds: "Just another night in Philadelphia."

Steve Volk (svolk@philadelphiaweekly.com) writes frequently about the Police Department's Safe Streets program.

Live Through This

Joe Davis' a-ha moment was a long time coming. It arrived in the form of a bullet that entered his spinal column at chest height, rendering him paraplegic.

Though he was shot suddenly, at close range, by a teenager who ran up behind him, fired a gun wildly and kept on running, Davis had been headed for that very moment for so long that the bullet might as well have been hovering there on the corner of 24th and Somerset in North Philadelphia, just waiting for him for years.



"I was selfish," says Davis now. "Human garbage."

Davis made his living robbing people, thieving, writing bad checks and selling a little dope here and there. The day he was shot, in the summer of 1982, he was being his typical self, bent on using coke or heroin or speedballing the two.

His girlfriend's daughter came into his bedroom, "acting the fool." He told her if she came back in he'd slap her. She told her 14-year-old boyfriend. Later, standing on the corner outside his home, he got shot. He never felt a thing. The force of the bullet threw him to the ground.

"I was lying face down between two cars," he says. "My lips were split and bleeding, and I tried to get up but my whole body was so heavy I couldn't feel anything but my arms. Someone went and told my mother, and I believe, for an instant, she went insane. She screamed so loud they heard her in New Jersey. And I prayed to God, 'Please don't ever make my mother have to see me like this again.'"

Davis now works at Magee Rehabilitative services, in the same hospital where he first learned to deal with his own paralysis--to attach the leg bag that catches his urine, to perform the bowel routines that cleanse him the way his muscles no longer can. He now has a master's degree in social work from the University of Pennsylvania--yes, miracles do happen--and tries to make up for the bad old days. He works with patients, helping them adjust to their new lives as handicapped people, and he speaks at 25 or 30 school assemblies each year.

Now compare his story with that of Bill Eastburn--one of FICAP's board members.

Eastburn, now 70, stands as a remarkable example of the democratic nature of bullets, their willingness to strike us all equally.

The Bucks County attorney made a lot of headlines in the mid-'90s when a client's daughter, a young woman he recommended seek attention for a mental health problem, shot him in the parking lot outside his office.

On July 15, 1993, Eastburn was struck once in the chest by a round that nicked his left ventricle, punctured a lung and lodged in his back. He was airlifted to HUP, where, as he puts it, "Bill Schwab's team saved me."

The shooter turned out to be a schizophrenic who bought a gun when she found out her father was going to commit her to a mental hospital.

Though Davis' and Eastburn's stories couldn't be more different, the people at FICAP intend to account for them both. "It's complicated," says FICAP's Therese Richmond. "There are so many variables involved, shootings are sudden by their very nature and sometimes they're random. But we want to find the common elements in different kinds of shootings to determine how these incidents might be preventable."

--S.V.