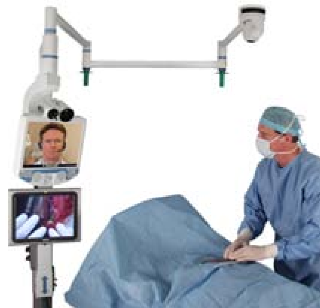
2010

newsmaker

"Telemedicine is expected to emerge as a mainstream tool in health care delivery. Factors such as the increasing shortage of physicians, the regulatory environment favoring outcome-based medicine and the increasing focus on removing costs from the health care system, will play a large role in driving growth in the industry." - Michael Gross, Managing Director, Beringea



Hospital boss's bid to bring U.S. surgeons to island

BHB chief battling to reduce number of patients forced to go overseas by improving standards

By Sirkka Huish
January 15, 2010

More doctors should visit Bermuda to save patients the “cost and inconvenience” of travelling to the U.S.

This is the view of David Hill, CEO of the Bermuda Hospitals Board, who is campaigning for more on-island services.

He is in discussions with overseas partnership hospitals to see if more surgery can be carried out at King Edward VII Memorial Hospital.

Mr. Hill wants “as many surgeons as feasibly possible” to visit the island for a few days at a time and carry out minor surgery.

Mr. Hill said: “Doctors can come to us rather than us going to them. We want more on-island services. We want to serve the community.

Quality

“If we can get the right staff with the right experience we can deliver the international quality right here. If it would be sub-standard to do something here, we wouldn’t do it.”

KEMH’s main partners in the U.S. include the Lahey Clinic in Massachusetts, Johns Hopkins in Baltimore and Massachusetts General.

Mr. Hill describes the partnerships as “an international who’s who of hospitals”.

He added: “Patients don’t know what can and cannot be done on-island as they are so used to travelling overseas. They spend too much time going off the island. In lots of situations it would be less costly if the doctors came to them.

“It’s a delicate balance and we are now slowly trying to get it right.” The introduction of the RP-7 robot to KEMH provides access to overseas consultants without travel.

The RP-7 is a physical robot and a web-based management console.

Consultants in the U.S. can examine a patient using the device’s camera and talk to the patient and family members through the video monitor.

Doctors on both sides of the Atlantic can use the robot to discuss a patient’s condition. It is moved from ward to ward and used on a daily basis.

Mr. Hill said: “We are all for better interaction and the robot can be used clinically and socially. It can be used to make an informed medical decision or for a follow-up consultation.

“It’s surreal to see at first but after a while it seems like a normal consultation.

"Being able to talk directly to the surgeon makes the patient more informed. The robot can access 90 specialists without the patients having to leave Bermuda."

KEMH has acquired a new fleet of ambulances and PACS (picture archiving and communication system) for a filmless x-ray department.

Later this year, it will invest in a 64-slice scanner for cardiac diagnostics.

Mr. Hill also aims to reduce waiting times in the emergency ward.

Improvements

The opening of the Lamb Foggo Urgent Care Centre in St. David's has "helped dramatically" as the average wait time is now two-and-a-half to three hours.

Mr. Hill said: "Improvements have been made and improvements still need to be made."

Mr. Hill, who moved to Bermuda from England in 2006, will do whatever it takes to ensure KEMH is "first choice for health".

He added: "Patients do have a choice and we want them to choose us. There is only one hospital in Bermuda but that doesn't mean we can be complacent.

"We have to be here for people offering the right medical care 24/7."

Independent.ie

Stroke victim saved by doctor - 80 kms away

By Eilish O'Regan
January 19, 2010

AN 81-YEAR-OLD stroke patient has been saved from severe disability thanks to the innovative work of a "robot" 80km away.

The woman -- who was rushed to Mullingar Hospital in Co Westmeath on Sunday morning after suffering a stroke at Mass -- became the first patient in Ireland to be given clot-busting drugs under the video guidance of a specialist located in Tallaght Hospital in Dublin.

Stroke physician Des O'Neill, who was on duty in Dublin at the time, was able to see the patient and assess her condition using a two-way audio and video link, called an RP-7 telemedicine robot.

Symptoms

It meant the woman was able to be given drugs by doctors in Mullingar who were expertly guided by Prof O'Neill after he assessed her brain scan and other symptoms.

Prof O'Neill said last night it was believed the woman's level of disability had been halved as a result of getting the treatment on time.

The technological breakthrough means that patients who are admitted with a stroke to Tallaght Hospital, Naas General Hospital and Mullingar General Hospital will have access to a specialist stroke physician at evenings and weekends if the resident doctor is off duty.

Prof Sean Murphy, a stroke physician in Mullingar, said the technology could be accessed wherever the doctor is on duty. He can dial into the robot using a wireless internet connection.

"You can see and talk to the patient and the patient can see the doctor," he said. The new system is part of a pilot project.

Prof O'Neill said around 85pc of strokes were caused by a clot but the physician needed to assess the patient before giving the clot-busting therapy.

"The skill is to decide that it is a stroke," he said. "As a result of the technology, it is possible to examine the patient's brain scan," he added.

Clot-busting drugs work in around 20pc to 25pc of patients and can be crucial in reducing the level of disability they suffer.

Around 7,000 people suffer a stroke in Ireland every year.

Beringea Invests $6M For Michigan R&D Center

Howard Lovy
April 26, 2010

Beringea, a Farmington Hills, MI, venture capital firm, has invested $6 million in InTouch Health, a telemedicine company based in Santa Barbara, CA, which plans to use the Series D financing round to open an engineering research and development center in Michigan, according to an announcement today. The investment was made through Beringea's Invest-Michigan! Growth Capital Fund. InTouch plans to hire a team of advanced robotics engineers for the new Michigan center, according to Beringea.

Medical Edge: Telemedicine Robots

By Melanie Bloom
April 27, 2010

(ABC 6 NEWS) -- Imagine that suddenly your left arm feels numb. It could be a stroke, so you need to get to the hospital fast. But what if your hospital doesn't have a stroke specialist or that doctor is out of town?

Doctors at Mayo Clinic are using something called a telemedicine robot that allows them to be face to face with patients who are miles away. It is one of Mayo Clinic's telemedicine robots.

These technologies give patients and doctors access to experts, even though they're miles apart.

Dr. Bart Demaerschalk says, "It allows the stroke neurologist to be anywhere."

And that's critical for stroke patients. Most strokes are caused by clots that block blood flow in your brain. Once symptoms start you should call 911 immediately. You have fewer than 4 and ½ hours to get treatment. After that, clot-busting drugs don't work.

The later you seek treatment, the fewer options that are available. The robot can bring doctors to the patient saving precious time and allowing for a fast diagnosis.

Dwight Channer is the Telemedicine Program Director at Mayo Clinic. He says, "It's a tool that allows physicians to see more patients from remote distances."

On top of seeing patients, the robot also lets Dr. Demaerschalk consult with other doctors in places like a rural hospital or a different country.

"That surgeon, hundreds and hundreds of miles away, can interact with us, we can have multiple consultants viewing the patient, interacting with the patient via the robot," says Dr. Demaerschalk.

Bringing better care to patients.

Doctors are working on other ways to use telecommunications to improve patient care. That includes using smart phones and e-consultations.

suite101.com
Insightful writers. Informed readers.

Robot Doctors Bring Specialty Care to Rural Areas

By Alex Strauss
April 29, 2010

Robots are playing the role of physicians in some of the country's most underserved areas. The technology is linking patients with far-away care they need.

The Remote Presence Robot (RP-7) from InTouch Health is a mobile telemedicine unit that connects physicians and specialists with patients and other doctors who are too distant to consult with them in person.

"This technology is leaps and bounds above standard telemedicine," says Richard Ash, CEO of Ortonville Area Health Services, a small rural hospital in Ortonville, Minnesota. "As a small provider in a rural community, we sometimes tend to feel isolated. Access to specialty care is a continuing challenge. Having the InTouch robot has suddenly brought a whole group of specialists right to our patients' bedsides. And it is doing it in a very human-like way."

InTouch Robot is a Multitasker

Like standard telemedicine, The InTouch RP-7 System lets patients and their off-site providers see and hear each other in real time through computers equipped with cameras and microphones.

Because the cameras and microphones, as well as various other monitoring equipment, are housed in a remote-controlled mobile robot, the telemedicine experience is much more life-like for the patient and effective for the physician than a monitor on a table. The robot can be entirely controlled by the consulting doctor without assistance from the local staff, although a local physician or nurse is typically present.

The specialist's face appears where the robot's "face" would be and can even turn with the built-in camera to 'look' at monitors, clinical data, or even people, such as family members for more natural-feeling conversation.

Preparing for an Exam By a Robot Doctor

In preparation for an RP-7 consultation with an off-site specialist, patient information such as lab values and EKG's may be faxed to the consulting physician in advance. When time doesn't allow for that, an OR technician or nurse can simply use the RP-7's camera to take a digital picture of the EKG or report and "hand" it to the doctor via the computer.

With features like built-in stethoscope and blood pressure monitoring equipment the RP-7 also allows the off-site specialist to gather vital information directly and hear or see the results as if he or she were there. Other equipment, such as ultrasound, EKG or various scopes are optional and can be added to the RP-7 as needed.

InTouch RP-7 Robot Saves Money

From an economic standpoint, Ash says telemedicine makes sense for patients, the rural community, and the hospital.

Even when rural patients drive themselves to see a specialist for a follow-up visit, the cost in lost work time, food, fuel and other expenses on the road can be significant. By allowing the patient to stay in their community for care, the RP-7 not only

saves those patients time and money, but also helps keep their hospital strong.
Robot Doctor Used by Multiple Specialists

Specialists utilizing the RP-7 technology around the U.S. include cardiologists, nephrologists, ob/gyns, pulmonologists, neurologists, dermatologists and traum/emergency medicine physicians.

For specialists, the RP-7 gives greater control than standard telemedicine. Orders written remotely, for instance, come directly out of the robot's printer, reducing the potential for errors. The robot, which "sleeps" on its own docking station to recharge its batteries, can even be "woken up" remotely and moved to a patient's bedside without assistance from the local staff.

The RP-7 is the first and only FDA-approved remote presence system which allows doctors to use medical equipment like a stethoscope from a distance. According to the company, RP-7 robots have been involved in more than 100,000 clnical sessions.

HealthData Management

Intensive Care, Intensive Information

May 1, 2010

Patients in intensive care often can't tell their doctor how they're feeling. But their monitoring equipment can, and the intensive care unit is a rich source of digital patient information. Integrating it into an electronic heath record could be a giant leap forward for the quality of ICU care.

The nation's ICUs are plagued by a shortage of critical care physicians. The Leapfrog Group, a Washington, D.C.-based employer consortium dedicated to improving hospital performance, estimates that of the 87,000 intensive care beds in the U.S., only 21 percent are staffed by intensivists (though pediatric ICUs are better served than adults, with a little over half staffed by intensivists). Leapfrog calculates that full ICU staffing by intensivists nationwide would save almost 55,000 lives and $4.3 billion annually, and the group has made intensivist staffing part of its "gold standard" for hospital quality.

Information technology is one obvious way to extend the reach of intensivists and capture their body of knowledge for the benefit of less specialized providers. Some hospitals employ remote ICU monitoring for this purpose; others use robots to help physicians "visit" the ICU bedside from their homes or offices. But the first step is to get the ICU onto an EHR, one way or another.

As with other departments, hospitals have two choices: a dedicated niche system that addresses all the special needs of an ICU, or an enterprise EHR that includes less specialized ICU functionality.

The Case for Integration

Michael Shabot, M.D., has been through both scenarios and believes passionately that the enterprise EHR is the way to go: not because the ICU functions built into the EHR will meet every need, but because an interfaced, standalone system is too much trouble and has too many potential imperfections.

Currently chief medical officer of Memorial Hermann Health System, Houston, Shabot trained as a trauma surgeon and surgical intensivist, and ran the surgical ICU at Cedars-Sinai Medical Center in Los Angeles before moving to his current institution in 2007. He was also the medical director for information technology at Cedars, and played a key role in the implementation of a dedicated CareVue ICU information system from Philips Medical Systems, hooked up to all the unit's patient monitoring equipment.

At Memorial Hermann, he's part of the team implementing an enterprise EHR from Cerner Corp., Kansas City, Mo. "In terms of ICU functionality, [standalone systems] are exactly what the docs and nurses need and want, but in my view, they're dead," Shabot says. "What killed them? Physician order entry, which is a mandate, and medication reconciliation when patients move from one level to another. It's very, very hard to do if you have different systems in those different care areas. That's where the enterprise EHR has its strength."

Shabot has already had to replace a functioning standalone emergency department system at Memorial Hermann for the same reason. "Everybody liked it, but when we began doing CPOE and moved off paper, we found we couldn't make it completely safe to ensure that a patient never missed a dose or never got two doses because the medication records were on different systems," he says. "You might say, 'Oh, just interface them,' but engineers can spend four years trying to make that happen. Keeping formularies and supplier lists in parallel becomes almost impossible."

Standing Alone for Now

Michael Eichenhorn, M.D., is a pragmatist. He's division head of pulmonary and critical care medicine at Henry Ford Health System in Detroit. While he agrees with Shabot that an integrated EHR is ultimately preferable, Henry Ford is just in the planning stages for a comprehensive enterprise EHR. Eichenhorn didn't want to wait seven or eight years to give his ICUs the benefit of information technology. Instead, the division installed the Metavision ICU system from iMDSoft, Needham, Mass.

"We looked at a number of systems that we could theoretically bolt on to [an EHR] eventually, and, while waiting, have at least something up and running that would address our needs in the ICU," he says. The system enables any user, either in the hospital or at a remote site, to review all the data from monitors and ventilators, as well as lab results. "It lets you have minute-to-minute data on what's happening at 150 ICU beds."

The system can be set up to notify physicians or nurses if blood pressure drops or a fever develops, signaling possible sepsis. The organization is pushing the developer to make it a more comprehensive EHR for the ICU. Eichenhorn says Henry Ford chose the Metavision system specifically because it seemed relatively easy to interface to other products, but eventually his unit will have to reevaluate whether to keep the standalone system or swap it for the benefits of an enterprise EHR.

Separate Systems, Centralized Data

Joseph Frassica, M.D., is in the middle of pondering the standalone vs. integrated issue in his capacity as chief medical information officer at Jackson Memorial Hospital in Miami. Jackson is implementing an enterprise EHR from Cerner Corp., but Frassica says the organization-a 1,550-bed public hospital-is so complex that there will still be dozens of "foreign" systems that have to share data.

"We've left the ICU until last because it's one of the most data-rich, important and diverse areas," he says. "We've got lots of ICU beds-trauma, medical, cardiac, surgical, neonatal, and peds-and there's not a lot of crossover between them. There may not be one monolithic solution for all these areas."

The objective is to have all data end up in one of two "final resting places": either the EHR or the PACS. "We are trying not to create the information silos we've had in the past with modular systems," he says. "There needs to be a single source for important demographic data like allergies."

The biggest complication in automating the ICU is the bedside device integration strategy, Frassica says. He favors making the device manufacturers, rather than the I.T. vendor, responsible for making sure their products can communicate with the ICU information system, whether standalone or enterprise. Otherwise, he says, the selection of monitors and devices depends on what the EHR vendor is willing to support.

"When we rolled out [the EHR] we had a bunch of printers of a certain brand, and our vendor said, 'We don't support those-you can use them, but we're not going to warrant that they'll work,'" he says. "We needed to buy printers that the vendor supported. That's OK for printers, but do you really want your [EHR] vendor telling you which cardiopulmonary bypass machine to use?"

When Jackson requests proposals from bedside device vendors, the ability to integrate with the EHR is a key requirement.

Some ICUs take advantage of advanced information technology even before their institutions plunge into EHRs. ICU patients at Chicago's Resurrection Health Care have at least two sets of eyes on them: one pair belonging to the nurse at the bedside, and the other to a nurse or physician in Resurrection's remote ICU monitoring facility.

The facility has been in operation since July 2007, and monitors 182 critical care beds in 14 ICUs in seven hospitals and one long-term care facility. It provides round the clock critical care nursing coverage, as well as intensivist coverage for 14 hours on weekdays and 17 on weekends. One nurse keeps an eye on 40 patients, and the intensivists cover 140 to 150 each. They see not only the output from monitors, but also the patient.

"We don't replace the bedside caregivers at all," says eICU operations director Rebecca Rufo. "They are the principal caregivers and we are an added level of safety and quality. The bedside staff can't see the vast amount of data we see and be alerted to subtleties in the patient's trending."

The remote staff can also coach bedside caregivers and do a certain amount of direct examination.

“The cameras are so precise that you can see the hairs on someone’s head,” Rufo says. “If a resident can’t get a line in, they push a big red button and that brings the eICU team into the room via cameras and microphones.”

Remote intensive care monitoring was first used in the 1980s, but it’s grown along with other forms of telemedicine as technology has become less expensive and wide area computer networks more pervasive and reliable. The Society of Critical Care Medicine estimates that 10 percent of ICU beds are currently being monitored remotely.

Resurrection’s vendor, Philips Medical Systems, is the largest player and has trademarked the term “eICU,” though a federal court recently ruled some of its tele-ICU patents invalid in response to a tangle of legal challenges between Philips and Cerner.

While news reports said that Philips will appeal the ruling, it aids other vendors who provide remote ICU monitoring, including Cerner and ICU niche system vendor iMDsoft (which had also challenged the eICU patents in an earlier suit).

Resurrection has invested close to $7 million in its ICU monitoring system, including the cost for building the technology infrastructure to support the hardware and communications. Rufo’s before-and-after metrics showed a 43 percent reduction in mortality and a 42 percent reduction in length of stay. Over two years, her figures show a reduction of 9,241 ICU days and 18,000 non-ICU days system-wide, saving an estimated $11 million.

Resurrection doesn’t yet have an enterprise EHR, and Rufo calls the eICU system “a beautiful platform to get [the ICU] off paper.” It stores bedside monitoring information, lab data, and physician and nurse documentation. Rufo has read negative articles about the return on investment from remote ICU set-ups, including one in the August 2009 issue of Health Affairs that called for more comparative effectiveness research on them. She says the common theme in most is that the bedside staff wasn’t “fully engaged” with the application and ready to use information from the remote staff. “Your performance is only as good as what you’re putting in,” she says.

Rounding with Robots

UCLA Medical Center made headlines in 2005 as the first hospital to use robots in its ICU to allow physicians to visit patients remotely. The robots are made by InTouch Health, Santa Barbara, Calif., which has more than 250 customers.

UCLA now has three robots, and they’re paying for themselves through cutting the length of stay and overall cost for treating ICU patients, says Paul Vespa, M.D., a neurosurgeon and director of neurocritical care. (InTouch says the robots can vary in price depending on the terms of the lease agreement, the number of units leased, and the services provided, but they average about $7,000 per month per robot.)

The robots are controlled by the physician off site. They have a video screen for a “face,” where the physician’s face appears, and cameras that transmit high resolution images of the patient. They’re also equipped with a stethoscope and an otoscope to allow the physician to listen to the patient and examine ears. They receive all the patient data generated in the ICU.

“It’s very lifelike, and you can move around both the head and the body,” says Vespa. “It essentially elicits a human response from nurses and family members and patients. It can round at night or during emergencies, and can cover shortfalls in manpower.” The robots also travel to the emergency room occasionally to help with strokes and other neurological emergencies.

A paper published by Vespa in the journal Surgical Neurology in 2007 calculated that the robot saved $1.1 million in ICU costs, as well as reducing ICU length of stay, increasing the number of patients that the ICU could handle, and dramatically cutting the amount of time it took physicians to respond to an ICU crisis.

Henry Ford Health System considered the robots at one point, but decided against them because of high potential maintenance costs and a problematic floor plan, says Eichenhorn.

“The hospital’s ICUs are on two levels, so you’d have to get the robot in and out of the elevator,” he says.

Where to Begin

Shabot says that hospitals starting from scratch should plan for an enterprise EHR rather than a standalone system, though they can get some temporary advantages of the latter through their monitor vendors.

“Monitoring vendors have inexpensive add-ons that feed data into small servers with PCs attached,” he says. “You can do that temporarily, and you might be able to take vital signs and some other things that nurses write down.”

Ultimately, he urges hospitals to plan for systems that will have one medication administration record, one lab record and one vital sign record that follow the patient from the emergency department to the ICU to the general floor. “Plan for an enterprise EHR, and do your emergency department and ICU last.”

River Country Journal

BRAD comes to Three Rivers Health

May 1, 2010

A recent addition to the "staff" at Three Rivers Health is now "on duty" – 24/7 – in the hospital's emergency department (ED).

BRAD – Bronson's Robot Assisted Doctor – is a wireless robot that allows ED physicians at Three Rivers Health immediate access to a regional neurological specialist. Without this technology, stroke consultations and patient evaluations by a specialist would require the patient to be transferred to another facility.

As noted in a Frequently Asked Questions fact sheet, "BRAD, allows regional emergency department (ED) physicians to access neurological specialists who can – in real time – visually and verbally assess the patient as well as talk with the patient, family and physician. Regional telemedicine helps communities gain access to specialists not otherwise available locally."

BRAD is being made available by Bronson at no cost to Three Rivers Health.

BRAD - Bronson's Robot Assisted Doctor - was a guest at the April meeting of the Three Rivers Health Authority Board. Todd Cole of InTouch Health (inset on screen) demonstrated the Remote Presence (RP) robot. Also shown here are Bill Russell, president and CEO of Three Rivers Health (seated and on the screen) and Chris Schultz, OB and ER manager (standing). (Click on picture to enlarge)

The Three Rivers Health Authority Board was introduced to BRAD during the group's April meeting Thursday morning (April 29th). Via a wireless Internet connection, Todd Cole of InTouch Health® demonstrated BRAD, a Remote Presence RP-7 ® Robot produced by the Santa Barbara, California company.

The following passage from the InTouch Health website offers a helpful description of what BRAD is all about:

> *"The RP-7 Robot enables a physician to 'be in two places at once,' allowing them to be at the point of care at the time of need by projecting themselves from their current location to a remote location. The 5'5" Robot displays the physician's face on a 15-inch screen and is guided by the physician with a joystick from a ControlStation, emulating an on-site experience. With 2-way cameras, microphones and wireless technology, the Robot provides high-quality, real-time audio and video with complete mobility around the hospital environment."*

During a post-meeting interview with the River Country Journal, Bill Russell, president and CEO of Three Rivers Health, said, "BRAD's kind of cool, actually. It is the growing environment/world of tele-health. It allows initially for a neurologist to be in our emergency room 24 hours, seven days a week through the use of BRAD – robotic technology that communicates over the Internet to a neurologist literally anywhere in the world. It happens that these neurologists will be in Kalamazoo. They, in fact, are active members of our medical staff now."

Russell said, “Our emergency room physicians, when they believe they have a stroke, will be able to quickly make a phone call and in seven to nine minutes they’ll have a neurologist on the other end of this system. The neurologist will be able to visually and verbally communicate with the emergency room physician. The neurologist will be able to visually and verbally communicate with the patient concurrently with the emergency room physician. The neurologist can, in fact, that a look at the CT studies that were done while the patient was in the emergency room and also visualize any laboratory testing that was done. In real time, we can have a consultation between the neurologist and the emergency room physician to determine a treatment plan and facilitate improved care and specialty care to our patient population.”

BRAD will be used in the emergency room initially for serving stroke victims, but Russell envisions many other uses as time goes by. He said, “In the long run, I actually see us engaging BRAD for a whole continuum of care so that we have better care, better access to care, better consultative care here in Three Rivers. I’m really excited about this technology. I think it’s pretty neat.”

Roseburg hospital adds "telemedicine" machine, webcam doctor

By Chris McKee
May 4, 2010

ROSEBURG, Ore. (KMTR) -- Roseburg's Mercy Medical Center Emergency Room has a new way to connect local patients to out of area specialist doctors through a new internet connected webcam program.

Equipped with high quality cameras microphones and speakers on a fully pivoting head, the machine is called an "InTouch Robot." A doctor from a remote location can dial in have a face to face conversation with a doctor and patient about medical care, also doing some work of their own. The machine can also collect and transmit medical data in real time to out of area doctors through connected equipment like a stethoscopes, heart rate monitors, and other basic medical devices.

OHSU is paying for the cost of the robot. Right now, the program will link Mercy Medical Center doctors to medical specialists in at OHSU or Doernbecher Children's Hospital.

As it stands, Mercy Medical Center will use the machine to help screen stroke patients and severe pediatric cases. Usually, patients involved in those cases are automatically transferred to Portland. OHSU and Mercy Medical Center doctors say this machine will help cut down on those patient transfers, leading to a huge cost savings in transportation costs.

Typically, patients with severe stroke and pediatric cases are flown from Roseburg to OHSU or Doernbecher by a fixed-wing, small aircraft. Just one transit can cost $21,000.

Doctor Milles Ellenby of Doernbecher spoke to reporters today on his laptop, from a conference in Vancouver, B.C. He says the video quality is good enough to help doctors get the face to face they need for some cases. While medicine is often built on numbers, measurements and statistics, the emotions and immeasurable qualities of a visual visit can help doctors significantly.

"I've been on consults with the folks in Eugene and been able to see a child's pupil response, by camera, so yeah, it doesn't replace in person, but when in person isn't possible is just much better than telephone only," says Dr. Ellenby.

OHSU and Doernbecher are the only two hospitals linking with Mercy Medical Center right now. Mercy Medical Center officials say this technology could be used to link to other specialists and doctors across the nation and the world if a partnership is formed.

Xconomy

InTouch Health Looks to Hire Michigan Engineers to Develop RoboDocs (of Sorts)

Howard Lovy
May 6, 2010

A man is brought into a hospital emergency room in Port Huron, MI, after collapsing while riding his bike. The patient had a stroke, so the first problem facing the ER docs is that there is not a moment to lose, as there is a narrow window of time available to treat a stroke before irreparable harm can come to the patient. The second problem is that the nearest stroke specialist is at St. Joseph Mercy Oakland Hospital in Pontiac, MI, more than 50 miles away.

Turns out, it's not a problem. Within minutes, here comes a 5-foot-tall robot, with a flat video screen as its "head." Yes, a robot.

Well, not a robot that can physically treat a patient, but one that is primarily a carrier for the video screen and camera. On screen is a neurologist who specializes in strokes, controlling the robot from St. Joseph Mercy, talking to the patient and medical personnel, doing a thorough visual exam of the stroke victim's symptoms and prescribing appropriate medication.

Image Courtesy of InTouch Health

Everything, of course, turns out just fine for the patient, since what is being described comes from a promotional video on the Website for InTouch Health, a Santa Barbara, CA-based company that not only has a number of customers at major medical centers in Michigan, but also has some bigger plans for conducting research and development in the state.

Helping them along toward that goal is Beringea, a Farmington Hills, MI, venture capital firm that announced on April 26 that it had invested $6 million in InTouch Health, which plans to use the Series D financing round to open an R&D center in Michigan and hire a team of advanced robotics engineers. The investment was made through Beringea's InvestMichigan! Growth Capital Fund. Also contributing to the $10 million total round were return investors Galen Partners, InvestCare Partners, and Twenty One East Victoria Investments, among others.

In an e-mail to Xconomy, Charles Rothstein, senior managing director of Beringea, praises InTouch Health as "the all star in the rapidly expanding field of telemedicine." Rothstein says InTouch CEO Yulun Wang is respected as an industry thought leader.

"The company's decision to further expand its Michigan footprint proves once again that world class engineering and R&D talent is an abundant resource in our state and one that will help propel our economy forward," Rothstein says.

Tim Wright, vice president of marketing at InTouch Health, says there is a small field support staff in Michigan already serving existing customers in the state. "Through those people, we've gotten to know there's really a large body of highly skilled engineers," Wright says. "So, we think it's going to be a great match for us."

Right now, there's no office in Michigan, but there are four technicians and sales representatives to service existing clients here. Wright says the company will look to hire "a handful" of mechanical, electrical, and software engineers for the Michigan R&D office, although he says he cannot speculate yet on how many or on where the office will be located.

"We're looking right now across the spectrum from Ann Arbor to greater Detroit," he says.

“Part of the proceeds of this fund-raise are really aimed at accelerating some of the development efforts that we have underway,” he says. “And that very well may expand from that initial launch into other things. But the primary focus out of the gate is to build some R&D resources outside of California.”

The company’s primary product is the RP-7 Robot, the one shown in the promotional video involving the stroke victim. Michigan customers include St. Joseph Mercy Health System, which is InTouch Health’s largest Michigan customer, along with the Detroit Medical Center, and St. John Providence Health System located throughout Metro Detroit.

The company is marketing the product for stroke treatment because that is where it sees the greatest need, since only a small fraction of hospitals in the United States have on-site access to a stroke neurologist.

A drug called tissue plasminogen activator (tPA) can dramatically change the outcome of a stroke victim if it is delivered within the first 3 to 4 hours of the onset of the stroke, and other procedures can be performed if they’re done within a fairly early window.

“But you have to have the right diagnosis and you have to have someone competent in making those diagnoses, and typically an emergency room doctor will look to a stroke neurologist to make that assessment,” Wright says.

“A neurological exam is actually a very visual exam,” he says. The doctor is interested not only in the vital signs of the patient, but also facial droop, and ability to lift arm and legs.

“The reason why our technology is uniquely positioned for this kind of a scenario is not only that we can enable that kind of visualization and access to the images, access to the patient data all simultaneously, but you can have that access literally from anywhere that you have access to the Internet,” Wright says.

And, of course, the final component to InTouch Health’s product is the robot that allows the remote clinician to actually move around and interact with the emergency department as though he or she were there.

Image Courtesy of InTouch Health

“It fundamentally changes the nature of the interaction from being a passive response to the people and the stimulusi? that are around you, which would be a typical video conferencing kind of scenario, to one where that remote clinician can really take charge, be proactive, create urgency,” Wright says.

Indeed, the promotional videos on InTouch Health’s site show hospital personnel walking side-by-side in the corridors with the robot, conversing with the specialist appearing on the flat-screen TV head. The specialist can be in any far-flung part of the world and control the robot using a joystick.

Right now, it’s all Internet-based, but next on InTouch Health’s list of things to develop is controlling its robots using cell phones and PDAs.

Corp!
Michigan's Largest Business Magazine

Remote Presence Robots Help Healthcare

By Michael F. Carmichael
May 6, 2010

You're on a country vacation. No big city traffic and crowds. No pressure. And your face feels numb. You're having trouble seeing. You remember those announcements on the radio and think, "I'm having a stroke."

You call 911 and have little hope that the local hospital is going to get you out of this.

The paramedics wheel you on a gurney into the ER and the next thing you see is a robot standing next to the on-call ER physician. The robot has a face, a reassuring face, and she's asking you questions while the ER doc is checking your vital signs and doing tests and providing treatment that the stroke specialist hundreds of miles away, who's controlling the robot, has requested.

The next day you're back in your vacation retreat, amazed at what you've been through.

What you've experienced is called "remote presence" and it's made possible in this case by a robot called RP-7, developed by Dr. Yulun Wang and his team at California's InTouch Health.

Wang has been recognized nationally for his work in medical robotics. His first venture was in 1989 when he created a company called Computer Motion, which developed the first FDA-cleared surgical robot. Surgical robots not only enabled physicians to operate in ways they had not done before, but to do so at long distances – the first, in September 2001, when a surgical team in New York City removed the gall bladder of a patient in France. He sold the company in 2003 and founded InTouch Health.

The earlier efforts at doing surgery from a distance depended heavily on direct fiber optic connections to reduce the lag between a surgeon's motion controlling the robot and the effect of that motion at the other end of the connection.

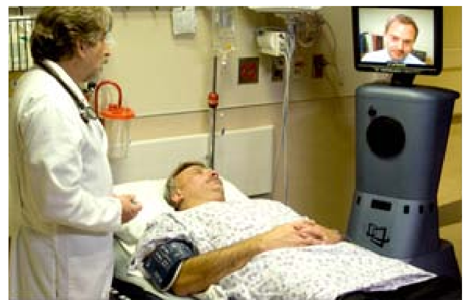
Remote presence, however, doesn't need that kind of fractional-second connection. It takes advantage of the Internet and allows medical facilities almost anywhere to use a robotic extension of a specialized clinician in a remote location to extend the breadth of their own medical staff.

"I became acutely aware of the challenges the health care system was facing," Wang explains. "With the aging population and increasing costs, the primary challenges are on the delivery side. If you can get the right expertise in the right place at the right time, you can improve quality, provide greater accessibility to a larger population base, and reduce costs – simultaneously – which is what everybody is looking for."

RP-7 was originally launched in 2005, with the latest version (RP-7i) in 2008. That year the FDA cleared the robot to accept the input of electronic diagnostic equipment, such as stethoscopes or an ultrasound device. The attending physician manipulates the equipment at the request of the specialist.

This ability to do electronic analysis is invaluable with high-risk pregnancies because the remote clinician can view an ultrasound image in real time and provide the attending physician with specialized guidance. Another example, according to Dr. Wang, "is performing stress tests for cardiac patients. The remote specialist can view an ultrasound of the heart to better understand heart function as well as valve performance."

Who's using the RP-7? Is it the older generation or the younger docs just out of their residency? "It's a pretty broad usage across age demographics of our physician users," responds Wang. "Having said that, it's clearly the ones who are more forward-thinking, regardless of age. It's the ones who are trying to get out of the office and to the golf course that we don't have as much," he laughs.



How do patients feel about having a robot in the room? "Bottom line is that they love it," says Wang. "I've been involved with hundreds of patient encounters and they love seeing the robot. A study at Johns Hopkins University showed that patients prefer seeing their attending physician via the robot over seeing another attending physician in person. If you think about it, it just makes sense. You want to see your doctor, who knows you and everything about you, rather than another doctor who may be very bright and capable, but doesn't know you at all.

"You can train someone who's six to drive the robot," continues Wang. They're equipped with sensors to detect things in their path and the physician controlling them remotely has a great deal of range of camera motion to be able to see, and avoid, people and other obstacles. "I've seen a robot going down a hospital hall with a whole bunch of kids following it like the Pied Piper. Patients will say 'hey doc, come by and visit me.' There's a certain high-tech cool factor to the patient reaction process as well." While the robots are controlled by a specialized physician, often using just a laptop computer and what looks like a video game joystick, the benefits of robotic presence are not limited to patients.

In a CNN report Dr. Sanjay Gupta told of being in Iraq with an Army physician in a field hospital. Using his laptop connected to an RP-7, the Army doc was able to show friends of a soldier injured by an improvised explosive device that their buddy had made it safely to Brooke Army Hospital in Texas and was recovering. The Army doc, Dr. Kevin Chung, has routinely used an RP-7 stationed at Brooke to check up on his patients from his facility in the war zone.

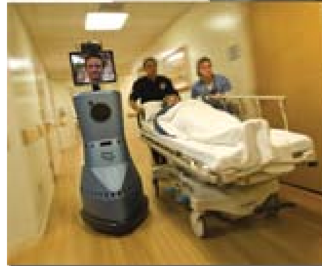
"We have four robots in military hospitals in the U.S.," says Wang. "The military is interested in forward deployment, but there are a lot of steps in the process before that can happen."

As long as the robots are able to move across a relatively level surface, they can go almost anywhere that specialized physicians are needed. One RP-7 is due shortly in Haiti to assist in the longer-term care of victims of the earthquake. "It can't go around in the rubble outside, but it can move easily on the floor of a field hospital there," explains Wang. A test was conducted at a Los Angeles children's hospital to simulate an earthquake situation and the robot was successfully able to assist in triaging patients outside. "The important thing was that the specialists operating the robot were able to be there to provide expert guidance to augment the hospital staff."

Getting the right expertise in the right place at the right time, as Dr. Wang has suggested, is valuable not only for hospitals in less populated areas, "but you have similar challenges in large metro areas," Wang says. "Think of traffic problems and other considerations that make it more practical to have specialists stationed in one location and robots providing them with a remote presence in satellite facilities."

The InTouch business model calls for leasing the robots in order to provide both software and hardware improvements. The lease price currently makes having at least one RP-7 an affordable alternative to adding highly experienced staff, even if they were available. "We're constantly developing new robots that will make the leases even more attractive and get robotic presence robots to more and more facilities," explains Wang.

"That's vital to help in controlling health care costs," Wang continues. "As the President has noted, current trend lines don't affect just the health care system, they affect the whole economy. Technology can leverage the experts we have to bring costs down and quality up. It also has the added benefit of making health care for the patient more personal. The alternative is that patients won't get to see a doc at all. Technology can bridge points of connectivity which can't be made today. Even if a primary care physician is in the room with a patient it can be extremely comforting to have him bring in an expert, via an RP-7, to help determine what's wrong."



Behind many successful technology companies can be a group of investors, such as the multi-national Beringea. The firm serves as "a center of excellence for owners and entrepreneurs seeking capital, consultation, and business support in a range of sectors including media, health care, clean technology and IT." Managing director Michael Gross explains that Beringea has been a long-term investor in InTouch. "Institutionally we have known the company since it was an idea in process and we've followed it through commercialization," Gross explains. Their first investment "was in 2003," says Gross, who has now joined another Beringea partner on the InTouch board of directors.

Gross points out that Michigan serves as a model of how the InTouch robots work to improve care in underserved communities. "St. Joseph's Hospital in Pontiac serves as the hub for the Michigan Stroke Network. It serves more than 30 rural hospitals as network spokes throughout the state.

"There's a growing body of evidence on how much better the care is when you can bring those specialists [by way of the InTouch robots] out to the rural setting," Gross explains.

Additionally, Gross says, "we think in the current health care environment it's important to look for investments that will help drive costs out and provide additional efficiencies to the system. If you can achieve those two objectives with your technology you're going to be in a good spot wherever health care reform takes us and however the system changes."

Connie Parliament is the clinical program director of neuroscience service of St. Joseph Mercy Oakland hospital, the hub of the Michigan Stroke Network. The Network was the ninth such organization in the country to receive certification as a Primary Stroke Center by the Joint Commission.

Twenty-eight of the Network's spoke hospitals are equipped with the RP-7 robots, says Parliament, while "two of them use the old fashioned telephone method" when they need help with a stroke patient.

The Stroke Network does all the work, explains Parliament. "All one of the hospitals has to do is give us a call and then assist the stroke physician when he shows up on the robot. We run the robot from here. We make the stand-by call to the air ambulance service. We provide the expertise our network hospitals don't have."

Parliament continues, "Our doctor does his own neurological assessment, he does his own history from the patient or the family member, then he collaborates with the ER physician. They can both look at whatever x-ray films have been taken, have a discussion about the patient clinically, then together they decide if the patient could or should be offered treatment."

That additional treatment usually occurs at the Oakland County hospital hub "to provide continuity of patient care." says Parliament. "Our doctor who saw them via the robot in the spoke hospital sees them in person once they come in our door." Patients most often get to the hub via the air-ambulance service, which is alerted as soon as the hub is contacted by a spoke's ER.

Time is critical in the care of stroke patients and the Network saves a great deal of it by having the processes in place to have a single source of expertise oversee both the diagnosis, via the robot, and treatment. “When you can have a specialist wheeling up to your bedside within 12 to 15 minutes of making a phone call,” says Parliament, “that’s very comforting to the patient as well as family members.”

According to the American Stroke Association, stroke is a medical emergency. Know these warning signs of stroke and teach them to others because every second counts:

- **Sudden numbness or weakness of the face, arm or leg, especially on one side of the body**
- **Sudden confusion, trouble speaking or understanding**
- **Sudden trouble seeing in one or both eyes**
- **Sudden trouble walking, dizziness, loss of balance or coordination**
- **Sudden, severe headache with no known cause**

If you or someone with you has one or more of these signs, don’t delay! Immediately call 9-1-1 or the emergency medical services (EMS) number so an ambulance (ideally with advanced life support) can be sent for you. Also, check the time so you’ll know when the first symptoms appeared. It’s very important to take immediate action. If given within three hours of the start of symptoms, a clot-busting drug called tissue plasminogen activator (tPA) can reduce long-term disability for the most common type of stroke. tPA is the only FDA-approved medication for the treatment of stroke within three hours of stroke symptom onset.

HealthLeaders Media

Domo Arigato, Doctor Roboto

By Gienna Shaw
May 18, 2010

Telehealth and remote medicine are hot topics these days, widely regarded as fields that are about to explode—from remote radiology readings to ICU monitoring by off-site intensivists, to e-visits during which the patient and physician consult via video. But perhaps the most futuristic use of these technologies is the doctor robot: a device that allows the doctor to “walk” (or, perhaps more accurately, roll) into a room and examine his or her patient.
Click here to find out more!

One such device is the five-foot tall RP-7® Robot, manufactured by InTouch Health® in Santa Barbara, CA. A physician, using a control station and a joystick, can maneuver through the hospital halls, interacting with patients, family members, other clinicians, and staff via a live video feed. The doctor’s face is visible on a monitor that serves as the robot’s “head.” A camera, speaker, and microphone allow real-time, two-way audio and video communication.

Clinicians use the remote presence devices in a variety of different applications, from time-sensitive stroke treatment, emergency room call, critical care coverage, hospital capacity management, and specialty training and collaboration.

Early adopters include California’s UCLA Medical Center, St. Joseph Mercy Oakland in Pontiac, MI, and the North Shore LIJ Health System in New York.

In addition to improved efficiency for doctors, who can conduct night and weekend rounds from their home, clinic, or office, the robots can also improve patient and family satisfaction. In a study led by Louis Kavoussi, MD, chairman of urology at North Shore-LIJ, and the nation’s first user of the remote rounding robot, half the patients preferred a “tele-rounding” visit by their own doctor to a “real” visit by another physician. More than 80% of the patients felt that the robot increased physician accessibility.

“Patients have been extraordinarily receptive and enthusiastic about the robot,” Kavoussi, who is using one of the three robots at LIJ to check on his patients after hours and on weekends, said in a release. LIJ is also using two robots in its ICU. The hospital’s intensivists use the robots from their homes and offices to provide additional patient monitoring.

Although there are benefits—especially in rural and other areas where access to specialists is limited and as a Band-Aid for the physician shortage in general—there are some critics who say some robotic-controlled procedures are gimmicks, that the price of the technology is to steep for many hospitals, and it could limit the human contact that’s important to the patient-physician relationship, notes an article in the Ventura County Star in Camarillo, CA (“Robots’ place in diagnostics, surgeries debated”).

An anecdote I heard recently suggests the latter argument is not always true, however. An elderly woman had been seeing her physician via robot over the course of several visits. At the time of one scheduled visit the physician was in the area and decided to meet with her in person. “What are you doing here?” she asked when he walked in the exam room. “And where is my robot?”

NOOZHAWK
SANTA BARBARA & GOLETA

InTouch Health Giving Surgeons a Remote Presence

Robotics technology gives doctors the upper hand, especially with stroke treatment in which time is critical

By Kevin McFadden
May 22, 2010

In September 2001, two surgeons in New York City removed the gall bladder of a female patient. As surgeries go, it was mostly routine — except that the woman was in France at the time!

It was the world's first transatlantic surgery, and the man who helped pioneer the technology that made it possible is Yulun Wang, founder and CEO of InTouch Health of Goleta.

Wang originally started a company called Computer Motion in 1989; Computer Motion was responsible for the mind-blowing robotics involved in the 2001 surgical procedure. After Computer Motion went public and merged with Intuitive Surgical in 2002, Wang immediately founded InTouch Health, and began working on another revolutionary technology known as Remote Presence.

Remote Presence is the future of patient care, according to Wang. It removes the time and distance barriers that have traditionally limited hospital patients from receiving the proper care, by combining three core technologies: robotics, Internet and wireless.

Wang likens it to the teleportation system in the Star Trek series.

"It's like when Scotty beamed Bones in to treat a patient across the galaxy," Wang quipped to Noozhawk. "We're beaming somebody across to another location via a robotic avatar, and that robotic avatar is connected to the actual physician using the Internet and wireless."

Essentially, a robot is placed in a patient's room, and then a remote link is established with a specialist anywhere in the world. Through the use of a joystick, the physician can control the robot's movements, including a full range-of-motion head, fitted with a hi-definition camera. It even has a stethoscope on the back, so one can listen to a heart beat from thousands of miles away. Remote Presence allows physicians to diagnose and treat patients anywhere, anytime, without ever having to leave their home office — which allows for enormous savings in health-care costs.

"Health care has a lot of challenges," Wang said. "One of the biggest challenges is just getting the right care to the right place at the right time. The bottom line is if you can do that, you can greatly improve health care in all dimensions; you can improve in quality, you can improve in accessibility, you can lower costs. You can do all the things we're trying to do right now."

The largest application for this type of technology currently is in the treatment of patients who experience unscheduled acute events that require specialty care, most notably stroke victims. According to Wang, stroke is the third-leading cause of death and the first-leading cause of disability in the country, yet only 2 percent to 8 percent of patients are treated properly.

He explains that this is because a large percentage of them are not treated by a specialist, such as a neurologist, since often times it is cost prohibitive for a specialist to travel to certain locations.

“Some of the treatments for taking care of a stroke patient have to be given within three hours of the onset of stroke,” Wang said. “The phrase is ‘time is brain.’

“The bottom line is a stroke is the blockage or a bursting of a vessel in your brain, and if you don’t take care of it really quickly, your brain starts dying. So if you can get the right treatment within three hours, it’s as significant as changing an outcome that would have resulted in death, to complete recovery. It’s quite remarkable.”

This telling fact is one of the reasons that Remote Presence is used right here in Santa Barbara, by the neuroscience specialists at Santa Barbara Cottage Hospital. Wang says that more than 300 hospitals on six continents are currently taking advantage of Remote Presence, with another 100 on order.

While Wang began InTouch Health through some initial seed-funding of his own, much of the subsequent capital was raised through a few local residents, including two whose names are familiar to many Santa Barbarans: Virgil Elings and Michael Towbes. After that, the booming company went to venture capital. Since its inception, InTouch has raised around $40 million in capital. This includes a recent announcement of a $10 million financing round led by Beringea, the largest venture capital firm in Michigan, and Galen Partners, a leading health-care private equity firm based in Stamford, Conn.

Wang received his Ph.D. in electrical engineering specializing in robotics from UCSB, and taught at the university for a few years before starting his first company. He has more than 40 published articles and more than 70 patents in the area of robotics and computers, and he has appeared on the Today Show, CNN and in numerous other televised interviews throughout his career.

Now in its eighth year of operations, InTouch Health, 90 Castilian Drive, Suite 200, shows no signs of slowing down. In 2008, it ranked No. 39 on Deloitte’s Technology Fast 500 of the fastest-growing technology companies in North America; the same year, it ranked 289th on Inc. Magazine’s Inc. 500 fastest-growing companies in America. Wang is currently working on several new products, including a Remote Presence robot that can operate inside ambulances.

As far as Wang is concerned, there must be a critical shift in the paradigm of health care in the United States, and InTouch Health will continue to work and innovate to see that it happens.

“The direction we’re headed is that health-care delivery has to fundamentally change,” he said. “Because the trend lines of the health-care industry as a whole are unsustainable. Care expenses are going up like crazy, and more and more people are uninsured because of it.

“It’s becoming more and more problematic, instead of less, so what we need are technologies that enable better, more ubiquitous care at lower costs. And that’s what this does.”

DAILY NEXUS
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Medical Robot Puts Doctors in Two Places at Once

By Jeremy Zeller
May 24, 2010

Local health care firm InTouch Health received $10 million in new investments this month to improve its robotic telecommunications device that allows doctors to observe patients via webcam.

The company's Remote Presence RP-7 Robot is a doctor-controlled device similar to an internet video chat that can interact with patients in a hospital when an expert cannot be there. The robotic device functions in any hospital with wireless internet, is accessible from a computer workstation and is controlled with a joystick.

More than 250 hospitals are already utilizing this new technology.

InTouch Health Founder and CEO and UCSB alumnus Yulun Wang said the influx of new money, which came largely from a Michigan venture capital firm, will help the company further develop the product.

"The added capital allows companies like us to grow faster," Wang said. "You want to be the lead and that's why we decided to raise the additional capitol, so that we are very much in the leadership position in the market of telehealth."

According to Wang, the device is now being used in hospitals as part of the Michigan Stroke Network and allows specialists to be on scene during the critical period after a life-threatening stroke.

Dr. Neil Martin, chief of neurosurgery at UCLA Medical Center, said he uses the RP-7 and that the telecommunications device saves time for doctors, nurses and patients.

"We recognize that leveraging the health care expert's time offers the possibility of improved patient care, reduced length of stay and cost savings," Martin said in an e-mail. "We are able to monitor and access our patients anytime from our homes and offices in a way not previously possible."

Wang said the RP-7 has already been successful in saving patients.

"It has saved lives, without a doubt," Wang said. "I've had people call me about how grateful they are that this technology is available. And it's not that the technology saves lives, it's that the technology allows for the right expert to be there."

In addition to providing doctors with advanced technology, InTouch Health has provided UCSB engineering students with a job. Company Marketing Manager Jennifer Neisse said they have recruited a number of recent graduates into the firm.

"We are continually adding and growing here in Santa Barbara," Neisse said. "We have quite a few engineers that were students at UCSB and we are growing here locally."

LEXINGTON
HERALD-LEADER

Stroke-diagnosing robot links Frankfort hospital, U of L

By Cheryl Truman
May 28, 2010

FRANKFORT — The Franklin Regional Medical Center on Thursday rolled out — literally — its newest tool in stroke diagnosis: a "remote presence physician robot" that will allow University of Louisville doctors to recognize strokes and other neurological ailments within minutes.

The robot has a high-resolution screen that rotates perched atop a wheeled column that can move in any direction. U of L now has such robots at 13 hospitals in Kentucky.

Stroke treatment and heart ailments are the top two causes of transfer from the Frankfort hospital, according to Michael Presley, medical director of the emergency department at the Frankfort medical center. The hospital transfers 12 to 15 patients a month for strokes and related problems.

With strokes, minutes matter. In some cases, patients have three hours or less to avoid potentially crippling brain damage.

Dr. Kerri Remmel, a U of L neurologist, said that patients get used to the technology quickly: "It takes about 30 seconds," she said, speaking via her own remote robot from Louisville.

"Rapid assessment is important when it comes to stroke and other neurological conditions," Remmel said. Assuming that a patient arrived at the Frankfort hospital an hour and a half into a treatable stroke, that would have made diagnosis and appropriate medication a close call at best.

But with the robotic technology, a Louisville doctor can figuratively beam into the room 24/7 from U of L, from his home or from a remote location. While diagnosis by long distance is nothing new — TV hookups have been available since the 1950s — the visual acuity of the new generation of robots will allow a diagnosing doctor in Louisville to manipulate the computer so close as to see the activity within the pupils of a patient's eyes.

Kentucky has 27 of the InTouch robots, according to Marie Gonzales, a regional account manager with California-based InTouch Health, 15 of them at U of L sites. The robots are leased at a rate of $4,500 a month; insurance programs pay for the remote patient diagnosis.

Locations for the robots operated by U of L range from Pikeville to Paducah, and they are used primarily for stroke diagnosis.

Robot will help hospital diagnose stroke

By Valliant Corley
May 29, 2010

GOLD BEACH – A stroke victim brought to Curry General Hospital will soon be examined within minutes by a Portland specialist using a remote-controlled robot, reducing the chances of significant disability and impairment or death, Curry Health District CEO Bill McMillan told the district board of directors Wednesday.

He said the hospital will be receiving a special robot within the next three to four weeks that an on-duty vascular neurologist at St. Vincent Medical Center in Portland can immediately use to conduct a detailed neurological examination.

“They will loan us a robot,” McMillan told the board. “The neurologist can beam in with the robot, move it around the room. Using a flat screen TV, he can turn and look at the patient and talk to the local doctor.”

Curry General will be the third or fourth hospital in the new Providence Health Systems Tele-Stroke program, a component of the Providence Brain Institute.

The Tele-Stroke system partners community hospitals and emergency departments with vascular neurologists using remote presence technology.

Housed at St. Vincent Medical Center in Portland, the Tele-Stroke program allows the remote neurologist to “beam” into Curry General’s Emergency Department. Using the special features of the robot, the doctor can see and talk with the patient, nurse and local doctor, conduct a detailed neurological examination and review lab results, CT scans and other data streamed from the ER to Portland on a secure encrypted broadband channel.

“The faster we get in with this, the quicker you get treatment,” McMillan said.

He said with a local doctor on call, the tests can begin within 20 minutes.

“Oregon has the fifth highest number of strokes in the U.S.,” he said. “Curry County is right up there because of the older population.”

According to the Oregon Office for Health Policy and Research 79 percent of Curry County’s population shows one or more risk factors for stroke, McMillan said.
“Oregon ranks third in the nation in fatality rates from stroke,” he said.

He said that as age increases, the likelihood of stroke increases, with a significant jump beginning at age 65.

“The quicker the diagnosis and treatment, the higher likelihood of avoiding significant disability and impairment from stroke,” McMillan said.

Asked the cost of the robot, McMillan told the board there is no cost for the robot.
“Providence is providing it at no charge to us. The doctors will charge for services,” he said.
McMillan said Tele-Stroke network will have five of the specially trained doctors, with one always available.

"Stroke symptoms are easy to recognize and come on "fast"; F is for facial numbness or weakness, especially on one side; A is for arm numbness or weakness, especially on one side; S is for slurred speech, or difficulty speaking or understanding and T is for time; it's time to call 911 because every second counts," he said.

McMillan said access to the Tele-Stroke network's specially trained doctors improves the accuracy of diagnosis and treatment.

"Should the patient need advanced care, the patient will already be in the care of a specialist and can be safely transferred to Providence Medford or St. Vincent Hospital in Portland," McMillan said.

"Both are accredited primary stroke centers," he said.

Curry General reports between 15 and 20 stroke victims per year.

Providence and the robot's manufacturer, InTouch Health, is providing clinical protocols and training on the use of the remote presence system.

cadillacnews.com
Your Online Connection

Robot named HAL

By Jan Klooster
June 12, 2010

CADILLAC - Robots, especially ones with independent spirits and personalities like R2-D2 and C3PO of Star Wars fame, intrigue us. One of our own would be wonderful, we dream, to obey our every command and relieve us of drudge work. In fact, robots have been quite helpful on factory lines or in space, their arms doing difficult, intricate movements. But the machines still are ... machines, mostly static and mechanical, their functions programmed and limited, impersonal.

The robot at Mercy Hospital Cadillac is a new kind of robot, however, a combination of technical wonders and human response. It is named HAL. It has a “face” that is human because one appears on the computer screen at the head. It has a body that can move to an open doorway to say “Hi” to the person working behind the desk. It can roll down the hallway to the nurses’ station to wish them “Good morning.”

Most importantly, however, the robot gives a second expert opinion on incoming stroke patients. Its purpose is to get and give input to the attending physicians so the best possible treatment can be given as quickly as possible. It’s a tool used by the Michigan Stroke Network, founded by Trinity Health, a collaborative network of hospitals working to provide comprehensive stroke care throughout Michigan.

TIME IS BRAIN.

That’s the truth when it comes to getting help for a stroke victim. As time passes, more brain cells die from lack of oxygen, resulting in more lasting damage to body and mind.

Help and expert advice is needed quickly, but that’s tough in small towns or rural hospitals. Determination of a stroke’s location, cause and extent of damage is essential for making treatment decisions. Physicians must discover quickly whether the stroke is ischemic or hemorrhagic before appropriate treatment can begin.

A network provides one answer to increase speed. The Michigan Stroke Network, the largest in the United States, has been in operation since 2006. Michigan was one of the first states to develop a stroke network. “California is trying to copy us,” said Connie Parliament, clinical director of neuroscience services at St. Joseph Mercy Oakland in Pontiac.

The network consists of the hub at Pontiac and 28 spokes of local hospitals spread across the state, including Mercy Hospital Cadillac. The different medical facilities stay connected by a robot, which gives a visual and auditory connection between the local emergency room doctor and the neurosciences expert. Cadillac’s robot is known affectionately as HAL.

“Working together makes much more sense than operating individually,” Parliament said. “People can stay where they’re at and the doctor can see them, ask key questions and give a crucial second opinion.”

When a stroke patient comes in, it’s up to the emergency department physicians to decide if the tele-robot is needed. If they want an expert opinion or confirmation from a neurosurgeon, they call Pontiac, and a specialist is available in 12 minutes, 24 hours a day. The specialist goes “into the robot” using his own computer and joystick, making the robot move. A face appears on the screen. The operating specialist can see and converse with the patient, making assessments and using his expertise to weigh in on next steps.

“He can say, ‘Can you do me a favor? Show me your teeth,’ and a lens will zoom in on the patient’s face. If the camera shows a droop, we can tell. Or he can ask you to hold out your hands to see if there is a drift. Can you hold your leg off the

stretcher? Or he will ask the staff to check if the patient has numbness," explained Parliament.

The neurosciences specialist also can ask critical questions such as CT and MRI scan results and give critical confirmation on the giving of tPA, a powerful clot-busting drug. The specialist also can give good input on transferring the patient by air or ground ambulance to the Interventional Neurovascular Cath Lab at Pontiac's Stroke Center. If the patient has missed the 3-hour tPA window or has not qualified for the "brain drano" for some other reason, he or she still could benefit from a catheter suctioning out the clot. This advanced procedure, however, is available only at major facilities that have the equipment (perhaps six in Michigan).

"The push" for the network, Parliament said, "was that we have the physicians and wanted to take the expertise we have here in our hospital outside these four walls. We thought using a tele-medicine option would help make decisions."

St. Joseph Mercy Oakland in Pontiac went live with the Michigan Stroke Network in 2006. That move has changed treatment, Parliament said. "You can't be an expert on everything, and stroke is so complicated and time-sensitive."

The robot, a PR-7 model, was engineered by Dr. Yulun Wang and made at InTouch Health in Santa Barbara, California. The original model was launched in 2005, with Mercy Hospital-Cadillac getting HAL in May 2008. A newer version with arms that can touch patients and gather sensory data was developed in 2008.

Theresa Hansen, director of Mercy Cadillac's emergency department, said, "This is just the beginning. My dream is to use it for other things like oncology or psychiatry. There are not enough specialists, and there will be more and more tele-medicine. There are huge benefits in this."

Different doctors are trained to use the robots, including neurovascular physicians, neurosurgeons and radiologists. Pontiac uses the robots daily for hospitals to transfer patients. Paul Oliver Memorial Hospital in Frankfort is furthest away at 227 miles or 89 minutes by air. The west side of Michigan often uses fixed wing instead of helicopters for transport because of the fog, Parliament said.

She added, "The message is this: We have to communicate with specialists quickly. They (the robots) are a great advance" - to getting tPA, to getting to a Cath Lab and having the aortic procedure, to possibly suffering minimal deficits after a major stroke.

HOW THE MICHIGAN STROKE NETWORK WORKS:

*Stroke patient arrives at a participating hospital

*Hospital performs neurological assessment and begins immediate treatment

*Attending physician requires advanced neuroendovascular assistance and calls the Michigan Stroke Network Center (at St. Joseph Mercy Oakland Hospital in Pontiac) for support

*Specialist connects with bedside physician within 12 minutes via robot for consult

*Consult requests rapid transport to stroke center at St. Joseph Mercy Oakland

*The stroke teams meets the patient at Oakland and begins rapid treatment response

*Patient is stabilized and discharged to local community hospital for follow-up

EXCLUSION CRITERIA, CANNOT RECEIVE tPA, tissue Plasminogen Activator (brain drano)

3-hour absolute exclusion criteria: intracranial hemorrhage on CT scan or history; within the last three months had brain surgery, spine surgery, serious head trauma, previous stroke; active internal bleeding; brain tumor, AVM or aneurysm; platelet count below 100,000; uncontrolled hypertension

3-hour relative exclusion criteria: rapid improvement, minor symptoms, gastrointestinal bleed within 21 days, artery puncture, some blood thinners, recent lumbar puncture, extremely low or high glucose levels, seizure at onset, pregnant

4.5 hour additional exclusion criteria: patients older than 80 years old, history of diabetes or stroke, a few others

(resource: www.michiganstrokenetwork.org)

*Michigan Stroke Network local participants total of 28 Michigan hospitals as partners with St. Joseph Mercy Oakland in Pontiac, acting as spokes connecting to hub

*Northern Michigan area hospitals in network: Mercy Hospital Cadillac; Munson Medical Center in Traverse City; Kalkaska Memorial Health Center; Paul Oliver Hospital in Frankfort; Mercy Hospital Grayling; MidMichigan Medical Centers at Clare, Gladwin and Midland; West Branch Regional Medical Center; Saint Mary's Health Care in Grand Rapids

*single phone number: 1-866-522-8676

*open 24 hours daily

*coordinates transport, provides referrals

*provides tool kit to guide physicians in acute management of stroke patient; includes checklists and documentation needed to make critical decisions

Mom Meets Baby For 1st Time With Robot's Help

August 25, 2010

NEWBERG, Ore. -- A pregnant woman who collapsed with heart troubles at a Newberg hospital nearly died this week, but she and her baby have pulled through at separate hospitals.

With her child still at a different hospital, Ivonne Cortez saw her baby for the first time Tuesday with the help of a robot. Providence Medical Center's Telestroke robot typically allows patients an opportunity to communicate with doctors all over the world, but in this case it gave Cortez a chance to look into her baby's eyes.

Cortez's close call began Sunday when she went to the Providence Medical Center in Newberg because she was not feeling well. Dr. George Weghorst said Cortez's heart simply stopped beating.

"When she collapsed, she lost consciousness and did not regain consciousness until she was in the intensive care unit," said Dr. George Weghorst.

Doctors rushed to stabilize Cortez and they delivered her baby, whose heart also stopped. Hospital staff rushed the baby to the newborn intensive care unit at St. Vincent Medical Center, which is roughly 20 miles away.

"It was pretty scary on Sunday, but thank God they're fine," said Paco Cortez, the boy's father. "They were telling me it's a miracle to have them both alive."

Doctors were able to save Cortez and her son. After a recovery period, they were introduced for the first time via the Telestroke.

"Just seeing the tears in her eyes and the emotion that was just palpable in the room was pretty cool," Weghorst said.

The boy, named Bradly, was in good condition Tuesday as hospital staff kept close watch on him.

"He looks like his dad," Ivonne Cortez said. "He's beautiful."

The New York Times
Expect the World®

The Boss Is Robotic, and Rolling Up Behind You

By John Markoff
September 4, 2010

SACRAMENTO — Dr. Alan Shatzel's pager beeped at 9 on a Saturday morning. A man had suffered a stroke, and someone had to decide, quickly, whether to give him an anticlotting drug that could mean the difference between life and death.

Dr. Shatzel, a neurologist, hustled not to the emergency room where the patient lay — 260 miles away, in Bakersfield — but to a darkened room at a hospital here. He took a seat in front of the latest tools of his trade: computer monitors, a keyboard and a joystick that control his assistant on the scene — a robot on wheels.

He guided the roughly five-foot-tall machine, which has a large monitor as its "head," into the patient's room in Bakersfield. Dr. Shatzel's face appeared on screen, and his voice issued from a speaker.

Dr. Shatzel acknowledged the nurse and introduced himself to the patient's grandson, explaining that he would question the patient to determine whether he was a candidate for the drug. The robot's stereophonic hearing conveyed the answers. Using the hypersensitive camera on the monitor, Dr. Shatzel zoomed in and out and swung the display left and right, much as if he were turning his head to look around the room.

For years, the military and law enforcement agencies have used specialized robots to disarm bombs and carry out other dangerous missions. This summer, such systems helped seal a BP well a mile below the surface of the Gulf of Mexico. Now, with rapidly falling costs, the next frontiers are the office, the hospital and the home.

Mobile robots are now being used in hundreds of hospitals nationwide as the eyes, ears and voices of doctors who cannot

be there in person. They are being rolled out in workplaces, allowing employees in disparate locales to communicate more easily and letting managers supervise employees from afar. And they are being tested as caregivers in assisted-living centers.

“Computers are beginning to grow wheels and roll around in the environment,” said Jeanne Dietsch, a veteran roboticist and co-founder of MobileRobots Inc., a robot maker in Amherst, N.H., and a division of Adept Technologies.

Skeptics say these machines do not represent a great improvement over video teleconferencing. But advocates say the experience is substantially better, shifting control of space and time to the remote user.

“Most of the existing videoconferencing technology is designed for meetings,” said Pamela J. Hinds, co-director at the Center for Work, Technology and Organization at Stanford University. “That is not where most work gets done.”

For now, most of the mobile robots, sometimes called telepresence robots, are little more than ventriloquists’ dummies with long, invisible strings. But some models have artificial intelligence that lets them do some things on their own, and they will inevitably grow smarter and more agile. They will not only represent the human users, they will augment them.

“The beauty of mobile telepresence is it challenges the notion of what it means to be somewhere,” said Colin Angle, chief executive of one of the largest robot manufacturers, iRobot.

The robot is what allowed Dr. Shatzel to “be” in the patient’s room far away. From an earlier telephone conversation with the emergency room doctor, the patient’s condition had not been clear. But in speaking directly with the patient, examining his face and control of his hands and glancing with the camera at the cardiac monitor in the room, Dr. Shatzel could assess the stroke, he said, with the same acuity as if he were there. He instructed the staff to administer the drug.

“We had a good outcome,” he said later.

Dr. John Whapham, a Loyola University neurologist who has helped create several regional networks providing telemedicine with robots made by InTouch Health, says that when he began using the robot during his residency, he would carry his laptop in a backpack so he could perform consultations anytime.

“I’ll pull out the laptop, and when I’m on Michigan Avenue here in Chicago, put it on a garbage can or on the seat of a bus stop,” he said. “You’re live, and you can walk around, examine, image, zoom in and out. I do it all the time.”

Expanding the Workplace

“I’m very thin in this new outfit,” Mike Beltzner says, breaking the ice in a room of Silicon Valley computer programmers. In the flesh, he is 2,200 miles away, at home in Toronto with his cat. But at this meeting his face appears on a 15-inch LCD atop a narrow aluminum machine resembling an upright vacuum cleaner. Indeed, as this robot rolls around the room it looks as if it could just as easily be sweeping.

Mr. Beltzner rolls the robot to a large conference table in the Mountain View headquarters of the Mozilla Corporation, maker of Firefox, a popular Web browser. By swiveling his camera eye back and forth, he can see the entire room and chats comfortably with the assembled team.

An hour earlier, Mr. Beltzner, director of Firefox, was logged into a different robot on the other side of the building to attend the weekly all-hands meeting. With a pink lei on one shoulder and a jaunty cap on the other, the robot was surrounded by more than 100 young software engineers, each sitting with a wirelessly connected laptop.

Aside from the occasional greeting, no one seems to notice the disembodied Mr. Beltzner until he is called upon by Mary Colvig, a Mozilla marketing manager. She wants employees to share the chore of leading tours of the office each week.

“What do you want me to do?” Mr. Beltzner asks, his voice piping from twin speakers in the robot’s chest.

“I would like you to give tours,” she responds from the front of the room. “That would be pretty insane.”

When the meeting ends, “Robo-Beltzner” — as one colleague calls him — mingles in the large room, chatting. Then Mr. Beltzner executes a nifty pirouette and moves the robot, made by Willow Garage of Menlo Park, Calif., to a charging station.

Like many other Silicon Valley companies, Mozilla has employees around the world, and in the month since it began testing the system, as many as 10 employees have logged in to run errands, chat and attend meetings.

Mr. Beltzner has now used the Willow Garage robot for more than a month, usually four to six times a week to attend meetings and chat with his co-workers in Mountain View. He finds it to be a distinctly different experience from a video teleconference or a computer chat system.

"With the robot, I find that I'm getting the same kind of interpersonal connection during the meetings and the same kind of nonverbal contact" that he would get if he were in the room, he said. "It's a lot easier to have harder conversations when I 'roll the robot,' " he added, referring to reviewing an employee's performance or discussing technical issues.

There are few drawbacks to the robots, the company's employees agree, although Erica Jostedt, a Mozilla communications manager, notes that the virtual Mr. Beltzner is ruder than his flesh-and-blood Canadian counterpart.

"I came to a meeting with him, and he didn't even open the door for me!" she said, laughing.

The robot, of course, has no arms.

That has not stopped other programmers from commuting to Silicon Valley robotically.

Each morning for the past year, Chad Evans's robot has sat with its back to a freeway in a double aisle of cubicles occupied by software designers at Philips Healthcare in Foster City, Calif.

Mr. Evans, a software designer himself, sits more than 2,000 miles away at home in Atlanta. But "Chadbot," a four-foot-tall prototype built by RoboDynamics of Santa Monica, Calif., allows him to live where he chooses and work West Coast hours.

When he is sitting at his desk in Atlanta, Mr. Evans is visible in a small monitor at the top of the robot, which is usually plugged into a recharging station. His workmates can see at a glance whether he is available for a quick chat by simply peering down the aisle.

When Mr. Evans needs to go to a meeting in Foster City or visit a colleague, he drives the robot to a desk or a meeting room. If someone is willing to help him by pressing the elevator buttons, he can even visit other floors.

"Using Skype would require me to initiate a phone call," he said. "This gives me more of a passive ability. I'm just sitting here like I would be at my desk if I was in the office. I see people coming and going, and they see me and they think, 'Oh yeah, there was something I wanted to ask Chad.' "

It took a while for his co-workers to get used to Chad as Chadbot. "The first three weeks were the weirdest experience I've ever had," said Karl McGuinness, a software architect whose desk is adjacent to the robot. "You'd hear his voice, and I'd think, 'What the heck is going on?' "

The Boss, or Big Brother?

Tom Serani's boss had grown frustrated that while Mr. Serani was on the road, his 20 salespeople working the phones back at company headquarters did not have the same zip as when he was in the office.

"The new guys were not doing quite as well," said the boss, Neal Creighton, a co-founder of RatePoint, a company based in Needham, Mass., that tracks Internet users' opinions of products and companies.

When RatePoint was approached by Vgo Communications to test a mobile robot, Mr. Creighton jumped at the chance.

From his hotel room, Mr. Serani can roll a robot up to an office cubicle back at headquarters, listen in on a telephone sales pitch and offer advice.

Mr. Serani was initially skeptical. "I immediately saw the potential," he said. "It was more a question of 'How do I position this so I don't have my guys running out of the building calling the local reporters about how insane I am?' "

But in practice, he said: "Our sales team responded a lot differently to the robot than they did to the speakerphone. They were looking at it like it was a person, and their behavior patterns were completely different when it was here."

Still, the possibility that remotely operated robots might be used by some managers as surveillance devices, or as peeping Toms, has made some in the fledgling industry nervous.

"I don't want this technology to be seen as a means of oppression," said Trevor Blackwell, founder and chief executive of Anybots, the maker of QB, a $15,000 mobile robot that balances on two wheels like a Segway and will be shipped commercially beginning this fall.

Others argue that the design of a robot determines how it will be perceived in the workplace. "Larger screens for showing the pilot's video create a greater sense of presence, whereas little to none suggests surveillance," said Sanford Dickert, a Willow Garage executive.

There are also skeptics about the value of the current generation of mobile robots. "It's cool, but it's a little gimmicky," said Michael Arrington, founder and co-editor of the technology news Web site TechCrunch. Although he now lives much of the year in Seattle and manages his Silicon Valley Web site from afar, he said he would consider the robot as a stunt, perhaps for an interview, but not for running his company.

"You can walk around, but you can't really see what's going on," he said.

A Tool for the Elderly

All five of the United States companies that have announced or are already selling mobile robots are adding or experimenting with automation. For example, it will not be unusual for mobile robots in the next year to feature collision avoidance and lane-following technologies like those now offered in luxury automobiles. Already Vgo's robot automatically parks itself when it is driven within a foot or two of its recharging station.

Such automated robots could help in caring for a rapidly aging population.

Vgo's executives said they ultimately envisioned their robots being used by family members to pay visits and offer help to elderly parents, allowing them to remain independent longer. At the simplest, the Vgo robots could help workers in assisted-living homes check in on residents and make sure they were taking medicines at the correct time each day.

"We're not replacing low-cost labor," said Brad Kayton, Vgo's chief executive. "We're acting as a supplement for it."

Others see the robots as a new means of mobility for the elderly, allowing them to stay in better contact with friends and family and visit museums and theaters, among other possible applications.

As technology advances, designers say, mobile robots will allow the elderly and others to do more than be in two places at one time. The robots will augment their human users, enhancing their senses by offering capabilities like better vision and hearing as well as futuristic skills like face recognition.

Still, no one believes the telepresence robots will be accepted without some resistance.

Lou Mazzucchelli, an expert in video teleconferencing, suggested that workers might make fun of their robot-enhanced managers behind their backs.

Moreover, there may be unpredictable consequences. The robots might become a new target for frustrated colleagues. "All of these products," he said, "are just begging me to kick them over."

The New York Times

September 5, 2010

Making Your Presence Robotic

A new generation of robots is making it possible to be, in effect, in two places at once. From anywhere with a computer and a Wi-Fi connection, the operator can use the robot to hear, talk, see and be seen and move around a workplace far away. Early adopters include doctors, technology workers and supervisors. The robots range in size, features and price. Here is a sampling.

	Vgo (made by Vgo Communications)	Tilr (RoboDynamics)	Texai (Willow Garage)	RP-7i (InTouch Health)	QB (Anybots)
HEIGHT	4'0"	3'8" or 4'2"	5'2"	5'5"	2'6" to 6'0"
TOP SPEED	3.75 m.p.h.	2.4 m.p.h.	1.5 m.p.h.	2 m.p.h.	3.5 m.p.h.
DISPLAY SIZE	7"	8" (touchscreen)	15"	15"	3.5"
FIELD OF VIEW	60 degrees	55 degrees	140 degrees	360 degrees	130 degrees
CONNECTION	400 kbps	500 kbps	500 kbps	600 kbps	500 kbps
PRICE	$4,995	$10,000	Not available	Not available	$15,000
UNIQUE FEATURES	Text-to-speech; camera auto-tilts based on drive speed; remote monitoring headlights and auto-docking to the charger.	Web-based controls; can use own video like Skype, Google Vid Chat, MSN, etc.	Technology agnostic (can pilot on Windows, Mac or Linux), secure connection between pilot and Texai (SSL and VPN tunnel).	FDA-cleared, connects directly to Class II medical devices including electronic stethoscopes, otoscopes and ultrasound.	Untippable, two-wheel drive design; stabilized video; Web-based controls.

Sources: the companies

THE NEW YORK TIMES

Today's Hospitalist

An American in Paris

A transcontinental lifestyle, thanks to telemedicine

September 2010 issue of Today's Hospitalist

WITH A TAP OF THE JOYSTICK on her laptop, hospitalist Jayne Lee, MD, steers a telemedicine robot into a hospital room and introduces herself. It's at that point that many patients, who can see Dr. Lee's face on the robot's monitor, ask where exactly she is.

When Dr. Lee replies, "Paris," they often assume she means the nearby town of Paris, Ky. But she's actually beaming in from an office in her apartment on the Right Bank.

Dr. Lee is a member of Eagle Hospital Physicians, an Atlanta-based hospitalist management company that is spearheading the use of robotic telemedicine. While she flies to the U.S. once a month to work 10 straight shifts at a hospital in Kentucky or North Carolina, she spends an additional week manning the robot—an INTOUCH Health RP-7—from France.

In Paris, Dr. Lee receives a page when she's needed for rounds at one of the Eagle hospitals where she's licensed and credentialed. After speaking with the onsite team, she swings into action, albeit from halfway around the world, interacting with nurses and patients through a camera and microphone built into the robot.

"I prioritize who I need to see and then unplug the robot from where I'm parked in a hall," she says. Because she rounds with each patient's nurse—it's the nurse, for instance, who places the robot's stethoscope on the patient so Dr. Lee can listen—she spends more time during her remote practice interacting with nurses than when she's practicing onsite.

As she steers to patients' bedsides, Dr. Lee gets "plenty of looks, particularly from older patients." But she's never had a patient refuse her robotic care.

Born and raised in Flint, Mich., Dr. Lee first visited Paris as a fourth-year medical student. Her decision to move there—she was already working for Eagle—coincided with Eagle's move into telemedicine. While she's fluent in conversational French, she doesn't have the proficiency or the European Union training she'd need to practice medicine in France.

But Dr. Lee believes she's in on the ground floor of an innovation that will only see greater demand in the U.S., due to the shortage of hospitalists in rural facilities. As Eagle expands its telemedicine presence, she hopes to practice remotely full-time.

"Telemedicine is a new concept, like hospital medicine was 10 or 15 years ago, but it's evolving," Dr. Lee says. "I feel that I'm a part of the future of medicine."

Portland Press Herald

Robots give absent workers a presence at office

New remote-controlled Anybots communicate and see for workers in far-flung locations

By Troy Wolverton
September 5, 2010

SAN JOSE, Calif. - Late one July night, Mountain View, Calif., fire Capt. Verne Chestnut and his crew were checking out a fire alarm at an office building near Highway 237 when he saw movement inside. Worried that someone might be trapped, he took a closer look.

What he saw was not a person but a robot, and it was waiting at the front door, as if to greet them. After the fire crew got inside, the robot, which looks like a Segway scooter with a head instead of handlebars, followed them as they inspected the building. And after they finally succeeded in shutting off the alarm, it spoke to them.

“It was just like, ‘You’re kidding!’” said Chestnut. “It was definitely different being met by a robot.”

Chestnut quickly learned that the voice of the robot belonged to Trevor Blackwell, the CEO of Anybots, the robot-making company whose alarm had sounded. Blackwell, on vacation in Hawaii, was controlling the robot over the Internet. And if he’s right, robots like the ones his company makes are about to become commonplace.

Anybots’ QB model is just one of a group of new remote-controlled robots now hitting the market. Employing communications technologies similar to Skype and robotic technologies akin to those found in robots used to explore Mars or help defuse bombs in Iraq, the new robots cost far less than their predecessors and are designed for more ordinary uses.

Blackwell, who founded Anybots nine years ago after leaving Yahoo, says the $15,000 QB can inspect warehouses or factories remotely or provide tech support.

Security firms are also likely to be interested, said Jackie Fenn, an analyst who covers emerging trends at Gartner, a technology research firm. If security guards see something suspicious on a video camera, they could send in a robot to get a closer view, rather than having to go out and inspect it themselves.

Anybots’ competitors include VGO, a New Hampshire-based company that is developing a two-wheeled robot similar to QB that has a video screen instead of a “head.” Santa Monica, Calif.-based RoboDynamics, meanwhile, has for two years been selling a robot called TiLR that has a much more industrial look but is similarly being targeted for use by remote employees and costs just $10,000. And Santa Barbara, Calif.-based InTouch Health is building robots for use in hospitals and other health care settings by remotely located physicians.

The declining prices for telepresence robots will encourage experimentation among companies and entrepreneurs, who will find new uses for them, say analysts.

“These robots will have a network effect,” said Hyoun Park, an analyst at the Aberdeen Group, a technology research firm. “The more robots there are, the easier it will be to work remotely in ways we haven’t thought about before.”

QB and similar robots could eventually be used to let consumers preview houses or hotels from afar, to allow disabled people to virtually visit tourist destinations, or to help fashion experts, from the comfort of their homes, give sartorial consultations to consumers at clothing stores across the country.

Already, QB is undergoing testing by NASA and Wolfram Research founder Stephen Wolfram.

For now, Anybots is pitching the QB to companies with remote workers. Currently executives of those companies often meet with remote workers via video or teleconferences, or by having them fly in to the main office. But Blackwell argues that QB is a better solution because managers don't have to coordinate schedules so everyone is in the same place at the same time.

Also, it allows users to wander around and have the more informal conversations they might have if they were actually in the office.

Blackwell notes that buying a QB can be cheaper than flying remote workers to and from the main office: "A couple trips to Asia can easily cost you more than the cost of the robot, not even counting the waste of time in the air."

Remotely controlled by the arrows on the keyboard of an Internet-connected computer, QB moves around on two wheels. Via a built-in Wi-Fi antenna, it relays video of its surroundings back to its user's Web browser from its video camera eye and allows users to talk with colleagues through a built-in microphone and speaker.

Users can point to notes on walls and other objects with the laser pointer built into the QB's other eye. They can display their name or picture on the screen located in the center of what looks to be the QB's sea-green tiara.

While working from home, Blackwell and other employees frequently connect to a QB to check in with Anybots' employees in the office. The company also has also hired a "virtual" receptionist.

All calls to Anybots are directed to Suzanne Brocato's house in Martinez, Calif., some 60 miles from the company's headquarters. Brocato fires up one of the QBs from home whenever she needs to greet a scheduled guest at the office or to virtually attend a meeting.

"Everyone's so happy to greet the robot," Brocato said.

For the near term at least, the range of applications for QB and similar rivals will be limited by their lack of arms to manipulate things in their environments. Arms are a challenge because they make the robots more expensive, more difficult to use and less stable, analysts say.

QB has some other shortcomings as well. Users can't tilt its head up or down, so it can be difficult to see something that's not at the robot's eye level. Its "neck" can be raised or lowered to a different height, but that can't be done remotely by the operator. And QB has only one eye-level camera and can't move its head side to side, so its peripheral vision is narrow.

Those limitations haven't dimmed the excitement of tester Wolfram, who created the scientific computer program Mathematica and whose company last year launched the Wolfram|Alpha search engine. Slated to give a talk near his company's headquarters in Illinois at an event offering a 50-year retrospective on computing, Wolfram had a QB stand in for him.

Wolfram lives in Boston and for years has used video conferencing to communicate with workers at his company's headquarters and in its offices around the world.

"I'll get one of these," he said of the QB. "I always threatened to have robotic technology to wander around various parts of the company."

Los Angeles Times

Robots give telecommuters a physical presence in the office

Anybots' QB can stand in for a worker who is elsewhere. It transmits audio and images in both directions, and the remote user can have it wander around.

By Troy Wolverton
September 6, 2010

Reporting from San Jose — Late one July night, Mountain View Fire Capt. Verne Chestnut and his team were checking out a fire alarm at an office building when he saw movement at the front door.

But the thing waiting there, as if to greet them, was not a person. It was a robot that looked like a Segway scooter with a head.

The robot trailed the crew as they inspected the building and shut off the alarm. Then it spoke to them.

“It was just like, ‘You’re kidding!’ “ Chestnut said. “It was definitely different being met by a robot.”

The machine was voiced by Trevor Blackwell, chief executive of Anybots Inc., the robot-making company whose alarm had sounded. Blackwell, on vacation in Hawaii, was controlling the robot through the Internet.

This scenario, he said, could soon become commonplace as new remote-controlled robots, including Anybots’ QB model, hit the market. Using communications technologies similar to Skype and robotic technologies akin to those used to explore Mars or help defuse bombs in Iraq, the new models cost far less than their predecessors and are designed for more ordinary uses.

“The more robots there are, the easier it will be to work remotely in ways we haven’t thought about before,” said Hyoun Park, an analyst at technology research firm Aberdeen Group.

Blackwell, who founded Anybots nine years ago after leaving Yahoo! Inc., says the $15,000 QB can inspect warehouses or factories remotely or provide tech support. And security firms are likely to be interested, analysts said.

But eventually, robots could also be used to let consumers preview houses or hotels from afar; to let disabled people virtually visit tourist destinations; and to help fashion experts give sartorial consultations from the comfort of their homes to consumers at clothing stores across the country.

Anybots’ competitors include RoboDynamics in Santa Monica, which for two years has sold a robot called TiLR that costs $10,000 and is being targeted for use by remote employees. And InTouch Health in Santa Barbara is building robots for physicians working away from hospitals and other healthcare settings.

Anybots is pitching the QB to companies with remote workers who, when they aren’t being flown into the main office, are meeting with executives via video or teleconferences. Through a robot avatar, Blackwell said, users can wander around and have informal conversations as if they were actually in the office.

The QB robot is controlled using the arrows on the keyboard of an Internet-connected computer. Via a Wi-Fi antenna, it relays video of its surroundings back to its user’s Web browser from its video camera eye and enables users to talk with colleagues through a built-in microphone and speaker.

Users can point to notes on walls and other objects with the laser pointer built into the QB’s other eye. They can display

their name or picture on the screen in the center of what looks to be the QB's sea-green tiara.

But for now, the range of applications for the QB and similar robots is limited by their lack of arms to manipulate things in their environments. Arms tend to make robots more expensive and difficult to use, analysts say.

The QB has some other shortcomings as well. Users can't tilt its head up or down. Its "neck" can be raised or lowered but not remotely. And it has only one eye-level camera and can't move its head side to side, so its field of view is narrow.

Still, Anybots hired a "virtual" receptionist, which is operated by Suzanne Brocato from her house in Martinez, Calif., some 60 miles from the company's headquarters. Whenever she needs to greet a scheduled guest at the office or to virtually attend a company meeting, she fires up a QB.

"Everyone's so happy to greet the robot," Brocato said.

Robot Doctors: Future of Medicine?

Neurologist John Wapham lives in Chicago, but he sees patients across the globe

By Nesita Kwan
September 6, 2010

Neurologist John Wapham lives in downtown Chicago, but he can see patients anywhere in the world ... from his apartment. And he does. He's an expert in treating strokes, a specialty where minutes, perhaps even seconds, matter. And with the help of a robot and a broadband connection, he's able to be at a patient's bedside instantly.

"This brings specialists to the remotest parts of the country, and the world, "said Wapham during an interview at Loyola University Medical Center. And even as we spoke, he was sitting on the 69th floor of the John Hancock building, and we were at Loyola's Maywood campus, interviewing a robot.

Like the patients, we saw the doctor on screen while he used a joystick and a laptop computer to navigate through hospital hallways, and even to examine the patient.

"I've popped open my laptop on Michigan avenue and treated patients in another state, " he says. And the telemedicine expert says in the not too distant future, these robot doctors could be on the battlefield, or at the scene of a horrible car accident: instantly.

Pediatric intensivist Kathleen Webster also believes in this new technology, and says it's already saved lives.

Her training is in treating the hospital's sickest children whose conditions can deteriorate rapidly.

"I'm just a click away, " she tells parents, recounting how in one instance a child's heart suddenly stopped, and even the twenty minute drive to the hospital would have been time lost.

"I needed to be there right away, so I stopped what I was doing, flipped open my computer and immediately took the role of team leader..." she remembers.

The residents and nurses by the bedside, who were physically there to help the patient. They also had the benefit of Dr. Webster's years of experience and training, as she evaluated the patient. Not to mention the stream of data coming in from monitoring devices.

"We can do everything but touch the patient," Dr. Webster explains.

For both doctors, telemedicine has collapsed the amount of time it takes to get to a dying patient.

But also important, the technology may shave thousands of dollars off the cost of providing health care to every corner of the nation.

InTouch Health Chooses Ann Arbor Region for New Location

By Matt Roush
October 13, 2010

Ann Arbor Spark, the Washtenaw County economic development agency, said Thursday that it had attracted California-based InTouch Health to locate a research and development operation at Valley Ranch Business Park in Pittsfield Township.

Spark said it provided site selection and talent recruitment support to InTouch Health.

However, the company wouldn't say how many employees it would be hiring in Ann Arbor.

"InTouch Health chose Ann Arbor because of its rich software development talent pool, including experienced and new college graduates, as well as the region's concentration of robotics companies," said Michael A. Finney, Ann Arbor Spark president and CEO. "The incredible wealth of smart, talented tech people in our region makes Ann Arbor the best choice for businesses that want to grow."

InTouch Health is a privately held robotics technology company based in Santa Barbara, Calif. It develops, manufactures and markets remote presence technology. InTouch Health's medical robotics team has more than 50 patents and patents pending for its technology, products and solutions.

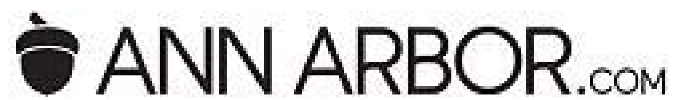
"The software and technical talent throughout the Ann Arbor region will enable InTouch Health to ramp up our operations quickly, and hit the ground running," said Dan Weigel, director of human resources for InTouch Health. "The team of software developers and related staff at the InTouch Health Ann Arbor location will work closely with our Santa Barbara office on product development and customer support."

InTouch Health helps partner hospitals transform their care delivery process with innovative healthcare models, leading to improved quality of care. Over one network, through a single interface, physicians can access a range of FDA-cleared Remote Presence devices to provide care into ED's, ICU's, patient wards, operating and procedure rooms.

InTouch Health has already developed a presence in the state of Michigan with over 45 remote presence endpoints located in hospitals across the state. Additionally, Michigan's largest venture capital firm, Beringea, was one of InTouch Health's earliest and ongoing investors which most recently invested $6 million through its InvestMichigan! Growth Capital Fund.

The company has more than 300 hospital locations on six continents using remote presence to deliver specialty care services such as stroke, critical care coverage, cardiology, trauma, pediatrics, neonatology, psychiatry, patient rounds, translation services, clinical education and surgical/procedure mentoring. For more information, please visit www.intouchhealth.com.

(c) 2010, WWJ Newsradio 950. All rights reserved.



People & Achievements in the greater Ann Arbor area

October 21, 2010

Ann Arbor SPARK, a regional economic growth nonprofit, recently attracted InTouch Health to locate a research and development operation at Valley Ranch Business Park in Pittsfield Township. Ann Arbor SPARK provided site selection and talent recruitment support to the privately held robotics technology company based in Santa Barbara, Calif.

Robotic Telemedicine Now Aiding in the Diagnosis for Oncology Patients

By Mary Lou Creamer
October 27, 2010

In another bold move in providing cutting-edge medical technology to its patients and physicians, St. Joseph Mercy Port Huron has commandeered the successful telemedicine stroke robot and reimagined its purpose for broader use in sharing advanced medical information and advice to patients in need.

This combination of technology and creative thinking is helping to ease the fears of patients in the Blue Water area who are facing a cancer diagnosis. The Mercy Regional Cancer Center, in collaboration with the Mercy Cancer Network — a network of the 17 Trinity Health, Michigan hospitals — is using the stroke robot at St. Joseph Mercy Port Huron as a tool to obtain oncology second opinions from experts across the region.

The Remote Presence robot investment through the Michigan Stroke Network was originally designed for patients in the emergency department to access highly trained neuroendovascular specialists at St. Joseph Mercy Oakland. Now that same robot is serving double duty for this important group of patients as well.

“When you are dealing with patients experiencing a cancer diagnosis, patients are absolutely scared,” says Kanu Dalal, M.D., Radiation Therapy Department at St. Joseph Mercy Port Huron. “When they hear the word ‘cancer,’ death automatically comes to mind. They also are scared of the treatment they may be facing.

“This is a very difficult time for patients. We’re hoping that the use of this telemedicine robot for a second opinion may help ease some of those fears and stresses.”

Dr. Dalal describes the robot for this use as being like a “medical Skype,” where people can talk to each other via a Web camera connected to their computers.

Patients and their local physician or clinical care liaison are connected via the telemedicine robot to a specialist in the Mercy Cancer Network. The specialist uses a laptop to see the patient and care provider, and the patient and care provider can see the specialist on the robot’s screen.

“It gives the local care provider and the patient a chance to discuss any issues with the physician on the other side,” Dr. Dalal says. “Everything gets explored and laid out on the table. There is no chance for misunderstanding or anything being lost in the translation.

“As a second opinion, it is an excellent backup plan. It really expedites things for the patient when it comes to choosing and starting a treatment.”

Sheri Nabozny, Oncology Service Line Manager at St. Joseph Mercy Port Huron, agrees. Her role with the robot is to organize what happens at the local Mercy Regional Cancer Center with what happens with the specialists in the Saint Joseph Mercy Health System.

“The robot is amazing, and this can provide such a relief for patients at a very scary time in their lives,” she says. “Now, many patients drive 60 miles or more one way to get second opinions. The telemedicine robot lets them do it much closer to their homes.”

Julie Sproul, Director of the Mercy Cancer Network, says the idea to use the robot to get oncology second opinions came from a St. Joseph Mercy Port Huron brainstorming session on how to better serve patients and optimize resources.

Research has shown that patients battling cancer prefer to be cared for locally, where they are familiar with their own physicians, the staff and their hospital. In those situations where additional resources offer enhanced or specialized treatment or capabilities, the use of telemedicine provides access to other network hospitals and cancer centers where patients can access treatment programs and options not necessarily available locally.

“Using telemedicine for additional options benefits our patients throughout Michigan,” she says. “The process saves time, travel and enables them to remain close to home — not only for their second opinions but also for a more coordinated-care approach during their cancer treatment.”

At the Mercy Regional Cancer Center, using the telemedicine robot patients can remain with their local specialist and hospital while obtaining a second opinion from one of the other hospital sites in the Saint Joseph Mercy Health System, such as Oakland, Ann Arbor or Livonia, where telemedicine connections are available.

Philip Stella, M.D., of St. Joseph Mercy Ann Arbor, is Medical Director for the Mercy Cancer Network. The telemedicine robot, he says, opens the door and puts the best specialists at the fingertips of the patients and their local care providers.

“Through this process we will be able to look at the images and have the conference face to face with the care provider and patient,” he says. “It is almost as if the specialist is right in the exam room with the patient. It really is quite amazing.”

Dr. Stella says a multidisciplinary team of surgeons, oncologists and radiologists meet on a regular basis to keep tabs on the progress of the program. This will also allow doctors in St. Joseph Mercy Port Huron to present issues and cases at conferences, when necessary, he says.

The telemedicine robot, coupled with the fact that Mercy Regional Cancer Center is part of the Community Clinical Oncology Program (CCOP) as well as the Michigan Cancer Research Consortium, enhances a patient’s ability to receive cutting-edge treatment.

“Because the patient gets to a specialist more quickly, they will be able to explore treatment options more quickly as well,” Dr. Stella says, “and because the hospital belongs to CCOP and the Michigan Cancer Research Consortium, physicians have access to every national clinical trial and new treatment out there being used.

“They don’t have to go out and search for the very latest treatment at some far away location,” Dr. Stella concludes. “This is all about treating them at home with the best and latest treatment.”

Dr. Dalal says technology is improving and making a huge difference in medicine and treatment.

“Sometime down the road, there will be a doctor on the other side of the video hook up who will be able to do a complete examination of the patient during one of these conferences,” he says. “Right now, the second opinion specialist can visually see the patient, receive copies of CT scans and other testing, but I do believe eventually the doctor will be able to actually perform an internal exam via the robot. When that happens, it will only improve treatment and care for the patient.

“Until then, what we are doing now is providing a standard of care that patients can’t get at any other institution in the Blue Water and Thumb areas,” concludes Dr. Dalal. “It is very exciting, not only for the medical community, but for our patients. This only improves their care and treatment options, and it does it close to home and family.”

Local physicians can refer patients directly for a second opinion by contacting Brenda Miller, R.N., oncology nurse navigator, who will serve as a clinical liaison for second opinion consultations, at (810) 985-1871. For more information on the program, contact Sheri Nabozny, Oncology Service Line Manager, at (810) 985-1387. For more information about the statewide Mercy Cancer Network, log on to www.mercycancernetwork.com.

UCLA Today

Robot helps prof train new surgeons in Italy

By Rachel Champeau
November 3, 2010

Dr. Erik Dutson, sitting at home in Los Angeles, waves to students in Milan, Italy, who are watching him on a monitor that serves as the "head" of a teaching robot. Dutson taught them how to perform minimally-invasive surgery.

UCLA's Dr. Erik Dutson recently instructed new surgeons in Milan, Italy, in advanced minimally-invasive surgical techniques — and he did it from a laptop computer while sitting at his kitchen table in Los Angeles.

Using an android-like robot that he controlled from his home with joysticks, Dutson was able to interact with trainees and faculty in Italy and "move" around the room without actually being there. On a monitor that comprised the robot's head, they could watch Dutson as he answered questions in real time from Los Angeles. On his laptop screen, he could see them, thanks to a camera mounted to the robot.

The technology, called the InTouch Health robotic system, has typically been used by doctors who want to check on hospitalized patients remotely. In fact, the Ronald Reagan UCLA Medical Center utilizes RONI, the robot, to do just that in its neuro intensive care unit. Virtual teaching experiences, however, are becoming increasingly popular as this technology becomes more available.

Image Courtesy of InTouch Health

Dutson, an associate clinical professor of surgery at the David Geffen School of Medicine, said that it's a way to enhance education around the world by bringing in leading experts virtually who may not be readily available in the flesh.

"It's much easier to just plug in a laptop than get on a plane," said Dutson, co-director of UCLA's Center for Advanced Surgical and Interventional Technologies. "Such remote instruction saves time, travel costs and allows access to leading experts around the world."

Looking at the robot's computer monitor-head, the trainees in Milan could also see illustrations that Dutson provided, such as a drawing that showed them where staples should be applied to close a suture.

Combining robotics and surgery is nothing new for Dutson, who is in charge of the UCLA surgical residents' curriculum for minimally-invasive surgical techniques and robotics. He is also the director of the UCLA Minimally-Invasive Surgery Fellowship.

The advent of minimally-invasive laparoscopic surgery has changed the face of the field. Rather than perform traditional surgery, surgeons are now doing many procedures by using controls similar to joysticks that manipulate surgical instruments inserted through tiny keyhole-size incisions.

In fact, to qualify for UCLA's minimally-invasive surgical training program, Dutson has students play a Star Wars video game against him to help him gauge their hand-eye coordination, a skill that's essential to effectively use these new tools.

Surgical residents are first taught standard laparoscopic techniques in training classes such as those held in Milan. Once these skills are mastered, many are also taught how to utilize a robot to perform surgery.

"Minimally invasive robotic surgery offers improved outcomes for patients with shorter recovery times due to reduced pain and trauma and also provides surgeons with a greater range of motion and access," said Dutson

According to Dutson, almost every surgical area is utilizing minimally-invasive techniques, including urology, cardiology, thoracic, vascular, bariatric surgery and neurosurgery.

Dutson's team is now working on several projects to enhance the students' experience as they learn these new surgical skills. He is partnering with the UCLA Henry Samueli School of Engineering and Applied Science to develop a system that will help surgeons using robotic surgical instruments actually feel resistance to bone and tissue as if they were operating inside a body.

The team has also developed a new robot which features dual controls similar to those used in a car to teach driver's education so that a surgical teacher can help guide a trainee over the Internet as he or she uses a duplicate set of standard laparoscopic tools.

"It's essential to develop new methods of teaching these skills to help meet the demand for these latest procedures," Dutson said.

Louisiana Medical News
YOUR PRIMARY SOURCE FOR PROFESSIONAL HEALTHCARE NEWS

Our Lady of Lourdes Introduces Telestroke Robot

By Lisa Hanchey
November 18, 2010

It's not R2-D2; it's RP-7i. This Remote Presence System robot is a real, life-saving device which is part of the Louisiana Stroke Network at Our Lady of Lourdes Regional Medical Center in Lafayette.

Nationwide, stroke is the number one cause of serious disability, and the third leading cause of death. Each year, 700,000 Americans have a stroke. The American Stroke Association estimated stroke costs at $65.5 billion in 2008, with projections exceeding $2 trillion between 2005 and 2050. At the top of the charts is Louisiana, with a higher incidence of stroke and mortality from stroke than most of the country. In the latest available statistics from the American Heart Association, Louisiana ranked 46th in age-adjusted death rates from stroke.

Studies show that 80 percent of disabling strokes could be avoided by taking preventive steps. Among these are administering the clot-busting drug, tissue plasminogen activator (tPA), within three hours of the onset of acute stroke symptoms. But, many facilities, particularly those in outlying areas, do not have access to a neurologist who could make an assessment within this critical window. That's where the telemedicine robot comes in.

On OLOL's stroke team are emergency room physicians, six neurologists, four interventional neuroradiologists and neurosurgeons. Areas outside of Lafayette, however, have a paucity of neurologists. With the robot, emergency room doctors in rural communities can access a neurologist 24/7. "Use of this robot allows us to be able to export our neurologic expertise to anyone within our network within a matter of minutes, affording us a much greater window of opportunity to intervene in patients who have had strokes," explained Dr. Leopoldo Dealvare, a neurologist practicing at OLOL.

"Essentially, it extends the reach of the physician, and the Stroke Center of Excellence can now reach into other communities and affect more patients," added Michelle Hensgens, Telestroke coordinator. "This affords all of our partnering hospitals the same opportunity in the access to those specialists. So, that's ultimately why we're here, is to improve the care of our patients throughout Acadiana, not just here in Lafayette. This gives us the opportunity to do so."

How does it work? "It's very simple," Dealvare said. When a stroke patient is brought into the emergency room of a networked hospital, the ER doc contacts the OLOL neurological specialist on call. That neurologist "beams" from a ControlStation at home, clinic or office to an RP-7i robot from a list of the participating hospitals. After selecting the robot, the neurologist pushes "connect," and is en route to the robot's monitor via remote presence technology. "In about two seconds, the screen opens up, and I'm there," Dr. Dealvare explained. A "joy stick" allows the specialist to navigate the robot to interact with patients, family members and healthcare personnel. "I can do just about anything but something which requires hands," he said. "So, I am dependent on others to be my hands for me."

Through the robot, stroke specialists can perform live, real-time audiovisual assessments on acute stroke patients. A neurologist can instruct the ER doctor or nurse to ask diagnostic questions and perform testing. The exam usually takes about five minutes. "Within 10 minutes, we can make a decision on patients and how we are going to treat those patients," Dealvare said. "And, the emergency room doctor feels comfortable that he's got a neurologic consultation. Now, he feels comfortable giving the treatments that we recommend."

This quick assessment increases the likelihood that thrombolytics can be delivered in a timely manner to reduce stroke disability. “The difference is taking your chances as to whether the stroke will resolve by itself, or increasing your chances by allowing us to treat you with these disease-modifying drugs, like tPA, where we have a chance of getting a much better outcome,” Dealvare said.

In October, Dealvare treated a stroke patient from Opelousas using the LSN. Through the robot, Dealvare examined the patient, determining that he needed tPA. After receiving the drug, the patient was transported by ambulance to Lafayette. “By the time he got here, his symptoms were all resolved,” Dealvare reported. “I sent him home two days later with a normal neurological exam.”

Before initiating the program, OLOL’s neurological team performed mock drills at the emergency rooms of the networked hospitals. As of press time, Dealvare had assessed five patients through LSN. He mans the robot from 7 a.m. to 4 p.m. on weekdays. “We are in our early stages, but it seems to be going very well,” he said. “Outcomes are improving.”

LSN went live in September. Partners include Opelousas General Hospital and Iberia Medical Center. OLOL has also contacted hospitals in Jennings and Gonzales.

Currently, the Lourdes Foundation, Inc., OLOL’s fundraising arm, is hoping to raise $1.5 million to support the Louisiana Stroke Network. These funds would allow the foundation to purchase several robots, costing approximately $100,000 each. “If we raise $1.5 million, we will be able to put the robots in the hospitals that need them,” said Ian MacDonald, vice chair and development director of the Lourdes Foundation. “We are looking at Abbeville, Kaplan, Jennings – places where they don’t have neurologists. Our goal is to put them in our network throughout south Louisiana up to the Marksville area where ER docs will have ready access to a neurologist who can help evaluate and treat the patient, and transfer if necessary.”