

Telemedicine:

Expert Care from NOLA

BY CLAIRE O. PLOEGMAN

LOUISIANA IS UTILIZING A TECHNOLOGY THAT COULD ALLEVIATE A PROBLEM SHARED WITH its southeastern neighbors. Tennessee, Georgia, Alabama, Arkansas, Mississippi, North Carolina, South Carolina, and Louisiana, itself, struggle beneath an alarming set of statistics as well as an undesirable nickname, the “stroke belt.” According to the American Heart Association’s overall evaluation, lifelong residents of these states may be up to 50% more likely to experience stroke than other United States citizens.

While at-risk patients try to replace unhealthy habits with preventative practices, a replacement that could take years to re-steer the statistics, Ochsner Health System in New Orleans is “twittering” emergency rooms. Not really, but they are tapping into the real-time realm that technology makes possible. Through telemedicine, Ochsner’s specialists are making themselves—their expertise—available around the clock to stroke victims in places like St. Anne’s General Hospital in yonder Raceland, Louisiana. More importantly, Ochsner is sharing their expertise with their long-distance friends in under three hours time.



Three hours is not an arbitrary time frame. Many Louisianans have to drive over three hours to see a specialist, a drive that is little more than a nuisance in the calendar grid of non-emergency appointments. But when it comes to stroke, particularly the most common type known as ischemic stroke, “Time lost is brain lost,” says Dr. Kenneth Gaines, chairman of the Department of Neurology at Ochsner Clinic Foundation. Once a culprit blood clot initiates a

stroke, damage escalates to the brain. The brain strives to carry on with its natural functions even as the vascular system fails to serve sealed-off areas of the body. Ischemic stroke occurs when a clot blocks the brain’s blood supply, and the brain literally begins to die. Yet a powerful thrombolytic or clot-dissolving drug called tissue plasminogen activator, better referenced as tPA, can head off debilitating and fatal consequences when administered to eligible candidates within three hours of a stroke’s onset. Thus, a three-hour road trip is unhelpful at best. Likewise, a visit to a closer emergency room that lacks a full arsenal of neurological and vascular specialists is inadequate since the issue of travel to one ER for transfer to the higher level of care at another ER loses valuable time and often leaves a patient out of the window of opportunity for treatment. The final statistic: delay renders 70% of patients ineligible for tPA.

For critical care, the bottom line is that patients and specialists need to be where they can see each other. “One of the hardest things to do is to be on the phone with an emergency-room doctor about a patient that I can’t see...and I am talking to an ER doctor who I don’t know what his expertise is or the ER’s capabilities,” says Dr. Gaines. The unknowns

and potential inaccuracies present uneasiness on either side of the phone when judging the necessity of tPA, which has a 6% hemorrhage rate.

But Ochsner saw hope for expediency in telemedicine, a technology with the power to immediately place patients and doctors in the same room—a chat room. Telemedicine deletes the drive (or helicopter ride).



Using web-cam equipped computer monitors, Dr. Gaines can talk directly to a patient to get a medical history as well as observe diagnostic field tests, like examining a patient's eye movement, as if he were on staff at Raceland's ER. But while the word "chat room" is a good introduction to telemedicine, it falls short of a full explanation. Dr. Gaines can simultaneously pull up medical records on his own screen, from on-the-spot CT scans to previous lab data. Dr. Gaines' own notations stream into the digitized records as well.

Beyond the push to "go paperless," telemedicine requires digitized records for the purpose of quick sharing among doctors and hospitals. "Electronic records' time has come. The United States is first in clinical technology but in the dark ages for electronic documentation. Telemedicine will benefit tremendously from this ever-growing network of medical records," says Jason Morgan, chief operating officer of Nashville's The iPractice Group, which is helping connect up Tennessee with the goal of getting the state "online" by 2014 with electronic health records that enable real-time exchanges with health providers within and across state lines. The speedy, organized sharing of all medical information contributes not only to making telemedicine work on the spot but also helps ensure the best outcome when administering drugs like tPA. When primary care records, ER documents, and immediate notations from specialists like Dr. Gaines travel through the wire together, their meeting creates an ever-deepening database that is also searchable, and this is especially useful for future research and case study compilation. Doctors can instantly know more about an individual patient and more about how patients at large have responded to treatments, no matter how rural or city-dwelling the hospital.

Like digitized records, telemedicine isn't Ochsner's advance, per se, but a highly strategic telemedicine arrangement is. The Ochsner Acute Stroke Intervention System, tagged OASIS, uses the online technology to share its main campus specialists with seven community hospitals or "spokes." The spokes radiate from the "hub," a team of two neurologists and a group of related specialists who make themselves available 24-7, defying the hit or miss nature of on/off-call availability with a team that goes live through technology. "It definitely wakes us up a little more than one hospital," says Dr. Gabriel Vidal, with good-natured honesty. Dr. Vidal is Dr. Gaines partner, the other half of the hub's neurologists.

The OASIS innovation is financed in part by the Centers for Disease Control (CDC), who awarded Ochsner the single, highly competitive grant. The specialists that make up the hub are the biggest investment, as laptops are essentially the extent of the hub's tech cost. Conversely, the spokes' main costs roll in on a cart, a justified \$10,000 addition to

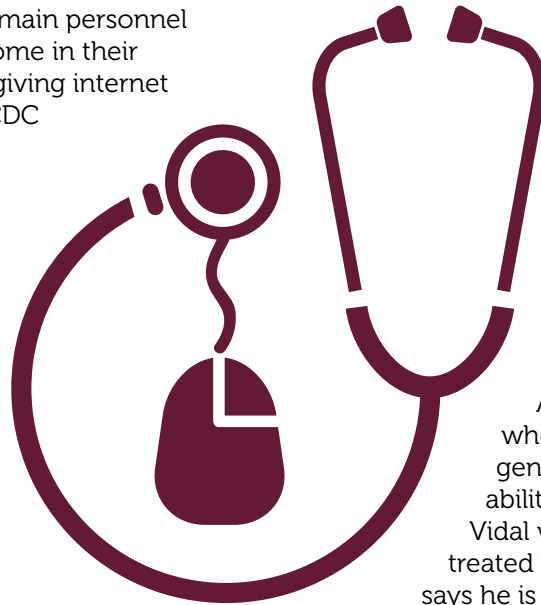
each emergency room. After these main personnel and hardware components are at home in their respective locations, the bill for life-giving internet presents the only trickle cost. The CDC plans to add four spokes yearly.

According to Dr. Gaines, OASIS is accomplishing its smart and speedy purpose and exceeding expectations: "Our average time from a call from a hospital out there is about eight minutes, so it's a pretty rapid triage system." With the hub's portable technology, only time matters in the time and space equation, proven when Dr. Gaines interjects that he occasionally pulls his car over, "cranks up" his laptop, and completes online consultations to make judgment calls from the side of the road. This is perhaps the most literal example of how travel stops with telemedicine.

When telemedicine teams up with tPA, there are astounding results for both patients and healthcare providers. Yes, three hours is the cut off for administering tPA based on FDA recommendations, but patients receiving the drug even sooner, specifically within the first hour, are four times more likely to recover with little or no disability. Ochsner Health System estimates a savings of \$4,000,000 per 1000 patients who receive intravenous tPA, citing thusly preventing damage shortens hospital stays and reduces the need for extensive rehabilitation and/or nursing-home care.

But for Dr. Gaines, seeing tPA extend the quality and length of life is the real reward: "I was one of the principal investigators in the development of tPA. I started doing that in the nineties. It's kind of frustrating when you do the research like that and have a drug like this and realize that there's no way for most people who need the drug to get the treatment." In sum, Dr. Gaines and Dr. Vidal saw over 100 patients between August 2009 and June 2010.

Though an innovator, himself, Dr. Gaines's experience comes from the old school, which made him a little skeptical as to how any one of these 100 patients might react to him being so strangely in absentia. However, Dr. Gaines is happy to report that the only reservations he's encountered from patients as they look back at him through a computer screen is cost,



specifically whether that cost is covered by their insurance. The good news is that telemedicine is revolutionizing critical care with such success that, according to the month of April's tally in an American Medical News article (amednews.com), twelve states have already required telemedicine's inclusion within healthcare coverage.

Adding happiness to healing, Dr. Vidal, who can be called Dr. Gaines' new-generation partner, speaks of patients' ability to relate to tele-doctors. When Dr. Vidal walks into the rooms of patients he treated the day before via telemedicine, he says he is met with happy greetings like, "You're the doctor on the screen!"

Until stroke is a thing of the past—until risk factors like obesity, high blood pressure, and heart attack abate—it is particularly important to know the warning signs of stroke and respect the time limit, three hours. Loss of vision, inability to speak or move normally, numbness, weakness, or loss of balance means one should assume he or she might be having a stroke and should call 911. When emergencies do arise, take Ochsner's lead and turn to telemedicine.

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Other Resources:

American Telemedicine Association: www.americantelemed.org
The iPractice Group: www.iPracticeGroup.com

Your Local Heart Association is an excellent resource for statistics, prevention and symptom education, inspirational stories, and information about getting involved with community awareness events.

American Heart Association/American Stroke Association
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