

ARSAVES



Annual
2016
Report

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Tina Benton, RN, BSN
Director, Center for
Distance Health



Roy Kitchen, MBA
Business Administrator

First in the nation per capita... for stroke mortality. Sometimes, it is not best to be first. Yet, that is the statistic Arkansas faced for a number of years; that is, until an idea hatched by the University of Arkansas for Medical Sciences and Arkansas Medicaid sought to break down that deadly national status. Arkansas Stroke Assistance through Virtual Emergency Support (AR SAVES) exemplifies how a low-cost, high-tech solution can truly live up to its name by saving lives. Utilizing an interactive video network, we have brought neurological support to rural patients experiencing symptoms of stroke in Arkansas' rural emergency rooms. In so doing, Arkansans living in rural areas have access to the same care as those living in metropolitan areas. Before AR SAVES was established, the expertise of stroke neurologists was

On The Cover: This Annual Report highlights our five year survivors. Ticia Covington represents all those living a healthy, productive life due to AR SAVES. Read her story on page six.

geographically limited to large hospitals within the few metropolitan areas of Arkansas. Today, that expertise can be accessed at 48 hospitals statewide, protecting patients from death and the debilitating effects of stroke. In addition, this program allows patients to be treated in their hometown hospitals, and we are adding regional receiving hospitals that have the capability and capacity to provide post-t-PA follow-up care by, again, providing nationally recognized best practices for stroke in Arkansas' rural hometowns.

Our partnerships with emergency medical services, rural emergency departments, larger regional receiving sites, and our vascular neurologists are the key ingredients to AR SAVES' success. AR SAVES now has 48 spoke sites and is growing. Since our inception, we have provided consults with over 3,000 patients and provided t-PA to over 1,000 patients. Nearly all Arkansans now live within a 30-minute drive of an AR SAVES hospital. In addition, we continue to increase stroke awareness through widespread consumer education about stroke signs, symptoms, and appropriate actions. Education balances our clinical efforts in stroke, with each representing an essential piece of the AR SAVES mission. So, starting at first

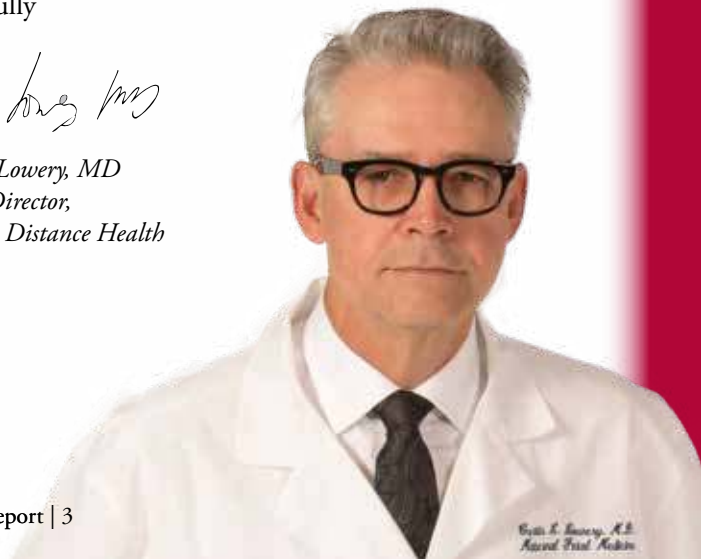
place nationally in stroke mortality, Arkansas has now dropped to sixth in the nation, a notable change that I believe is attributable to our efforts through AR SAVES.

With these thoughts, it is my honor to bring you the FY 2016 AR SAVES Annual Report. Ticia Covington, our AR SAVES patient featured on the cover, represents all of our now five year survivors. As a result of the continued success of this program, the UAMS Center for Distance Health is working with Trauma Centers across the state to provide telemedicine with additional specialties. We look forward to the future of telemedicine in Arkansas and stand ready to assist other facilities and sub-specialists in their efforts to offer quality care across the state.

Respectfully



*Curtis L. Lowery, MD
Medical Director,
Center for Distance Health*





Stroke Survivor Goes On to Work as Emergency Nurse

Years Later, Other Survivors Still Thrive

By Ben Boulden

Shannon Coles didn't know why her pills were on the floor of the physician's office where she worked next door to the White River Medical Center in Batesville.

She had reached into her purse, and the next thing she knew, they were on the floor. Coles didn't remember grabbing them or getting them out.

Her confusion grew when she slid out of her chair and onto the floor in an unsuccessful attempt to retrieve the spilled pills. When a coworker tried to help her up, Coles could not bear weight on her right leg.

The physician for whom she worked quickly recognized her symptoms as those of a stroke and got her to the ER at the neighboring medical center. Curt Coles, her husband, was helping a friend pour some concrete miles away from the medical center when he received a text from one of his wife's coworkers, informing him of what had happened. He called a local

police officer and friend to warn him that he would not be obeying the speed limit.

Curt Coles had arrived when AR SAVES stroke neurologist Margaret Tremwel, M.D., determined Coles was having a stroke. Tremwel, in Fayetteville, examined Coles through a consultation over a high-speed video communications network that is part of the AR SAVES program. The neurologist put Shannon Coles through some tests of her motor and verbal skills. Her movements were slow, but she was able to complete them.

The test results were enough for Tremwel to recommend Coles receive a blood thinner. It had been less than an hour since her admission.

Curt, who is a paramedic and firefighter, said he saw a positive effect from the blood thinner almost instantly. Next, Coles, with her husband at her side, was transported to UAMS Medical Center. Her health

continued to improve, and Coles steadily regained her physical coordination and strength.

By 3 p.m. the next day, she was released by UAMS Medical Center and able to return home. She has no side effects from the stroke, and in December, she received her pin as a registered nurse.

Coles today works in the same Emergency Department in which she was treated months ago for stroke. That's because of AR SAVES and White River Health System.

"It all worked out and everybody was fabulous at UAMS," Coles said. "The nurses were wonderful. The ER staff at White River Medical Center was great, too."

Janie Evans, a clinical education nurse at White River Medical Center, has been an AR SAVES facilitator with the program since its beginning.

"White River Health System has been a part of AR SAVES since the second year," Evans said. "In remote areas without access to the program, success stories such as Shannon's would not be possible. I am very proud of our Emergency Department staff for their commitment to this program."

More than 1,000 patients have received consultations and blood thinner through AR SAVES since it began in 2008. One of the most encouraging aspects is that Arkansas recently dropped from first to sixth place in

stroke deaths among the states.

The stories of Ticia Covington and the Rev. William Robinson illustrate what AR SAVES successes like Coles' can mean in the long term for hundreds of people.

In 2010, Ticia Covington was a 25-year-old mother of two little girls and a public school teacher when she had a stroke. Symptoms started with double vision

and then multiplied.

"I had every sign of a stroke, which I guess was a good thing because it helped us to know it was serious," she said. "Within



minutes, I couldn't walk or talk or use my arm on one side of my body."

Her husband took her to the White County Medical Center, now Unity Health, in Searcy where she had an AR SAVES consultation and received a blood thinner. Covington said her symptoms diminished by the hour

after that. She spent some time in observation at UAMS, but within a month had returned to teaching.

Covington even went on to have a third child, a boy. It was a high-risk pregnancy, and she had to have daily injections of blood thinner in her abdomen, but her son was born, and remains, healthy.

“I tell folks about AR SAVES, and my mom has become a big advocate,” Covington said. “She shares things about SAVES on social media. My husband and children know quite a bit about it now, too.”

It took the Rev. William Robinson, pastor First Baptist Church of North Little Rock, longer to recover from his stroke.

In August 2010, Robinson was in a West Memphis church delivering a sermon, “The Enemy Called Stress,” as part of a revival tour. He had finished and stepped down when he felt a sharp pain in the back of his head. His speech slurred and he knew something was wrong.

More than two hours later at Crittenden Regional Hospital in West Memphis, and after an AR SAVES live video consultation, he received the blood thinner.

After a few days in intensive care and in regular hospital care, he spent almost a month in inpatient rehabilitation. By December, he was released from outpatient rehabilitation, and by January 2011, was able



to return to the pulpit at First Baptist.

Today, he watches his weight, exercises regularly and tries to maintain a healthy diet.

“I think the blood thinner, AR SAVES and the other care I got kept me from living with a permanent limp or having arm paralysis,” Robinson said.

Like Coles and Covington, he is a tireless advocate for AR SAVES.

“Every chance I get, I tell people about AR SAVES,” he said. “I take my AR SAVES cup and wear my hat. I have AR SAVES on T-shirts. People see me around and they look at me as a miracle man. The doctor said I was a miracle.” ■



MEGA Brain

Draws Crowds for Stroke Education

By Ben Boulden

AR SAVES is proving that one of the best ways to reach people's minds might just be with a brain — an 18-by-14-by-12-foot, inflatable Mega Brain.

The walkthrough exhibit acquired by AR SAVES in summer 2015 has demonstrated it is an effective tool for teaching about stroke and stroke symptoms.

Part of making sure people get immediate treatment is educating the public to recognize those symptoms. To do that you first have to capture their attention and an anatomically correct, inflatable model of the human brain with colorful features illustrating neurological injury and disease certainly does that.

The Mega Brain was displayed for the first time at a public event in July 2015 in Mountain Home.

“It creates excitement and makes people truly understand how important brain health is, how to protect it, how to reduce risks to the brain and what to do if there is an emergency,” said Renee Joiner, AR SAVES director. “When people first glimpse Mega Brain and its size, they say ‘Oh my, look at that!’ They immediately ask questions.”

Since Mountain Home, the Mega Brain has appeared at about 30 events and directly reached almost 12,000 people.

The AR SAVES telemedicine network connects more than 48 hospital and health care facilities in towns and cities statewide. Those 48 providers partner with the program and organize several hundred community events around those sites each year, reaching more than 380,000 people.

The program’s leaders are confident that the Mega Brain will enable the volunteers and health educators staffing

these events to more effectively reach its audience while expanding AR SAVES’ reach and appeal.

Volunteers at Mountain Home and other events show crowds of people around the Mega Brain while pointing out its features and the signs of different neurological syndromes, as well as stroke signs.

Word of mouth has spread the news about the Mega Brain and interest in it remains high. The Mega Brain’s schedule of appearances at public events is full between now and the end of the year.

“Public response has been beyond expectation, from small children to their grandparents,” Joiner said. “Its popularity crosses generations. Everybody enjoys the Mega Brain and is engaged by it. It gives people a unique opportunity to be educated about the brain from trauma to neurological disease and stroke.” ■

Since July 2015,
Mega Brain has
appeared in **30** events and
reached nearly

12,000 people



Physician Turned Stroke Patient **Thankful for AR SAVES**

By Ben Boulden

When Michael Pafford, M.D., served on a committee to decide whether Saline Memorial Hospital should join AR SAVES, he had no idea how profoundly that decision would affect him several years later.

Saline Memorial Hospital, where Pafford serves as a hospitalist and medical director of inpatient specialty, chose to join the telemedicine stroke network. Pafford is very glad it did because on the morning of March 23 he was wheeled into the Emergency Department in need of a consult with an AR SAVES stroke neurologist.

He had the morning off work and the day had begun normally enough at his home in Benton. Pafford had gone through some of his morning routine but interrupted his watching of a sports news broadcast to kiss his wife.

It was then that he started to feel nauseous and sweat profusely. When he tried to make his way to the bathroom, he had trouble walking and balancing himself. Although his wife wanted to call an ambulance, the Pafford home is only eight minutes away from the hospital, so he insisted his wife drive him there to save precious minutes. Already, he strongly suspected he was having a stroke.

“Time is brain, is what I was thinking, so I said, ‘No, no, no, get me to the car,’” Pafford said.

His knowledge of Saline Memorial Hospital, especially about where to go and to whom he should talk, greatly sped up the process.

The doctors consulted via real-time video with Margaret Tremwel, M.D., a Washington Regional Medical Center stroke neurologist in the AR SAVES network. She advised they administer the powerful clot-busting blood thinner alteplase.

Pafford received the blood thinner about 68 minutes after he began experiencing symptoms. By the time he

was transferred to UAMS shortly after treatment, the nausea was diminishing and his voice, which also had been affected by the stroke, was much improved.

Pafford spent two days at UAMS Medical Center undergoing observation and testing. After discharge, he had three sessions of outpatient physical therapy and had to use a cane for about two weeks, but within a short time he found himself virtually free of stroke symptoms or health problems the stroke may have caused.

“AR SAVES is one of the most amazing state accomplishments,” Pafford said. “Getting stroke patients what they need presents barriers, and AR SAVES removes those barriers. If you call and activate AR SAVES, it removes barriers. I couldn’t be a bigger advocate of this program.”

Just three months before Saline Memorial decided to join the AR SAVES network, Pafford had attended a conference in Dallas and learned about the telemedicine stroke network in Texas. He hadn’t realized that Arkansas had its own telemedicine stroke program.

“It was three months after that conference that I served on the committee to decide whether to partner with AR SAVES at our hospital. I’ve gone the whole gamut and seen how it was and how it is now. I couldn’t be more pleased.” ■

Events

Raise Awareness through Education

An informed public is essential to improve health outcomes for stroke.

For even the best trained community hospital Emergency Department to be effective in treating stroke, Arkansans must recognize the symptoms and call 911 right away.

AR SAVES is recognized nationally for the volume of public education it does each year. In fiscal year 2016, more than 1,500 stroke education outreach events reached an estimated 380,368 Arkansans on the importance of recognizing stroke. AR SAVES is fully engaged in robust efforts to educate everyone from children to grandparents about how to identify the signs of stroke and how urgent it is to receive timely treatment.

“Community events allow us to get out our message about stroke and make important personal and professional contacts in towns and cities throughout the state,” AR SAVES Director Renee Joiner said. “The hospitals in the program’s network are essential partners

not just on the clinical side but also in fulfilling our public education mission. They often initiate these events, and we are there to provide staff and other resources for them.”

Volunteers, along with staff from UAMS and AR SAVES partners, organized a wide variety of initiatives throughout the year to raise public awareness. Outreach efforts ranged from talking about stroke to a group of 45 high school students in health classes in Clarksville to stroke education for 950 people at Spring Fest in Heber Springs.

Different approaches are used for different audiences — booths at health fairs; presentations to schools, churches and civic groups; media interviews; guided tours of the inflatable Mega Brain model; and recognition of stroke survivors at Strike Out Stroke baseball games. AR SAVES’ goal is to reach everyone because every Arkansan is needed to reduce the number of stroke deaths and improve health outcomes for stroke patients.

North Metro Nurse Expo



Magnolia Health Fair



AR Methodist 5K



Benton Law enforcement training



Crossett Blood Drive



Harrison Tackle Stroke Night



Washington County Fair - Springdale



Calico Rock Ozarka Nursing Presentation



Batesville School Bus Days

Strike Out Stroke Night

Mega Brain made its rookie debut at two minor league baseball games. It was presented at AR SAVES Strike Out Stroke Night at Arvest Park in Springdale in April and at the North Little Rock Dickey-Stephens Park in North Little Rock in May.

This is the sixth year AR SAVES has organized a Strike Out Stroke Night at these parks to raise awareness of stroke and to educate the public about stroke symptoms and risks.

For the first time, hundreds of people at the Northwest Arkansas Naturals and Arkansas Travelers games walked through Mega Brain; an anatomically correct inflatable model of the human brain.

Before the North Little Rock game, AR SAVES medical director Neurologist Sanjeeva Reddy Onteddu, M.D arrived by helicopter to deliver baseballs for the game's first-pitch ceremony, all strikes against stroke. In Springdale, it was Washington Regional Medical Center's Neurologist Margaret Tremwel M.D. who arrived by helicopter to represent AR SAVES by delivering baseballs during the first-pitch ceremony in Arvest Park.

During the games, stroke survivors were recognized on the fields. In North Little Rock a stroke survivor was invited to pitch the first strike before the Arkansas Travelers took the field.





7th Annual AR SAVES Stroke Conference

This award is given by the AR SAVES Awards Committee to the site showing exemplary contribution through the use of modern technology and best practices for standards of stroke care in their community.

**Site Excellence Award
Conway Regional Medical Center**



Nurse Facilitator: Amanda Irby, Backup Facilitator:
Meg Prince, Backup Facilitator: Lauren Castleberry

**Site Excellence Award
Ashley County Medical Center**



Nurse Facilitator: Ramona Hill,
Backup Facilitator: Shawna Hawkins



Nurse Facilitator: Jasper Fultz,
Backup Facilitator: Jason White



38 Minutes!

Site Excellence Award
Unity Health White County Medical Center



Door to Needle Award
Conway Regional Medical Center



AR SAVES Sites around Arkansas

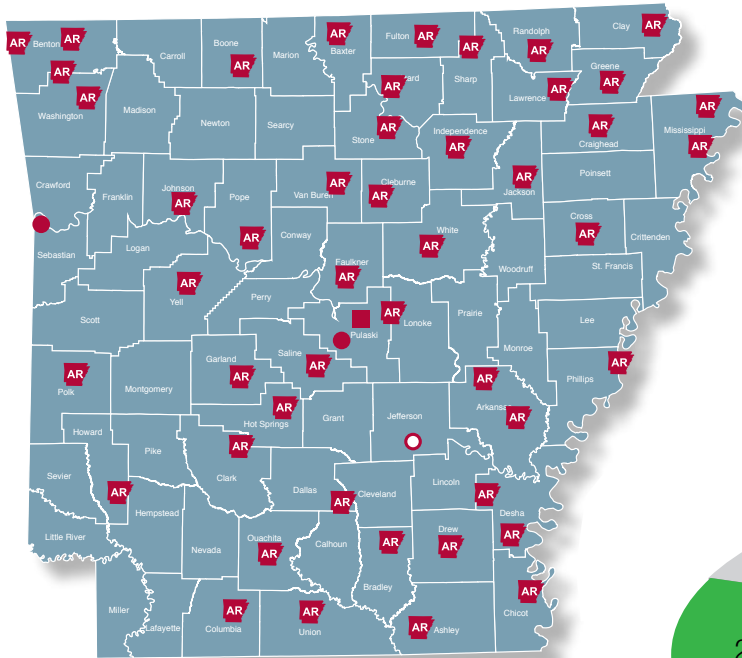
Spoke Sites	FY 2015 Totals					
Facility/City	Referrals	t-PA Administration	No t-PA Given	Mock Stroke Trainings	# Community Events	# Community Attendees
Arkansas Methodist/Paragould	14	6	8	12	33	12,019
Ashley Co MC/Crossett	13	5	8	45	31	5,074
Baptist Health /Arkadelphia	14	4	10	18	36	4,990
Baptist Health /Heber Springs	19	7	12	12	36	5,197
Baptist Health /Malvern	18	7	11	8	25	4,410
Baptist Health /Stuttgart	8	3	5	12	25	4,773
Baxter Reg/Mountain Home	56	20	36	17	33	30,267
Bradley County MC/Warren	12	1	11	22	29	1,709
Chambers Memorial/Danville	3	1	2	10	25	1,721
Chicot Memorial/Lake Village	10	5	5	14	25	841
Conway Regional/Conway	76	32	44	32	44	36,584
CMC/Izard Co/Calico Rock	2	1	1	14	29	4,925
CrossRidge Community Hospital/Wynne	8	4	4	12	28	1,803
Dallas Co/Fordyce	3	0	3	4	23	1,012
Delta Memorial/Dumas	0	0	0	10	34	790
DeWitt Hospital	2	1	1	10	25	1,463
Drew County MC/Monticello	13	4	9	14	36	2,947
Five Rivers MC/Pocahontas	9	4	5	13	26	1,005
Fulton County Hospital/Salem	9	1	8	21	36	4,307
Great River MC/Blytheville	6	0	6	27	33	3,123
Unity Health Harris Hospital/Newport	7	2	5	13	65	7,155
Helena Regional MC/ Helena	7	3	4	9	23	1,505
Howard Memorial/Nashville	9	1	8	18	45	1,543
Johnson Reg/Clarksville	11	6	5	11	35	4,610

Spoke Sites	FY 2015 Totals					
Facility/City	Referrals	t-PA Administration	No t-PA Given	Mock Stroke Trainings	# Community Events	# Community Attendees
Lawrence Memorial/Walnut Ridge	4	0	4	12	29	2,411
Magnolia Regional MC/ Magnolia	3	1	2	11	26	5,205
McGehee/Desha	5	2	3	10	23	4,906
Mena Regional MC/ Mena	8	1	7	11	32	1,222
MCSA/El Dorado	16	5	11	13	41	9,175
National Park/Hot Springs	25	6	19	10	33	10,629
NEA/Jonesboro	44	12	32	18	36	4,694
North AR Regional /Harrison	65	8	57	7	33	7,955
North Metro Medical Center/ Jacksonville	4	0	4	36	26	27,687
Northwest MC/Bentonville	30	5	25	12	60	23,144
Northwest MC/Springdale	31	7	24	16	31	14,817
Ouachita CO/Camden	8	5	3	3	24	1,033
Ozark Health MC/Clinton	9	2	7	28	33	11,730
Piggott Community Hospital/Pigott	7	2	5	12	37	1,582
Saline Memorial/Benton	38	19	19	10	34	35,962
Siloam Springs Regional Hospital	7	4	3	24	35	6,131
SMC/Osceola	3	1	2	29	25	1,743
Sparks/Ft. Smith	14	5	9	4	20	1,486
St Mary's/Russellville	42	14	28	13	32	1,163
Stone Co MC/ Mt. View	13	3	10	12	25	2,642
Washington Reg/Fayetteville	10	3	7	11	25	7,644
Unity Health White County MC/ Searcy	53	21	32	19	37	4,688
White River MC/Batesville	35	9	26	14	34	28,418
White River/Cherokee Village	6	1	5	10	26	20,528
FY 2015 TOTALS	809	254	555	723	1,537	380,368

Name	City	County	Name	City	County
Arkansas Methodist Medical Center	Paragould	Greene	McGehee Hospital Inc.	McGehee	Desha
Ashley County Medical Center	Crossett	Ashley	Mena Regional Health System	Mena	Polk
Baptist Health Medical Center – Arkadelphia	Arkadelphia	Clark	Medical Center of South Arkansas	El Dorado	Union
Baptist Health Medical Center –Heber Springs	Heber Springs	Cleburne	National Park Medical Center	Hot Springs	Garland
Baptist Health Medical Center –Hot Spring Co	Malvern	Hot Spring	NEA Jonesboro	Jonesboro	Craighead
Baptist Health Medical Center – Stuttgart	Stuttgart	Arkansas	North Arkansas Regional Medical Center	Harrison	Boone
Baxter Regional Medical Center	Mountain Home	Baxter	North Metro Medical Center	Jacksonville	Pulaski
Bradley County Medical Center	Warren	Bradley	Northwest Medical Center	Bentonville	Benton
Chambers Memorial Hospital	Danville	Yell	Northwest Medical Center	Springdale	Washington
Chicot Memorial Medical Center	Lake Village	Chicot	Ouachita County Medical Center	Camden	Ouachita
Conway Regional Medical Center	Conway	Faulkner	Ozark Health Medical Center	Clinton	Van Buren
Community Medical Center of Izard County	Calico Rock	Izard	Piggott Community Hospital	Piggott	Clay
CrossRidge Community Hospital	Wynne	Cross	Saline Memorial Hospital	Benton	Saline
Dallas County Medical Center	Fordyce	Dallas	Siloam Springs Regional Hospital	Siloam Springs	Benton
Delta Memorial Hospital	Dumas	Desha	South Mississippi County Regional Hospital	Osceola	Mississippi
DeWitt Hospital and Nursing Home	DeWitt	Arkansas	*Sparks Health System	Fort Smith	Sebastian
Drew Memorial Hospital	Monticello	Drew	Stone County Medical Center	Mountain View	Stone
Five Rivers Medical Center	Pocahontas	Randolph	St. Mary's Regional Medical Center	Russellville	Pope
Fulton County Hospital	Salem	Fulton	*UAMS Medical Center	Little Rock	Pulaski
Great River Medical Center	Blytheville	Mississippi	Unity Health - Harris Hospital	Newport	Jackson
Helena Regional Medical Center	Helena	Phillips	Unity Health - White County Medical Center	Searcy	White
Howard Memorial Hospital	Nashville	Howard	Washington Regional Medical Center	Fayetteville	Washington
**Jefferson Regional Medical Center	Pine Bluff	Jefferson	White River Medical Center	Batesville	Independence
Johnson Regional Medical Center	Clarksville	Johnson	White River Medical Complex	Cherokee Village	Sharp
Lawrence Memorial Hospital	Walnut Ridge	Lawrence			
Magnolia Regional Medical Center	Magnolia	Columbia	* Hub Site ** Hybrid Hub Site		

AR SAVES added another hospital to its network in FY 2016 for a **Total of 48** participating spoke sites

AR SAVES Sites FY 2016



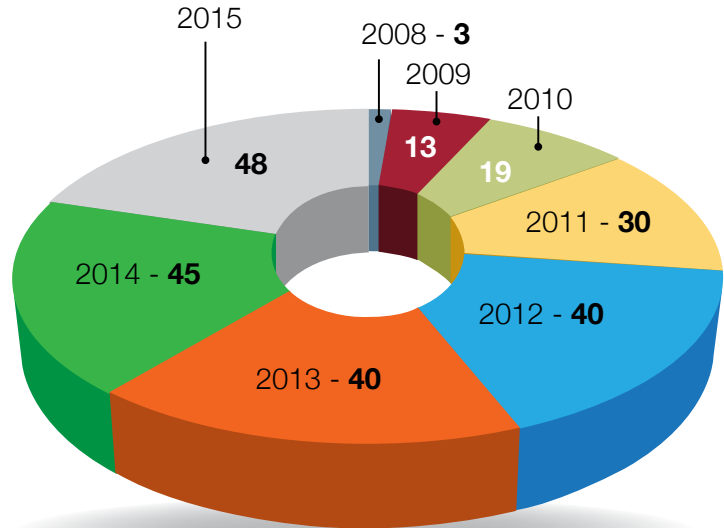
■ AR SAVES Sites ○ Hybrid Hub Site
● Hub Site ■ Affiliate Site

AR SAVES Welcomes Siloam Springs as the 48th site (August, 2015)

84% of all Arkansans are within a 30 minute drive of an AR SAVES stroke hospital and

99% are within a 60 minute drive

Total AR SAVES Sites



EMS Outreach and Education

Because time is critical in treating stroke patients, the AR SAVES team worked hard in 2015 to ensure Emergency Medical Service providers in rural Arkansas made speed of care a top priority.

In classes as small as seven and as large as 50, Tim Vandiver, Paramedic, R.N., AR SAVES outreach nurse, is teaching pre-hospital first responders statewide how to recognize stroke symptoms.

The classes emphasise the necessity of knowing not just what hospital is closest for a patient, but which stroke ready hospital is closest for a stroke patient to receive timely care.

AR SAVES is assisting the Arkansas Department of Health in the designation of hospitals as stroke ready. This designation will assist first responders in making the best decision possible on where to transport potential stroke patients.

To shorten the door-to-needle time, EMS students are learning the importance of taking a stroke patient directly to CT for scanning.



“In the past, EMS focused on heart attacks and getting patients to the cath lab as quickly as possible. We taught that “Time is Muscle”, Vandiver said. Now we are teaching “Time is Brain.” The difference of three or four minutes could determine whether our patients remember their children’s names or not. They should work just as fast to transport a potential stroke patient to a stroke ready hospital as they would if he or she was a cardiac patient, not wasting time.”

By early 2017, AR SAVES plans to reach 80 percent or more of EMS personnel statewide with education programs.

AR SAVES Overview

AR SAVES has partnered with 48 hospitals statewide to provide treatment to Arkansans suffering from an acute ischemic stroke. Through this telestroke network, we are able to provide FDA-approved, time-sensitive treatment for acute ischemic stroke patients.

In FY 2016, AR SAVES consults increased by 14 percent from the previous year, and the administering of alteplase increased 7 percent. Studies show that about 5 percent of ischemic stroke patients are treated with alteplase through traditional delivery methods as compared to 15 percent of stroke patients whose care is provided through a telestroke delivery model. We are pleased to report our rate of administering alteplase to our consults is 31.3 percent.

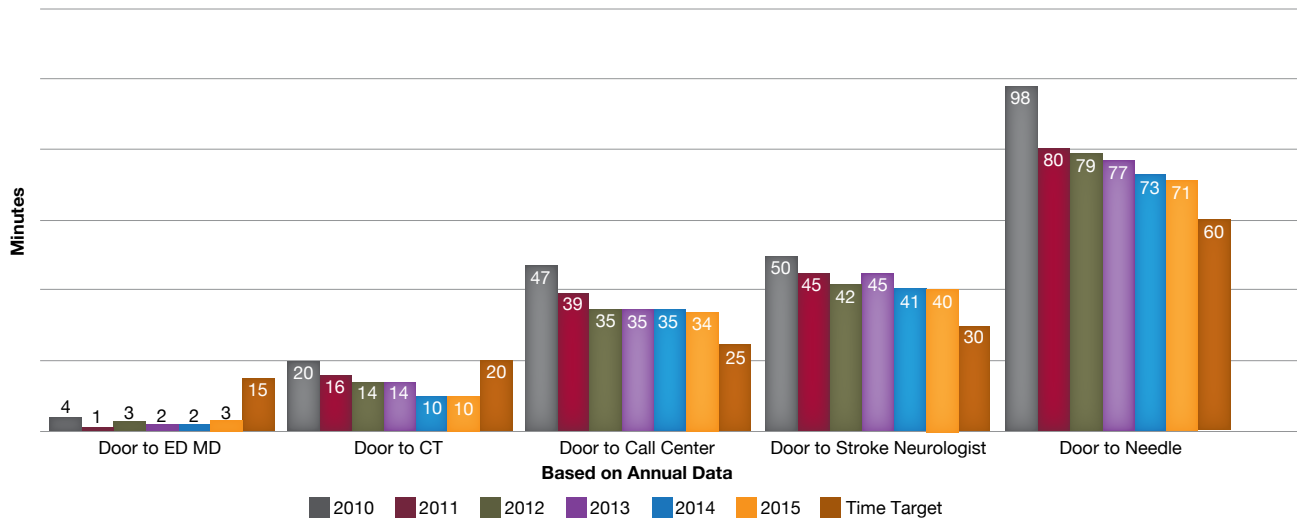
We continue to update our guidelines to reflect all the recommendations published by the American Heart Association/American Stroke Association. We now have a system in place to recognize patients who would qualify for additional advanced neuro interventional procedures. Last year, about 25 percent of our post-alteplase patients were transferred for such procedures.

Door-to-needle (DTN) times are also better. Over the past several years, our average DTN time has decreased steadily. The national Get With The Guidelines-Stroke database shows the median DTN time from 2003 to 2009 was 78 minutes. AR SAVES median DTN time for FY 2016 is 71 minutes. Our goal is to decrease this time to 60 minutes for 50 percent or more of patients. This target is attainable with dedicated training, education, and by using data to identify ways to avoid unnecessary delays.

The AR SAVES program emphasizes the treatment of ischemic strokes, community-based prevention and education of the signs and symptoms of stroke, and the urgency of getting patients to the closest AR SAVES hospital.

We have now given alteplase to over 1,000 patients with incredible results. This program has provided the treatment necessary for our patients to live a productive and healthy life.

Golden Hour Core Measures

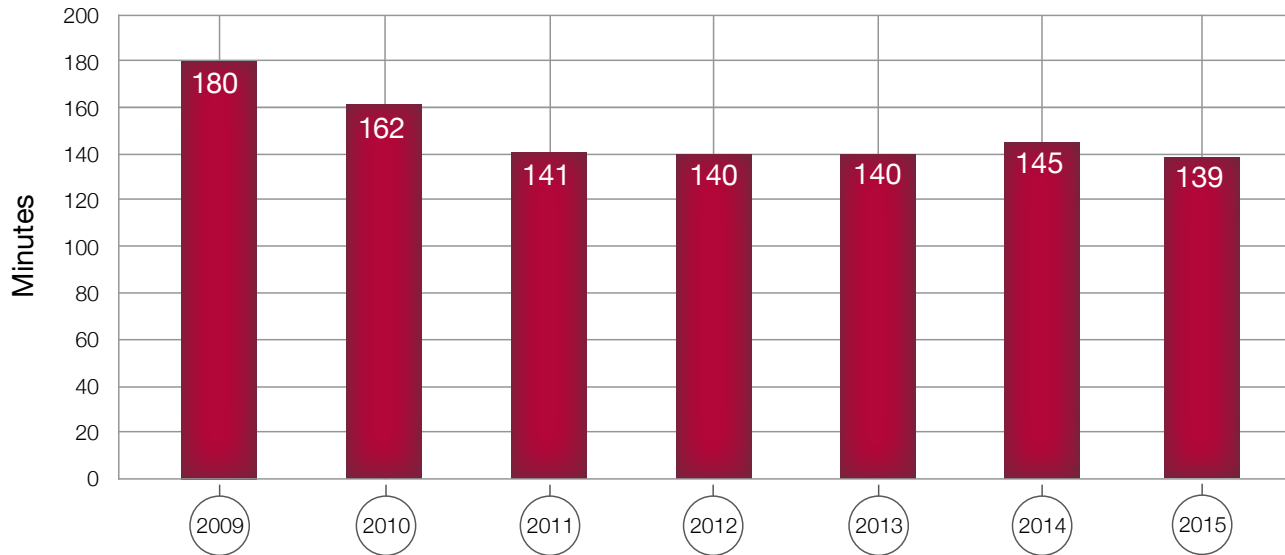


According To Research From A Large Telestroke Provider, The Median Time From ED Arrival To Thrombolysis Initiation Is 88 Minutes. In Arkansas, With AR SAVES

Overall it's down to **71** minutes, which is **17** minutes faster than the national average

25 percent of our t-PA cases had door-to-needle times within **60** minutes

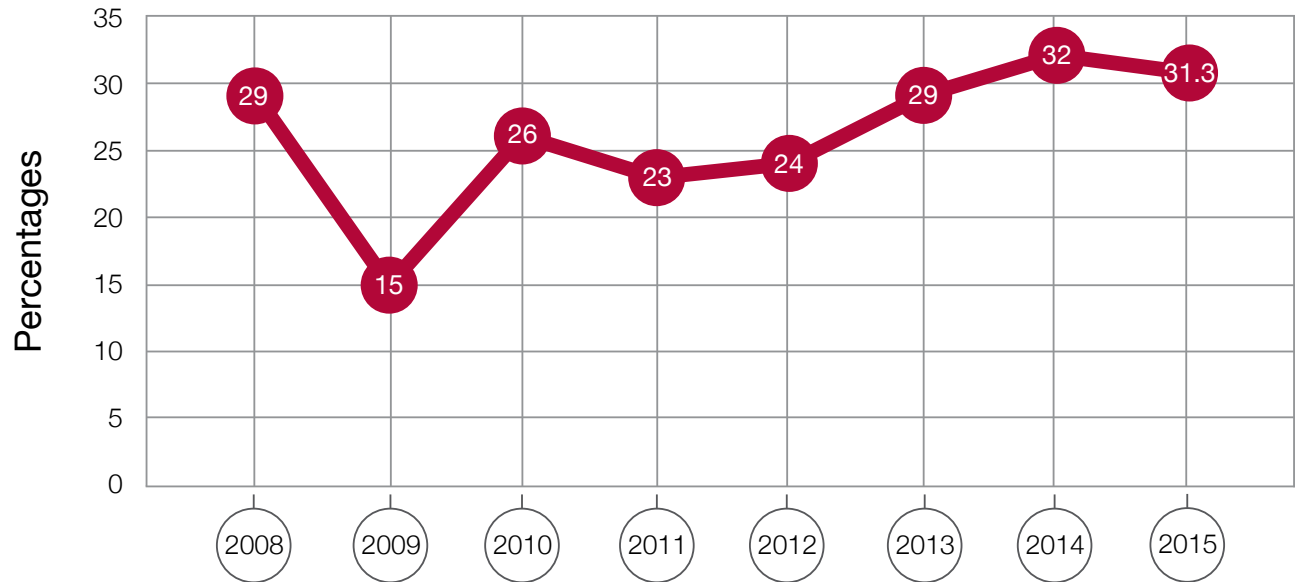
Median Onset of Symptoms to t-PA



“Arrival to the ED after the time window for treatment is the most common reason for not getting treated with t-PA. Community awareness and outreach is our only hope of getting patients to the ED faster”

Sanjeeva Onteddu, M.D.
AR SAVES Medical Director

Percent Alteplase Administered



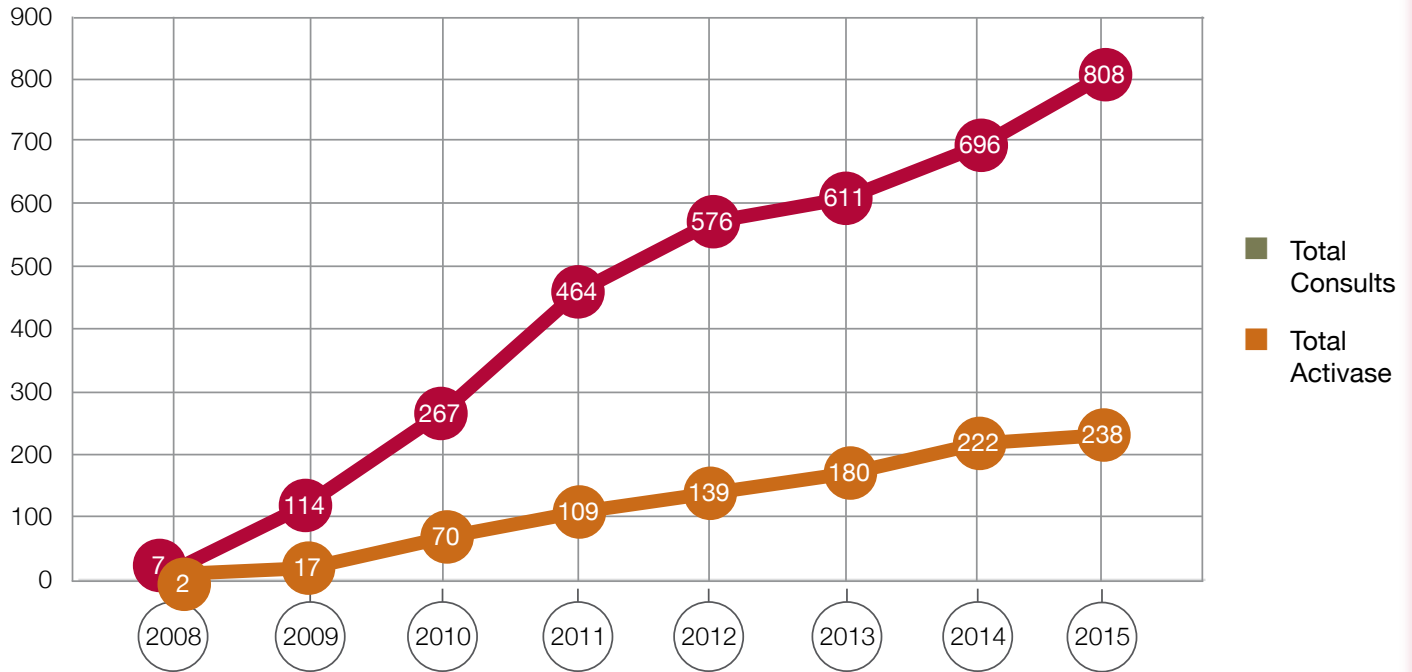
Overall, rates of t-PA administration is from 2-10% of strokes treated in traditional medical settings. Hospitals using telemedicine report t-PA rates at around

15%

AR SAVES t-PA administration of all consults for FY 2016 is

31.3%

Total Consults / Total Alteplase



In FY 2016, AR SAVES total consults increased by

14%

as compared to last year, and our total number of t-PA delivery cases increased by

7%

AR SAVES Staff

Directors



Renee Joiner, R.N.
Director AR SAVES



Sanjeeva Onteddu, M.D.
Medical Director

Community Educators



Lauren Scott



Olivia Wilson

Video Support



Phillip Martin

Administration



Conelia Williamson
Program Manager



Ashley Moskow

Outreach RNs



Debi Johnson, R.N.



Tiffany Morgan, R.N.



Tim Vandiver, R.N.



Suzanne White, R.N.



David Wollard, R.N.

In 2016, AR SAVES had over **1,537** outreach events and reached over **380,368** Arkansans

Call Center



Evonne Amerine, R.N.



Chasity Baldwin, R.N.



Lee Brown, NRP



Jackie Collins, LPN



Donna Cox, R.N.



Karen Cumming, NRP



Calvin Duncan, NRP



Tammy Hiatte, R.N.



Diane Landrum, R.N.



Lisa Morris, R.N.



Kathy Rehmert, R.N.



John Tackett, NRP



Elena Tupulala, R.N.

Since the beginning,
AR SAVES has treated over

1,000

Ischemic Stroke patients with t-PA

Call Center focus

Connecting Across the Continuum of Care

The AR SAVES Call Center is where technology, providers and patients are connected. Arkansas is one of the most connected (broadband) states, second only to Alaska. But simply having the infrastructure to connect providers is not enough to develop a statewide system of care.

Medics and nurses staff the call center 24/7 and coordinate calls for neurology consults on potential acute ischemic stroke patients. They assist with every phase of the telemedicine process. Call Center staff communicate with UAMS video support staff to assure an adequate video connection between the emergency department (ED) and the on-call neurologist. They introduce the patient and providers to each other, thereby making the personal connection through the screen.

The operators assist with documentation of the consult, provide prompting to the ED as it prepares for the video connection with the neurologist, assist with communication between the providers and create a calming influence on the call. Safety is of the utmost importance for AR SAVES. Call Center operators serve

as an added safety feature, monitoring and identifying safety concerns that might arise during the consultation. The operators and video support staff remain on the call throughout the consult and assist with gaining acceptance to a receiving site for post-treatment follow-up care. This gives the emergency room providers the confidence to focus on the patient and know that their patient is receiving the best care possible. In FY 2016, the AR SAVES Call Center facilitated 937 calls and provided training to our 48 hospitals by leading 716 mock calls.

The connections made possible by the Call Center are what makes Arkansas' telestroke program unique. It is the conduit for connecting across the continuum of care for stroke patients living in every corner of our state.

In 2017, we will expand the AR SAVES Call Center creating a comprehensive stroke call center. This expansion will allow facilitation of not only acute ischemic strokes but also hemorrhagic stroke emergencies. Including both types of strokes will create an integrated and comprehensive approach to stroke care and will expedite connections to appropriate time sensitive care and improved patient outcomes.

Message from the Director



We have much to celebrate this year. Arkansas moved from first to sixth in stroke mortality in the nation, we've given over 1,000 doses of Alteplase, and our MegaBrain has celebrated its first birthday.

All of these accomplishments are due to a system of care for stroke patients that reaches every corner of our state. Our system includes a network of physicians, first responders and everyone who understands stroke; together we will defeat stroke case-by-case with awareness, expertise and quick action. These accomplishments are a victory we all share and will repeat.

This year we've focused educational efforts on pre-hospital health care providers and law enforcement, making sure they understand the urgency of transporting a stroke patient to an AR SAVES hospital. In addition, AR SAVES and the Arkansas Department of Health are engaged in a joint effort to designate hospitals as stroke ready. This will assist EMS with knowing where the closest, most appropriate hospital is located.

We look forward to our continued partnership with Arkansas Medicaid, our 48 spoke sites, the Arkansas Acute Stroke Care Task Force, our receiving hospitals and our community partners in 2017. I am excited to be part of this incredible program, and I look forward to the challenges and opportunities this next year holds for us.

This past year has been a year of transition for our program.

Three of our stroke champions have left the program



Michael Manley, R.N.



Delbert McCutchen, R.N.



Rick Washam

to pursue a new career path. I would like to recognize Michael Manley, Delbert McCutchen and Rick Washam for their incredible contributions to the program. These three individuals helped to build the system of care we now enjoy. Their contributions cannot be replaced or repeated. This report is dedicated to their work with the AR SAVES program.

A handwritten signature in black ink that reads "Renee Joiner". The signature is written in a cursive, flowing style.

Renee Joiner
AR SAVES Director

From the Medical Director



It is my pleasure to report to you how the AR SAVES program has performed this year. I am proud to announce the program recently reached a milestone: The administration to our 1,000th patient of alteplase, a powerful clot-busting blood thinner.

This past year, a door-to-needle time of less than 60 minutes was achieved 25.2 percent of the time, an improvement over last year's 23 percent. Our target for a door-to-needle time of less than 60 minutes should be reached more than 50 percent of the time, and we are aiming for 80 percent in the next few years.

To achieve our goal, we are working with emergency medical services on pre-notification, educating Emergency Department physicians and nursing staff about the importance of calling AR SAVES as soon as possible, and working to decrease the amount of time it takes to administer alteplase once the call is placed to AR SAVES.

AR SAVES has been actively involved with the Arkansas Acute Stroke Care Task Force to develop an Arkansas stroke-ready hospital designation process. We appreciate the hospitals that participated in the pilot studies. As we move forward, we are committed to providing all the help needed for our sites to be a part of this designation process. Our goal is to provide timely, evidence-based services, which reach all people in Arkansas.

To ensure that the quality of care we provide to Arkansans continues to be high, we have hired Ben Tan, M.D., who is trained in neurocritical care and stroke, and who will join us in September. Furthermore, we are actively recruiting more vascular neurologists.

Congratulations to the AR SAVES family, and I encourage everyone to continue working to make the program the best it possibly can be.

Sincerely,

A handwritten signature in black ink, appearing to read "Sanjeeva Reddy Onteddu". The signature is fluid and cursive, written over a light-colored background.

Sanjeeva Reddy Onteddu, MD
Medical Director, AR SAVES Telestroke Program

Goals for FY 2017

- ⇒ Add five additional spoke sites and increase the number of vascular neurologists available for AR SAVES calls allowing more stroke patients to receive care in their community hospitals.
- ⇒ Increase the number of AR SAVES receiving sites to improve the ability for post-alteplase patients to receive follow-up care close to home.
- ⇒ Provide an advanced nurse certification course to continue our strive for clinical excellence.
- ⇒ Expand the AR SAVES Call Center to become a comprehensive stroke call center. The call center will facilitate assistance for not only acute ischemic strokes but also for hemorrhagic strokes.
- ⇒ Continue to increase stroke awareness through widespread consumer education about stroke signs, symptoms, and appropriate actions and provide targeted educational interventions to high risk populations.





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