Saving Lives: Dr. Brian Dawson, a neurologist at Valdosta's South Georgia Medical Center.
At Redmond Regional Medical Center in Rome, an increased focus on education for patients with congestive heart failure means fewer patients will be readmitted.

At WellStar Kennestone Hospital in Marietta, patients who come to the ER with an acute myocardial infarction (heart attack) can expect to have their blocked coronary artery open within 90 minutes of their arrival, reducing their risk of heart damage and increasing their chances of survival.

At Valdosta’s South Georgia Medical Center, the number of stroke patients receiving the clot-busting drug tissue plasminogen activator (tPA) – the only proven treatment for stroke – has increased 12-fold in the past two years, reducing complications and death from ischemic stroke.

At these and more than 100 other hospitals throughout the state, medical and nursing staffs are improving care and outcomes for their patients with cardiovascular disease through their commitment to an American Heart Association (AHA) program called Get With The Guidelines.

This program helps ensure consistent application of the most recent AHA and American Stroke Association scientific guidelines for patient treatment, whether it means determining the optimal treatment for a specific type of heart or blood vessel problem or the optimal timeframe for administering the treatment, says Jim Groover, director of quality improvement initiatives for the AHA. The program includes in-hospital modules for heart failure, stroke and resuscitation as well as a module for outpatient practices.

Medical centers can receive different levels of achievement by following the guidelines consistently.

“These programs are based on research that the American Heart Association puts out,” says Groover. “Out of that research comes evidence-based medicine, which is cutting edge and the most effective way to treat these different patient populations. Following the guidelines gives patients the best possibility for positive and increased outcomes when you look at cardiovascular care.”
The guidelines provide very specific steps that have to take place to give patients the best outcome while allowing flexibility for variations that doctors may need to account for, says Mary Robichaux, vice president of quality improvement initiatives for the greater southeastern affiliate of the AHA.

“For me, the Get With The Guidelines program is another way for us to measure and compare,” says Barry Mangel, M.D., an interventional cardiologist at WellStar Cardiovascular Medicine in Marietta, which for years has been involved with the program. “In healthcare, that is always important. We want to be able to measure what we are doing and want to be able to compare benchmarks to be sure that we are achieving our goals, and we are achieving what are considered to be national benchmarks.”

While scientists continue to search for new and better ways to treat cardiovascular disease, Get With The Guidelines is focused on finding the best ways to use current therapies and getting appropriate treatment to people quickly and efficiently.

With more than 2,000 hospitals participating nationwide, the guidelines program could potentially save more than 80,000 lives annually if 75 percent of the eligible patients discharged are treated at an 85 percent compliance rate with the guidelines.

Georgia Trend takes a look at some of these life-saving efforts.

### Treating Heart Failure

For people over 65, the most common cause of hospital admission is heart failure, the inability of the heart to adequately pump to meet the demands of the body. The condition leaves people short of breath and causes fluid buildup, as the heart is not pumping well enough to perfuse the kidneys to get rid of fluid.

While heart failure can’t be cured, it can be managed if people get the right treatment and are willing to adhere to their treatment and make necessary lifestyle modifications, says Toni Puckett, a registered nurse and heart failure coordinator with Redmond Regional Medical Center.

In the hospital, heart failure treatment involves finding and treating the cause of heart failure, which could be coronary artery disease, hypertension, alcoholism or even the use of illicit drugs like cocaine. But a big part of what Redmond does in the hospital now is prepare patients for their transition back home and into the community. “Get With The Guidelines is an in-hospital program, but its tentacles reach out into the community,” Puckett says. “Our goal is to get these patients from being a patient with heart failure in a hospital bed to getting out in the community with a good solid plan of care.”

Before Redmond started the program, education was largely limited to the instructions people received on the day of discharge, says Puckett.“Now we really put an emphasis on education and start that education on day one. We also call within three days of going home and say, ‘Did you have any problems picking up your medications? Do you understand everything you are supposed to be doing?’

“Something else we did not do before was to make sure they have their physician follow-up appointment when they walk out the door,” she says. “We call and tell them, ‘You need to keep that appointment even if you feel on top of the world.’ We also send the patient’s medical records to the patient’s doctor.”

Redmond’s program, which for the past two years has received the AHA’s Gold Plus recognition, the highest achievement for heart failure treatment, also works with home health agencies, particularly for patients who are readmitted. “We sit down together,” says Puckett, to see what could be done differently. “For people who could benefit from a heart failure clinic – where they could be followed by a cardiologist, have IV diuretics and have lab work by nurses specially trained in heart failure – Redmond has the only one in Georgia north of Atlanta.”

For Puckett, the change that has come with the guidelines has been gratifying. “All I have to do is see one person that has just got it – and we see them every day. If you can take the information you have been given and affect just one person’s life, to me that’s what it’s all about – keeping them home longer, keeping them healthy longer.”

### Clot-Busting Drugs

When neurologist Brian Dawson, M.D., left the Mayo Clinic in Jacksonville, Fla., in 2011 to start the stroke program at Valdosta’s South Georgia Medical Center, there was not a single such program in Georgia south of Macon, despite the area’s location at the center of the Stroke Belt. Stretching down the East Coast from Virginia to North Florida and over to East Texas, the Stroke Belt has the dubi-
ous distinction of having an unusually high incidence of stroke and other forms of cardiovascular disease compared to other parts of the country, says Dr. Dawson. Valdosta is located right in the center of the belt’s buckle. “So the place that absolutely needed [a stroke program] the worst was the one place that didn’t have it. That is why the hospital administration made the effort to bring someone in to start the program.”

The program at South Georgia Medical Center has become one of the top stroke programs in the state, earning the 330-bed facility the Georgia Coverdell Champion Hospital of the Year for Medium Hospitals between 101 and 350 beds and a Silver Plus Award for Stroke Care from the AHA and American Stroke Association.

“I foresee that in the coming decades, a lot of the emphasis on healthcare research instead of finding new miracle cures is going to be getting effective implementation of what we already have sitting right in our tool box,” says Dr. Dawson.

At present, the most effective tool and only FDA-approved treatment for ischemic stroke (the most common type of stroke, caused by the obstruction of a blood vessel supplying the brain) is tPA, which breaks up blood clots. The drug is so integral to stroke treatment that its use and the length of time between a stroke patient’s arrival at the hospital and the administration of tPA – referred to as door-to-needle time – are two key quality measures of a stroke center.

For South Georgia Medical Center, the number of stroke patients receiving tPA has increased exponentially since the formation of the stroke center and participation in the Get With The Guidelines program. “In our facility in the year prior to the stroke program being started, there were only five people treated with that drug. The year after that, from July 2011 to July 2012, we treated 48 patients with tPA,” says Dr. Dawson. In the past 12 months the number has risen to more than 60.

Similarly, the Medical Center of Central Georgia in Macon has seen significant increases in patients with ischemic strokes receiving tPA since beginning its involvement with Get With The Guidelines, says CEO Ninfa Saunders. The number of eligible patients receiving the drug within 60 minutes of arriving at the center has increased significantly, too. The center’s record has earned it the Stroke Gold Plus Quality Achievement Award for three years straight. More importantly, the prompt use of tPA has likely saved many lives.

The Speed Factor

While Get With The Guidelines is concerned with patients’ treatment in the hospital and how they manage their disease once they get home, another AHA program called Mission Lifeline is largely focused on what happens before patients get to the hospital.

The program applies a trauma center approach to treating heart attacks, a problem that kills five times as many people as trauma, says Mike Ross, M.D., professor of emergency medicine at Emory University School of Medicine and medical director of Observation Medicine at Emory Healthcare. The goal of the program is to get people to the appropriate hospital as quickly as possible and to ensure that the medical team has the information they need to begin treatment as soon as the patient arrives at the hospital.

Mission Lifeline focuses primarily on a type of heart attack called ST-segment elevation myocardial infarction, or STEMI, in which the coronary artery is completely blocked off by a blood clot. STEMIs, which account for roughly half of all heart attacks, are often fatal. The chances of a successful recovery lie with prompt, specialized treatment, namely the use of balloon angioplasty to open the blocked artery.

Not so long ago, getting such treatment was a bit of a hit-or-miss proposition, says Dr. Ross, who is co-chair of Mission Lifeline Atlanta and a founding member and past president of the Society of Chest Pain Centers. “The entire Metro Atlanta had a bunch of emergency departments and a bunch of EMS agencies and really no coordinated system for treating those heart attack patients,” he says.

Most ambulances were not outfitted with pre-hospital EKG equipment, which would enable them to diagnose STEMI heart attacks on the way to the hospital; for the few ambulances that had the equipment, there were no clear guidelines on where to take patients or which hospitals were best equipped and prepared to treat STEMIs. “So if you were a heart attack patient and dropped by parachute in Atlanta, you might get lucky and end up in a STEMI center and you might end up in a hospital that was not a STEMI center, and that would cause delays in somebody being diagnosed and transferred,” he says.

That began to change about three years ago with the formation of Mission Lifeline, an amalgam of individuals from STEMI centers, including cardiologists, emergency doctors, nurses and administrators as well as representatives from EMS agencies, who came together to map out a plan.
Cutting-Edge Treatments With No Cutting

When it comes to heart disease, some of the most cutting-edge treatments require little if any cutting, says Barry Mangel, M.D., an interventional cardiologist at WellStar Cardiovascular Medicine in Marietta.

Perhaps the most exciting news is in valvular heart disease — problems with the valves that control the flow of blood through the heart's ventricles. Through a procedure called transcatheter aortic valve replacement, doctors are able to replace a defective valve with a new one made of cow tissue through a catheter inserted into the femoral artery of the upper thigh and threaded up into the heart.

A similar procedure allows for the placement of a new device called the MitraClip in people with mitral regurgitation, a debilitating, progressive and life-threatening disease in which a leaky mitral valve causes a backward flow of blood in the heart.

Less invasive therapies are available or being studied for other cardiovascular problems, including atrial fibrillation, an irregular and often rapid heart rate that can cause poor blood flow and the formation of clot that can cause a stroke.

In people with atrial fibrillation, a new device called LARIAT allows doctors to exclude the left atrial appendage, a pouch that extends off the top left chamber of the heart, that is known to start atrial fibrillation and serves as a source of clot, says Dr. Mangel. “This allows patients who can’t have blood thinners to have a lower risk of stroke.” – Mary Anne Dunkin

The first step was to provide the majority of ambulance companies in a nine-county region with pre-hospital EKG equipment. Next they made sure that the STEMI centers in the region had equipment to receive wireless transmission of those EKGs if needed.

The group then developed training with protocols for paramedics to do the EKG and understand who gets the EKG, says Dr. Ross.

Finally, the program called for all of the hospitals that were STEMI centers to participate in a heart attack registry called ACTION, says Dr. Ross. “What that did was track these hospitals using the same language so that everyone was reporting the same information using an external unbiased tool, so we could actually study how we were treating heart attack patients in the Atlanta area. What we have done is come together and say, ‘OK, we are going to act as one health system.’”

The new system performed so well that it raised the bar on itself, he says.
“The old standard, the goal, was that the heart attack patient would have the blocked artery opened within 90 minutes of hospital arrival. All of the STEMI centers were doing very well with that, so we as a system decided to raise the bar. The new bar is not arrival to the hospital, but it is first medical contact – 90 minutes from first medical contact – so the stopwatch starts when the ambulance picks the patient up on the scene. We used to call it D2B – door to balloon. Now we call it FMC2B.”

The program has had an impressive impact on patient care, he says, but perhaps the most notable and unusual aspect of the program is the way in which the participating hospitals work together. “It kind of reminds me of the United Nations, because hospitals by nature tend to compete with each other, and what is remarkable is that the American Heart Association has acted like Switzerland. They have created a mutual ground. Hospitals that might otherwise compete are coming together and cooperating to do what’s best for the patients.”

Dr. Ross hopes the gains and improvements brought by Mission Lifeline will be sustained. The current program encompasses a nine-county region that covers half the state’s population, he says, but the hope is “to reach out to other regions of the state of Georgia to do the same thing and then eventually spread this map out to the rest of the state.”