

Tucson Injured Received Trauma Care Out of Reach for Many

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The first patient from last Saturday's shooting was wheeled into University Medical Center in Tucson about 38 minutes after the attack. Six others—including severely injured Rep. Gabrielle Giffords—arrived in the next 12 minutes. All but one of them survived.

Powerful medical evidence suggests that their chances of survival were improved because they received treatment within what doctors call the "golden hour" after being injured—and were taken immediately to a well-equipped trauma center.

But many patients across the U.S. wouldn't have been so fortunate.

Arizona, like many states, has an advance trauma-care system designed to speed severely injured patients to specialized treatment. According to 2009 data from the American Trauma Society, 88% of such patients in Arizona could make it to a top-notch trauma center within an hour. In Rhode Island, the comparable number was 99.9%. In California and New York state, it was 97%.

Other states didn't fare nearly as well. Only about 61% of patients in New Mexico were within an hour of a trauma center, as were 40% in Oklahoma and 13% in Arkansas. One limitation: Many rural areas across the country aren't within an hour's helicopter range of a trauma center.

The best performers among states have this in common: an extensive network of certified trauma centers. Most hospitals have emergency rooms. But to be designated a trauma center, a hospital must meet certain readiness standards and be certified by its home state or the American College of Surgeons.

The standards vary, but generally require that Level I and II trauma centers have operating rooms and certain kinds of surgeons available essentially 24 hours a day.

Most statewide systems also require that ambulances or helicopters take severely injured patients to the closest certified trauma center rather than to a standard hospital emergency room. The U.S. has about 203 Level I and 271 Level II trauma centers, which have roughly comparable readiness standards.

A 2006 study by Johns Hopkins University and the University of Washington showed that the likelihood of death from a severe injury drops by at least 25% at a trauma center versus a standard emergency room.

That's partly because many emergency rooms aren't well-prepared for people with severe injuries like head wounds or multiple fractures. Ambulances taking patients to unprepared hospitals are "still very much an issue in some places," said Richard P. Dutton, executive director of the Anesthesia Quality Institute and a trauma anesthesiologist.

Ms. Giffords, who was shot in the head, is slowly recovering. "She was lucky, but a lot of people deserve the care she got," said Harry Teter, the American Trauma Society's executive director.

Certified trauma networks aren't ubiquitous because they are expensive to organize and operate, and some legislators aren't convinced that trauma centers are worth the money. All of the 15 states that lack statewide systems say they are working on developing them.

Arizona's trauma system started 15 years ago and now has eight Level I designated trauma centers—in Phoenix, Scottsdale, Flagstaff and Tucson.

The system issues public reports on subjects like patients wrongly taken to standard hospitals and less severely injured patients unnecessarily taken to Level I trauma centers. Among other things, said state trauma medical director Bentley J. Bobrow, it's working with small, far-flung hospitals to ensure that they have plans for transporting the sickest patients to trauma hospitals faster.

After the Tucson shootings, not everything was seamless. Due to a misunderstanding between paramedics and hospital personnel, two patients initially went to hospitals other than the trauma center at University Medical Center. They were later transferred to the trauma center and are recovering.

The one patient who died at University Medical Center was nine-year-old Christina Taylor Green. Five others died at the scene of the shooting.

Advancements in trauma care have come largely from lessons learned on battlefields. The first U.S. trauma systems came about in the late 1970s from the work of former military surgeons in Vietnam.

Doctors learned a great deal about the value of getting the wounded to medical personnel quickly during the Korean War, when helicopters were used to transport the wounded to mobile military hospitals. That process continued to be refined during Vietnam, with helicopters bringing the wounded to well-staffed and well-equipped hospital ships.

Connie Potter, president of the Trauma Center Association of America, said Ms. Giffords benefited from military advances—translated to civilian hospitals—in dealing with severe head wounds and brain injury after years in Afghanistan and Iraq.

Peter Rhee, the trauma surgeon who took care of Ms. Giffords, said he relied on his military experience in head wound treatment and the surgical technique in which a part of the skull is removed to allow the brain to swell without injuring brain tissue.