Heroes Wear Scrubs Too

With All Systems Down, Teamwork Was Essential to Saving Lives at Ground Zero

On September 11, no one near the World Trade Center (WTC) in Lower Manhattan was fully prepared for the tragedy that unfolded that day—not even medical professionals trained for emergency disasters. NYU Downtown Hospital, a small community hospital, was one of the treatment centers for victims. This is an account of how its medical staff worked together after the terrorist attacks.

"The whole team in the emergency department that day was absolutely essential; we could not have survived without them," said Dr. David Goldschmitt, medical director of the emergency department at NYU Downtown Hospital. "The whole hospital worked together as an incredible team."

NYU Downtown received 100 times its normal flow of patients. Goldschmitt recalled, "Normally, we see 100 patients per day in the emergency department. In a three-hour period, this would be 12 patients. On that day, the hospital saw close to 1,200 within that same three-hour time frame. Everyone got seen and take care of."

The hospital had 36 critical patients (when the medical staff first found these victims they assumed these people were going to die). "We were able to save all but three," Goldschmitt recounted. "We're not a trauma center or a major teaching hospital. There was no reason for us to gear up for a major disaster. And here we are—a small community hospital in the middle of the disaster with no power, no steam, and communication problems—and we still managed to do it (save lives)."

Josie Joliver, assistant nurse and in-care coordinator for NYU Downtown, started work as usual at 8:00 a.m., replacing the night shift. Little did she know she would be serving as a triage nurse in a few hours.

After the staff heard the first explosion and confirmed the crisis, they activated their disaster plan. To communicate internally they used the intercom system. The operator, via the pager, informed all hospital areas that there was indeed a disaster.

"You cannot say we were overwhelmed because we were ready to help," Joliver said. About 10 patients waiting for beds were evacuated to prepare the emergency room for victims. The team had to open other hospital areas (for example, the cafeteria) as patients arrived.

Teamwork, Leadership, and the Incident Command System

NYU Downtown implemented the incident command system (ICS), recognized by the Federal Emergency Management Agency (FEMA) as an effective system for managing emergencies. Goldschmitt explained the system:

- In the case of disaster, a worker is assigned as the incident commander—usually the most senior person who knows the hospital.
- This commander is in charge of five people.
- Commanders are set up for communications, clinical, finance, operations, and engineering sections.
- Each leader is responsible for five people who become section leaders themselves, until the pyramid form is complete.

With this setup, you're not waiting for a supervisor to arrive for work; automatic supervisors are poised for action. "There are always lines of communication; you know who you are reporting to, what you're doing, and who you command. That's how you run the hospital during the disaster," Goldschmitt noted.

Joliver explained how ICS worked that day, "We had people working in critical, minor surgery, minor trauma, major trauma, and inhalation treatment areas. We were divided into teams; each team had two doctors, two nurses, and other workers from the hospital. By midday, other hospitals were assisting (orthopedic doctors and surgeons, for instance).

"Following the earlier WTC bombing in 1993, NYU Downtown was very proactive about having a lot of disaster drills and working out the best disaster system we knew because we assumed we were a prime target for the next time," Goldschmitt confided. "We were a little ahead of everyone else in the planning we were doing for a disaster." (The city of New York recommended an ICS to all hospitals a year and a half ago, but it didn't make the system mandatory.)

In January 2001, NYU Downtown instituted a new ICS, but by September the hospital had only trained about one half of the staff because training was so time consuming. Fortunately, that was enough to prepare for September 11, Goldschmitt said.

NYU Downtown was built as a result of a disaster in 1922, when a building on Wall Street was bombed. City officials decided they had to have a place to put the victims, so they created the hospital. "Of any hospital in the entire country, we're the only one that has had to deal with this many disasters at one time," Goldschmitt said.

When asked if ongoing staff relationships and previous disaster training helped, Goldschmitt commented, "We've had working relationships with all of the departments; we've practiced a lot and that was very important. Working with the city agencies was more of a problem because all communication was lost—and

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More About NYU Downtown Hospital

When Mayor Bloomberg proclaimed March 11, 2002, as NYU Downtown Hospital Day, he noted, "On September 11, 2001—with less than 10 minutes to prepare—NYU Downtown Hospital organized the most extensive hospital disaster response in U.S. history. Amid the avalanche of bleak news from Ground Zero at the World Trade Center, the hospital became known to the world as "the little hospital that could," emerging as an island of hope in a sea of chaos. Just three blocks from the disaster site, medical staff and volunteers worked with emergency generators under war-like conditions, treating more than 500 victims, including 150 police, firefighters, and emergency personnel. Hospital workers escorted more than 200 people over the Brooklyn Bridge or uptown to safety, made home visits to assist elderly neighborhood residents, sent medical assistance and supplies to Ground Zero, and provided 9,414 hot meals through September 17."

NYU Downtown Hospital (a part of Mount Sinai NYU Health) traces its roots to the New York Infirmary for Poor Women and Children, founded in 1883 by Elizabeth Blackwell, M.D., the first licensed female physician in the United States.

the city lost its command center. So we were on our own most of the time."

Hospital staff communicated mainly via two-way radios. When staffers went to manage the triage centers at Ground Zero and One Liberty Plaza, they literally ran back and forth across three blocks to relay messages—it was easier than trying to figure out how to get enough walkie-talkies. "We had enough walkies for the hospital," Goldschmitt explained. "Unfortunately, we couldn't find enough for both the hospital and Ground Zero. Our bigger problem was communicating with the rest of the city. We had gotten reports that our hospital had been closed and evacuated. We had no power, so we knew it was going to be getting dark—patients still needed to be triaged out in the ambulance base so we needed overhead lights for outside."

Power Down, We Need Lights!

NYU Downtown couldn't get these lights right away because the city's supply was being shipped to St. Vincent's Hospital, the designated trauma center even though St. Vincent's wasn't seeing any patients at the time. Staff quickly turned to General Electric, which came through with a large supply. "For everything we did, we had to circumvent the system because of the lack of communication," Goldschmitt said. "The hospital had enough generators until the full repair of electricity, partly because people also brought their own lamps," Joliver added.

Following the tragedy, hospital administration reviewed how the disaster unfolded. They discussed:

- What was good.
- What was bad.
- What worked in spite of the plan.
- What worked because of the plan.

Two problem areas for NYU Downtown were communications and record keeping. It was impossible to document everything that was done that day because there were too many patients. The hospital has redesigned those parts of the system to make them more efficient.

"The Joint Commission on Hospital Accreditation reviewed all of the plans we did and the things we accomplished and they were more lenient than we were," Goldschmitt explained. "They thought we did an incredible job; we were more critical about what we might have been able to accomplish."

Communications Between Hospitals Needs Work

The biggest issue to work on for the future is secured communication between city hospitals. Goldschmitt brought this to the City Council's attention through a committee on which he serves. He described the dilemma faced, "When we were getting all of the patients in we had to transfer some out so that we didn't fill the hospital completely. We had to get supplies; we had no steam so we had to get our equipment sterilized. We had no way of contacting the different hospitals to do that. Even though the city could set up a borough command for police and fire with walkie-talkies and communicate with the hospital if they chose, it was hard to get anybody identified who had any idea of what was going on. Without the command center, you had four or five different agencies all trying to man the disaster simultaneously. But nobody was reporting to one central agency.

"Even if the command center is lost, the city has to have alternatives for communication so there can be the same pyramid structure to answer to one group or person in the city as well as in the different hospitals. The hospitals have to have some kind of secured communication lines, whether it is a special phone line that goes through or cellular phones that will work even if there's a satellite problem. The exact way of rectifying the problem we don't have yet because we're one hospital out of many. We can't influence the decisions for other hospitals as well. That is something the city is going to have to decide."

The issue with documentation turned out to be something fairly simple, said Goldschmitt. The hospital created a new one-page form that can list all important patient information. This form consists of check-offs and quick fill-ins that capture the information NYU Downtown needs to have names and addresses of people being treated, notify family members, and list prior medical treatments. "Our problem was that we didn't have enough clerks trained in registration and medical record keeping to get all the information. Documentation was one part of our system that wasn't for just anyone to handle. Now we have a sheet that anybody can pick up and use. That's the key to ICS success—anybody can do it," Goldschmitt noted.

The hospital is working on handling other potential issues now: bioterrorism, hazardous materials, and nuclear radiation exposure. The renovation of a mass decontamination unit is set to break ground in the fall.

The NYU Downtown medical staffers are proud of the work they did that fateful day. Departments kept closely in touch despite loss of communication with the outside world. Doctors and nurses overcame the horrific trauma and saved many lives. On this overwhelming day, NYU Downtown provided historic help to the local community that quickly became the nation's community.

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