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## DFW-area startup companies help hospitals fight errors

Entrepreneurs help hospitals avoid errors

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[Johnny Ross](#) was undergoing a long and grueling rehabilitation process after reconstructive knee surgery when the thought hit him.

"I realized they had no way of knowing if I was doing these exercises at home," he said. "Or if I was doing them right."

That thought led Ross to found MedHab, a medical device company with a product called StepRite that helps orthopedic surgeons evaluate patients' range of motion and ability to put weight on their leg or foot after surgery. It was designed to improve rehab with measurable evidence — and to keep people from having to return to the hospital.

As of Oct. 1, Medicare started fining hospitals that have too many patients readmitted within 30 days of discharge. In 2015, Medicare will begin financially penalizing hospitals that have the highest rates of certain hospital-acquired infections.

Like MedHab, other companies based in North Texas or whose products are manufactured in the region are finding business opportunities by helping hospitals reduce readmissions, hospital-acquired infections and other quality-of-care problems that can dent hospitals' bottom lines.

One of the companies benefiting from the push to reduce hospital readmissions is Frisco-based Private Social Networks Inc., said [Hubert Zajicek](#), managing director for the North Texas Enterprise Center. Private Social Networks is housed in the center.

The company provides a private, cloud-based, HIPAA-compliant platform that allows hospitals and other health care providers to communicate directly and securely with patients, family members and others who are providing care for the patient after he or she leaves the hospital, Zajicek said.

The risk of readmission goes down when hospitals better communicate with patients and their caregivers after the patient is sent home, Zajicek said.

"Hospitals are trying to develop follow-on tools so they can communicate with patients or caregivers," he said. "They're trying to make it as easy as possible to ask questions and address minor issues so they don't become major issues."

In addition to denting a hospital's bottom line, high rates of readmissions, infections or problems known as "never events" can bruise a hospital's reputation, Zajicek said.

"It's a big deal for hospitals not only from a money perspective," he said, "but also because it's bad PR."

### Never events

Bed sores, falls and surgeries performed on wrong body parts are on the federal government's list of "never events" — serious, preventable errors that should never happen in hospitals. So are transfusions with the wrong blood type, deaths caused by medication errors, and a host of other medical maladies.

Until three years ago, Medicare reimbursed hospitals for care associated with treating these frequently self-inflicted setbacks, but the agency quit doing so as an initial step toward penalizing hospitals that have patient safety infractions and quality of care problems.

Lewisville-based CareView Communications Inc., which makes bed sore and fall prevention technology for hospitals, is helping hospitals trying to banish never events, said CEO [Sam Greco](#).

Greco, a former hospital administrator, said repeated and continuing cuts to Medicare reimbursements are forcing hospitals to maximize the Medicare dollars they do get.

"In watching the elections and hearing the debates, there's going to be huge cuts to Medicare no matter who is elected," Greco said. "Hospitals have to take every advantage they can to provide high quality and better safety — and reduce costs."



Jake Dean

Bedside technology: CareView CEO Samuel Greco and President Steven Johnson display their mobile patient monitoring system.

That's a difficult combination to achieve, Greco said, adding: "Hopefully we're one of the solutions. We believe we are."

CareView's primary care package includes Virtual Bed Rails and NurseView — technologies that allow hospital personnel to prevent falls and monitor patients.

Like [John Madden](#) and his telestrator on Monday Night Football, nurses use a finger to draw lines on a screen on each side of the patient's bed, creating virtual bed rails. They draw boxes around chairs or other objects. The lines create a series of zones that alert nurses when patients are moving within them, and allow the nurses to rush in and help the patient avoid a fall, Greco said.

"Falls are prevented by intercepting the action," he said.

About 20 percent of all hospital patients fall at least once during their stay, according to statistics from the American Academy of Orthopaedic Surgeons.

CareView also makes a patient/room management application used by hospital housekeeping and nurses for scheduling and managing events such as wound dressing, making the rounds of patient rooms, catheter changes and room assignments. Mobile communication devices give nurses constant reminders of tasks that need to be done and allow them to remotely view patients who need extra supervision from anywhere in the hospital.

"We help folks reduce falls, and we help folks be alerted and prevent bed sores," Greco said. "We help nurses provide that extra set of eyes so they're more aware of what's going on in a patient's room."

Another company, Oklahoma City-based medical device firm NeoChild LLC, developed an enteral feeding system for babies in Neonatal Intensive Care Units. The product, called the Safe Child System, helps prevent tubing misconnections, a never event for hospitals, said [Clay Kennard](#), president of NeoChild LLC.

The product molding for the Safe Child System is done in Frisco, and the silicon tubes are manufactured and assembled in Weatherford, about 20 miles west of Fort Worth.

Intravenous tubes that go directly into a baby's veins and feeding tubes that go into a baby's stomach can be tricky to figure out, making enteral feeding misconnections the single most preventable cause of death in a NICU, Kennard said.

NeoChild received a patent on Oct. 23 for the color-coded locking tube system.

"We took a relatively simple idea," Kennard said. "Help neonatal nurses and physicians eliminate misconnections with any IV products. We invented a product that would make it impossible to confuse the two tubes."

About 150 hospitals nationwide, including John Peter Smith Hospital in Fort Worth, use the Safe Child System, Kennard said. The system, which includes feeding tubes, extensions and syringes, costs about \$900 for a month's worth of treatments, he said.

NeoChild's revenue is in the \$4 million to \$5 million range, he said. Kennard said the market for the product is \$100 million.

### **Help with heavy lifting**

ErgoNurse, a lifting machine that helps nurses turn patients to avoid bed sores, was developed at the North Texas Enterprise Center in Frisco, a medical device incubator.

[Elizabeth White](#), a registered nurse and chief operating officer of ErgoNurse, conceived the idea and designed the device after a debilitating back injury in 2003.

"I was working in an ICU and ended up with a 400-pound patient, and I have not been pain free since that night," White said. "I severely damaged my back in doing all of his care.

"I said, 'How come there's forklifts for dock workers and construction workers, but nurses don't have equipment?'"

In addition to helping nurses' backs, the product minimizes bed sores because patients — especially heavy patients — get turned on time, White said. The standard is to turn people every two hours, but that doesn't happen in many hospitals, she said.

"It often is difficult to turn people on schedule," White said. "When you have a one-person operation, in order to move a person, the nurse in charge of that person doesn't need to hunt for help (with ErgoNurse)."

ErgoNurse is used by about 70 hospitals now, White said. The company had revenue of about \$1 million last year, she said. Each ErgoNurse unit costs \$3,995.

Hospitals have welcomed the product, she said.

White attributes much of her company's success to the fact that bed sores are considered never events, and says upcoming penalties for hospital readmissions and infections will spark opportunities for other entrepreneurs looking to help hospitals fight those problems.

"If hospitals don't get paid for something, then they're going to make a big effort to have that not happen, because they can't afford it," she said.

Greco said most hospitals keep patient safety top of mind with or without financial penalties. Even so, "if the hospital is not being paid for something," he said, "there should be a greater incentive to minimize the possibility of the event ever happening."

Bill covers economic development and transportation. [Subscribe to our email newsletters.](#)