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Dial 911 & Pray.

From dispatchers to rescue workers, the people who are supposed to save your life may be stressed, overworked, or just not adequately trained. How to protect your family.

By Patrick Kiger

John Bovolacco, Jr., 63 years old and suffering from pneumonia, seemed especially weak on the afternoon of July 5, 1999. So the family—his wife, Lillian, and two of his sons called 911 for an ambulance. Soon, they thought, John would get the care he needed.

Their relief was short-lived. The Stratford, Connecticut, volunteer ambulance squad arrived at the Bovolacco home, but as the rescue workers were carrying out their patient, they had trouble navigating the concrete steps and walkway in front of the house. The two sons offered to lend a hand, according to the lawsuit the family later filed, as did Stratford firefighters who had also arrived at the scene. The rescue crew said no thanks, but moments later the backboard slipped from their grasp, and John fell to the pavement, smashing his head and shoulders. He died half an hour later, at the hospital. John's family believes the fall aggravated his condition. Certainly, watching him fall must have been horrible for the Bovolaccos. "It's the last time you see someone you love, and they're being dropped on the ground," says Salvatore C. DePiano, the family's lawyer. (Stratford EMS declined to discuss the incident because the matter is in litigation.)

What happened to John Bovolacco was unfortunate but not unusual. Every year, 60,000 patients are dropped, reports Richard Patrick, who runs the safety education program for VFIS, the nation's largest insurer of ambulance squads and fire departments. "Just in the time that we've been talking, they've dropped two or three people," Patrick says.

Nor is such mishandling the only problem with our nation's emergency medical services. Experts cite weaknesses in every part of the system, from foul-ups in fielding phone calls to bungled care at the scene to accidents transporting patients to the hospital. Some chilling examples:

- ❑ Dispatchers in one small Maine community failed to enter emergency calls into the computer system and to dispatch rescue vehicles for two patients last year—an elderly woman with heart trouble and a sick child.
- ❑ In April 2000, 12-year-old Ryan Garrison was playing in a baseball tournament in Union Grove, Wisconsin, when he suddenly collapsed on the field. It took 15 minutes for an emergency medical technician to show up in his truck, according to a lawsuit filed by Ryan's parents, and another ten minutes for an ambulance to arrive. Even then, none of the rescuers had the necessary equipment or training to revive the child. The attorney for Union Grove's fire department says, "We tried to do everything we could to save this little boy, but we couldn't."
- ❑ In Nashville last December, an ambulance transporting a sick six-month-old baby and her parents ran a red light and crashed into a garbage truck. A passing motorist swooped in and took the child to the hospital; the ambulance personnel and the baby's father were injured, a crew member critically so.

Why do emergency medical services make so many mistakes? What can communities do to correct the situation? And, most important, how can you keep your family safe in the meantime?

The best and worst of EMS.

Even though "Call 911!" has become ingrained in our consciousness, emergency medical systems have been around for only about 35 years. Until the 1960s, ambulances were often operated by local funeral homes. "Basically, they were hearses with red crosses on the side, which they'd send out to car-crash scenes," says Meredith Hellestrae, executive director of the Commission on Accreditation of Ambulance Services. If the patient was living, they would head to the hospital. If not, they made a U-turn back to the funeral home.

Two inventions changed all that: cardiopulmonary resuscitation (CPR), a technique that allowed rescuers to restore the breathing and circulation of trauma victims, and the battery-powered defibrillator, used to shock a failing heart back to a normal rhythm. Soon ambulance crews were saving patients on the scene.

Then Jeff Clawson, M.D., a Salt Lake City physician who became known as the "father of emergency medical dispatch," developed the startlingly simple but brilliant idea of training dispatchers to give first aid instruction over the phone. Countless lives were saved even before the ambulance arrived, as dispatchers coached women through childbirth or told callers how to perform the Heimlich maneuver on a choking family member.

Today, the United States has what is arguably the best emergency medical response system in the world. Ninety-six percent of the nation has access to emergency dispatch centers, which summon ambulances from fire stations or hospitals, depending on how the system is set up in your community. Many of these centers are equipped with enhanced 911 -technology that automatically pinpoints the address at which a heart attack or accident victim lies waiting. Our ambulances are staffed with an army of volunteer and paid personnel-from emergency medical technicians, or EMTs, who are trained to perform CPR and transport accident victims, to paramedics, who can interpret electrocardiograms, administer intravenous drugs, and provide other, more advanced care. To thousands of victims and families every year, dispatchers and ambulance crews are heroes-and rightfully so.

But there is tremendous variation in the quality of EMS care across the country. "It depends not just on what state or municipality you live in, but because individual EMTs' skills vary significantly -sometimes what block your house is on and which crew is assigned to cover it," notes Gregg Margolis, a paramedic who is also an assistant professor of emergency medicine at George Washington University, in Washington, D.C. The Commission on Accreditation of Ambulance Services sets national standards for ambulance service quality, but only about 90 of the roughly 12,000 ambulance services across the country have bothered to go through the voluntary accreditation process, which is time-consuming and costly.

Meanwhile, states don't demand that much EMT training. Some, including Colorado, Minnesota, and Florida, are content to get by with the minimum 110 hours required to qualify for federal funds. And few states ask for more than 120. Many communities staff their ambulances with paid professionals or hire private companies to provide professional service. But a worrisome number rely largely on dedicated volunteers, even if that means they may be understaffed during the day, when most of their crews are working at their regular jobs.

Your local ambulance service may not offer advanced life support (ALS) units, which are staffed with paramedics who administer drugs and are trained to use sophisticated equipment. Although ALS often saves heart attack victims, many communities don't have enough ALS capacity, and some don't have any at all.

Good emergency medical care doesn't come cheap. An ambulance costs \$500,000 fully equipped, and annual costs, including an around-the-clock staff of professional paramedics, are as high as \$400,000 per year. Many local governments balk at spending that much money or simply can't raise it. But sometimes it's a question of where they choose to put their funds. In Erie County, New York, the City of Buffalo Emergency Medical Services board chairman Casimier T. Czamara complains that towns would rather spend money on pumper trucks for their fire departments, even though medical emergencies far outnumber fires. "Some departments are working with ambulances that are twenty years old," Czamara says. Not surprisingly, a third of the nearly 300 ambulance outfits in his region can't meet a nine-minute response standard, he says. Why is that time critical? After eight minutes and 59 seconds, the effectiveness of CPR drops sharply.

Who's answering your call?

One evening last December, Cindy Thurn, a part-time teacher in Fort Worth, Texas, was getting ready to unwind by watching one of her favorite television shows "ER," she says, noting the irony. But first, she thought she'd check on her 21-month-old son, Noah, who had a cold. Suddenly, Thurn was facing her own real-life emergency: Noah was having trouble breathing. "He couldn't seem to get enough air into his lungs," she says.

Thurn dialed 911, and the dispatcher assured her that an ambulance would be sent right away. Then she called her husband, who was at work at the local country club. Cradling the gasping Noah in her arms, she waited for help. And waited. About 15 minutes later, Cindy heard the front door open, but instead of the medics, it was her husband, who had rushed home as fast as he could. A few minutes later, Thurn called 911 again, to say that they were taking the baby to the hospital themselves. The operator's response was chilling: "Your son isn't even on our list," he told the frightened mother. Somehow, the dispatchers had lost Thurn's call.

At the hospital, doctors discovered that little Noah was severely congested from a viral infection, and a dose of steroids was all it took to get his breathing back to normal. But why hadn't the ambulance come? The dispatcher for Fort Worth's emergency medical services, perhaps distracted by another call, may have neglected to hit the computer key that

would finalize the request. Then, as new calls appeared on the screen, Thurn's plea for help was pushed down into the recesses of the computer's memory.

"It would have been possible to bring that screen back up," explains Bill Munn, executive director of the Tarrant County 911 District, of which Fort Worth's EMS is a member, "but if a dispatcher didn't realize a mistake had been made, the information would eventually vanish." Now a system upgrade ensures that the computer window stays up until the dispatcher sends an ambulance.

Even when communities spend millions on electronic gadgetry for emergency centers, they often pinch pennies when it comes to the human operators who handle the calls. In Lincoln, Nebraska, 911 Director Julie Righter complains that she can't pay enough to keep the 32 dispatchers she needs.

Worker shortages don't occur only in rural areas. In Fairfax County, Virginia, a suburb of Washington, D.C., the county's public safety communications center is down by a quarter of its staff. And at some centers, dispatchers routinely work many hours of overtime.

Those long hours, coupled with the intensity of the work, can lead to serious mistakes. A recent study of the Los Angeles EMS system showed that dispatchers failed to ask key questions in nearly half of the calls. In one such case, the outcome was devastating: A man discovered his fiance unconscious on the floor, a small pool of blood by her face. When he called 911, the dispatcher not only failed to instruct the man on how to stop the bleeding, but also forgot to pass along the call to a radio operator so an ambulance could be summoned. After ten minutes the man called back and got a second dispatcher, who mistakenly assigned the call a low priority. By the time paramedics arrived—20 minutes after the first call—they were unable to save the woman.

"These dispatchers want to do their job, but when they're subjected to too much stress and are not able to take breaks, mistakes are going to happen," says Samuel Stratton, M.D., medical director of the county's Emergency Medical Services Agency, who blames the errors in that case partly on budget cuts. Now, however, because of employee monitoring and quality controls, performance in Los Angeles has improved, Dr. Stratton says.

EMS systems also cut corners on training. There are as many as 300,000 dispatchers handling emergency calls across the nation, but only a tenth of them have been trained and certified by the National Academies of Emergency Dispatch, the preeminent industry group. In the Fort Worth suburb of Colleyville, Texas, for example, until recently, dispatchers simply hung up the phone after summoning an ambulance—there hadn't been enough funding to train them to give first aid instructions.

Such training needn't be difficult. Dr. Clawson, who pioneered the concept of teaching dispatchers to give help to callers, has developed a flip-card script that enables dispatchers to identify the medical emergency in seconds and issue instructions. But sales have been slow, possibly because companies assume incorrectly that giving instructions will slow the process or confuse the caller, or because they worry about legal problems. Meanwhile, "maybe thirty-five percent of dispatch centers give prearrival instructions, but only about five to seven percent do it correctly," Dr. Clawson estimates.

Mishandled patients.

October 9, 1999. In Hanover Park, Illinois, Peter and Gisela Stetter called 911 because their 26-year-old epileptic son, Eric, was acting strangely—crying out, pacing, and tugging at his clothes. That behavior is typical in a complex partial seizure, a relatively common condition in epileptics, and one that often subsides on its own. The Stetters believed their son was having a seizure, but hadn't seen that type before and did not know how to handle it.

According to a lawsuit they later filed, neither the rescue squad nor the police officers who responded to their call knew what to do, either. The police handcuffed Eric and forced him facedown onto a couch, while paramedics brought in a backboard. Eric stopped breathing, and they were unable to revive him. "Some of the EMTs were young kids working part-time," says Dennis DeCaro, the Stetters' lawyer. "They've got little or no training in how to handle a person who has epilepsy."

Lack of training is also the reason that so many patients are dropped, says insurance safety expert Richard Patrick. The 110-hour minimum federal training requirement includes only three hours on the correct handling and transporting of patients. Too often, Patrick says, the crew improvises, carrying an elderly person down the stairs in a kitchen chair, for example, instead of hooking up a special stair-chair device.

And sometimes rescue crews are just careless. In one case, an ambulance crew placed a patient onto a gurney to wheel him to the ambulance but, according to a lawsuit later filed by the man, left the gurney unattended in the driveway for a moment. That was long enough for the gurney to roll down the driveway and tip over, slamming the patient's head into the concrete.

Unsafe ambulances.

In Uniontown, Pennsylvania, last August, an ambulance speeding through a red light at an intersection first struck a sport-utility vehicle, then ran over a pedestrian on the crosswalk, pinning the woman underneath for 25 minutes.

Every year, ambulances are involved in about 25,000 traffic accidents, according to Patrick. And between 100 and 150 people-ambulance crews, patients, and other drivers-are killed. Though careless motorists are sometimes to blame (they fail to clear the road or stay back), too often the ambulance driver is the one responsible. "We know of at least a dozen paramedics and EMTs who are either behind bars or facing jail time for vehicular homicide," says Patrick.

Again, training is an issue: Many rescue workers don't get enough hours at the wheel of a vehicle that may weigh six to 12 tons and handles very differently from a car or truck. Given some legal leeway to bend traffic rules, a number take that as a pass to drive recklessly.

Most wrecks occur on the way to a call. (There are fewer high-speed races to the hospital as crews are able to treat and stabilize more and more patients at the scene.) But when a patient is unlucky enough to be in the back, the risks can be great. Although ambulances travel at high speeds and make dangerous maneuvers, they don't have to meet any greater crashworthiness standards than ordinary cars, according to Nadine Levick, M.D., MTH., director of pediatric emergency medicine at Columbia University Harlem Hospital Center, in New York City.

Dr. Levick, who conducted the first-ever U.S. crash tests of ambulances last year, is particularly concerned that there are few rules about securing oxygen tanks, heart monitors, and other gear that can become deadly projectiles in a crash. Often passengers aren't strapped in, either. In a recent study of Maryland ambulances, Dr. Levick discovered that one in ten children transported wasn't wearing a restraint. "There really aren't any standards at all," she worries.

Solutions? More research, and more stringent safety requirements for emergency vehicles, Dr. Levick suggests, and special crash-avoidance courses for drivers. Experts also say intersection collisions could be significantly reduced if more communities equipped their ambulances with devices such as 3M's Opticorn Priority Control System, which allows rescuers to reset traffic lights so they can speed unimpeded to the emergency or hospital.