



2012



ANNUAL REPORT



Stroke Assistance through Virtual Emergency Support



In the last four years, AR SAVES has made tremendous strides: Patients are receiving lifesaving care that was not available prior to the program; we added 10 sites to the program and graduated one site to serve as an affiliate of the program; and we continue to provide both rural and urban sites virtual access to vascular neurologists at lifesaving speed. Additionally, AR SAVES is dedicated to educating Arkansans on the signs of stroke and how to seek help immediately, regardless of geographic location.

Our participating hospitals have become more efficient in the process of treating stroke, and our door-to-needle times continue to decrease, effectively increasing the positive outcomes for patients. The introduction of the stroke pathway has provided a second access point for those patients needing additional procedures. Through the same video conference connections, all arrangements can be made for transport and activating the team that will receive the patient.

AR SAVES' goal is to be within a 30-minute transport to a stroke hospital for every Arkansan. We are close but will strategically place five to six hospitals next year to reach our goal. With improved access and treatment of stroke and improved patient recovery, we are saving not just lives but quality of life.

As our consults continue to increase, our hope is that stroke mortality and morbidity continue to decrease in Arkansas.

Sincerely,

Curtis Lowery, M.D.

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PARTNERS FOR SUCCESS

The Center for Distance Health appreciates the collaboration and guidance for AR SAVES from the Arkansas Department of Human Services, Division of Medical Services.



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EMERGENCY

OVERVIEW

Entrenched

AR SAVES has become a mainstay for emergency stroke care

The AR SAVES telemedicine program added ten community hospitals in the past year, meaning more than 35 hospitals now have access to life-saving emergency stroke care.

The additional hospitals are representative of the program's steady growth since its inception Nov. 1, 2008.

"Each year, AR SAVES is further reducing the risk of stroke death and disability in Arkansas, which has had the highest stroke mortality rate in the country," said Julie Hall-Barrow, Ed.D., AR SAVES director. "The program has demonstrated, oftentimes in dramatic fashion, its immense value to Arkansas stroke patients and their families, and its worth will continue to grow as we add community hospitals to the AR SAVES network in the years to come."

With an additional six hospitals expected to join the network in fiscal year beginning July 1, most Arkansas residents will be within a 30-mile radius of an AR SAVES hospital, which is the program's goal for every resident.

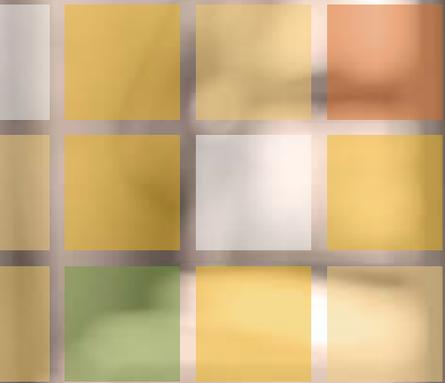
The AR SAVES program is a partnership between the UAMS Center for Distance Health, the state Department of Human Services and Sparks Regional Health System in Fort Smith. The real-time video communication enables a stroke neurologist to evaluate a stroke patient to assess whether emergency room physicians should administer

the potent clot-dissolving drug t-PA (tissue plasminogen activator). AR SAVES video equipment is installed at each neurologist's hospital and home, making immediate consultation possible 24 hours a day.

Demand has been high among Arkansas' 80-plus community hospitals to join AR SAVES, but because the program requires extensive training from the AR SAVES staff, only a limited number of hospitals can join each year.

From November 2008 through May 2012, more than 1090 patients received stroke consults through AR SAVES and 244 patients received t-PA. Those who receive t-PA have the best chance of avoiding death and disability, but they must be diagnosed within 4.5 hours of stroke onset to be eligible for the t-PA.

Hall-Barrow notes that public education is key to increasing the percentage of patients eligible for t-PA. Many people don't recognize the signs of a stroke and don't realize they must treat it as an emergency. To address this issue, AR SAVES has outreach staff working with communities across the state to make the public aware of the signs and symptoms of a stroke, such as sudden weakness, numbness, unsteady gait, and visual and speech problems.



ONE FOR THE BOOKS

DECEMBER BRINGS AN UNPRECEDENTED
NUMBER OF STROKE CASES TO
BENTONVILLE HOSPITAL

By David Robinson



Rhonda Smith
received life-
saving care for
her stroke thanks
to AR SAVES.

Rhonda Smith's stroke was about as severe as they come. Her chance for survival was slim without immediate access to a stroke neurologist who could correctly diagnose her type of stroke so she could receive a powerful clot-dissolving drug.

Fortunately, the 42-year-old wife and mother was working just a block away from Northwest Medical Center – Bentonville, which in January 2011 had joined the AR SAVES (Arkansas Stroke Assistance through Virtual Emergency Support) telemedicine program.

As part of the AR SAVES program, Northwest Medical Center – Bentonville and 35 other Arkansas hospitals have 24-hour access to a stroke neurologist via telemedicine, or live two-way video. This makes it possible to treat patients with the clot-busting drug t-PA (tissue plasminogen activator), which must be administered within 4.5 hours of a stroke's onset.

Committed to AR SAVES

Without the AR SAVES partnership, stroke patients admitted to small hospitals often miss the opportunity for this life-saving care. In the five years prior to joining AR SAVES, only one stroke patient at Northwest Medical Center-Bentonville received t-PA, said Pam Adams, R.N., stroke coordinator for the hospital. After joining AR SAVES, the Bentonville hospital was able to administer the drug to nine patients through November 2011.

That was a substantial increase, but then in December the hospital successfully treated five patients with t-PA, including Smith. "It was unprecedented for the six years I've been here to have that many stroke patients with a good outcome in one month," Adams said.

Julie Hall-Barrow, Ed.D., AR SAVES director, said the Bentonville hospital, led by Chief Operating Officer Tripp Smith, has shown an enthusiastic commitment to the AR SAVES program.

"Telemedicine and t-PA are the hallmarks of AR SAVES, but it requires tremendous coordination and effort to achieve the best outcomes for patients," Hall-Barrow said. "With five good outcomes in one month, Northwest Medical Center – Bentonville physicians and staff demonstrated that their system is always primed to function at a high level. Their story speaks volumes for the life-saving capacity of AR SAVES."

Adams said the staff has trained diligently to prepare for AR SAVES, and they all take pride in working to ensure the fastest possible diagnosis. The goal is to have patients diagnosed and ready for t-PA within one hour of their arrival. Although patients can receive t-PA at 4.5 hours, the sooner they receive it the better their chances of survival and avoiding long-term disabilities.

"As soon as a stroke patient arrives, the doctor does a brief evaluation and the gurney is wheeled directly back to the CT scanner, which we've already cleared of nonemergency patients," Adams said. "By bypassing the emergency room we save 20-25 minutes."



(From left) Pam Frachiseur, R.N.; Tara Stoicescu; Vickie Thomas, R.N.; and Pam Adams, R.N., are part of the stroke team at Northwest Medical Center-Bentonville.



Grateful Patients

Randy Snoderly of Garfield, one of the five December patients, received t-PA within 33 minutes of his arrival at the hospital, a record time. “Everything just fell into place,” Adams said.

Snoderly, 60, was at work preparing to do inventory when he felt numbness in his right foot that quickly became paralysis of his right side, and he was unable to speak.

“The guys I was working with said I was having a stroke and someone called 9-1-1,” said Snoderly, who expressed gratitude that the hospital could provide treatment. “My speech is back to normal, but I still get really tired.”

Wilma Parsons, 79, also one of the five December patients, was about to put clean sheets on her bed when she was forced by dizziness to sit down. Then she realized she couldn’t speak.

“My husband hollered, and when I didn’t answer he came to see what was wrong,” said Parsons, of Bella Vista. “I just put my hands out and grabbed him and hugged

him. He said, ‘I think it’s time to call 9-1-1.’”

Parsons left the hospital a few days later, and without therapy, within four months she had returned to all of her normal activities except driving. The use of telemedicine impressed her.

“That is amazing; I never dreamed that we could do things like that,” she said. “I am very thankful for it, and I let them know that when I was leaving the hospital.”

“They each had a good outcome, and we definitely owe that to AR SAVES.”

‘Christmas Miracle’

For Smith, a complete recovery from her massive stroke was still ongoing four months later, with physical and speech therapy part of her routine. But she was ahead of schedule in speech therapy and able to drive short distances.

Given the severity of her stroke, she feels lucky, saying some call her outcome a Christmas miracle. Based on the National Institutes of Health (NIH) Stroke Scale, Smith’s stroke scored a 25, which falls in the most severe of four categories.

“I was told I should have been buried,” Smith said. “When I saw the CT scan of my brain during my three-month follow-up, I started bawling. It was horrible; there was just nothing on that side. I am so thankful they gave me the t-PA.”

Without t-PA, Adams said, Smith would have required total care had she lived. The other four patients had moderate strokes, which still would have been devastating.

“They would have had major deficits, such as being unable to speak and unable to use one side of their body,” Adams said. “AR SAVES has definitely made a difference.”

PARTNERSHIP PROFILE

Private Practice, Public Service

By Sally Graham



Tremwel

Margaret Tremwel, M.D., Ph.D., and Vladimir Karpitskiy, M.D., Ph.D., are two of the five stroke neurologists who serve as virtual lifelines for stroke patients sent to emergency rooms in partner hospitals throughout Arkansas.

The stroke specialists work from a monthly schedule to make sure there's always an on-call neurologist.

"I see AR SAVES as lifting up the quality of health care in all of our partner hospitals," said Tremwel, who has been consulting with AR SAVES since the program began Nov. 1, 2008. When she's not linked to ERs through telemedicine, Tremwel sees patients in a private practice at Sparks

Vascular Neurology and Memory Disorders Clinic in Fort Smith.



Karpitskiy

Karpitskiy, an adjunct faculty in the College of Medicine at the University of Arkansas for Medical Sciences (UAMS), works in private practice at Neurology Associates of Hot Springs. "I like doing this," Karpitskiy said, "and applying my skills to help sort out the best treatment for a patient. Sometimes, there are other neurological conditions going on like seizures or convulsive disorder. Without this program, some rural hospitals would not have access to a stroke specialist."

Tremwel agrees and adds perspective. "From the very beginning of the program, I've seen doctors and members of their teams in rural hospitals earnestly working seamlessly under time constraints to save a patient's life. It's heartwarming to see by high-speed, two-way video talented doctors impacting their own communities. They are doing all the work."

Both Karpitskiy and Tremwel are board certified in vascular neurology and look forward to more opportunities to serve the people of Arkansas.

"It just bears repeating: AR SAVES is a valuable program saving lives in Arkansas," Tremwel said.

STROKE EDUCATION

Education is Key

Through telemedicine, patients can receive life-saving treatment, but only if they are aware that stroke is treatable and recognize that someone is having a stroke. This is why the public education arm of AR SAVES is the critical element.

Despite advances in stroke therapy, much of the public remains uninformed about stroke, and few stroke patients go to the hospital in time to receive treatment. Health education campaigns can increase community awareness and may decrease the time it takes patients to get to the hospital. Health education experts Rick Washam, M.Ed. and Lauren Scott, CHES are increasing Arkansans awareness through multiple campaigns.

In addition to billboards, newspaper ads and radio spots for new AR SAVES sites, on-going AR SAVES hospital nurse facilitators are encouraged to provide two public awareness events per month in their communities. This translates into more than 700 outreach activities a year for community stroke education throughout Arkansas.

The statistics for Arkansas in 2007 related to awareness were:

- Only 17.5% of Arkansans are aware of all the correct symptoms of a stroke and the need to call 911.
- Over 31% of Arkansans have high blood pressure, over 40% have high cholesterol, and over 22% smoke.
- There are only three certified primary stroke centers in Arkansas.

This data fuels our need to continue to educate and improve the awareness of stroke symptoms in Arkansas. Throughout each campaign the acronym FAST is used.

If you think someone may be having a stroke, act F.A.S.T. and do this simple test:

F ACE	Ask the person to smile. Does one side of the face droop?
A RM	Ask the person to raise both arms. Does one arm drift downward?
S PEECH	Ask the person to repeat a simple sentence. Are the words slurred? Can he/she repeat the sentence correctly?
T IME	If the person shows any of these symptoms, time is important. Call 911 or get to the hospital fast. Brain cells are dying! Time lost is brain lost!

What is t-PA?

At the core of the AR SAVES program is the drug t-PA (tissue plasminogen activator), a powerful blood thinner that dissolves blood clots. t-PA has completely reversed the disabling effects of strokes – sometimes within hours – for many Arkansans who received it in time. About 87 percent of strokes are caused by blood clots (ischemic strokes), which cut off the vital flow of oxygen needed to keep brain cells alive.

Thanks to telemedicine, stroke patients throughout Arkansas with ischemic stroke can receive this potent clot buster if they are evaluated by a stroke neurologist within 4.5 hours of their first symptoms.



HOSPITAL PROFILE

Ouachita County Medical Center Enjoys Collaboration

By Sally Graham

The Arkansas stroke systems of care are reaching more people than ever before. Ouachita County Medical Center in Camden - celebrating 60 years of service to the community - is an excellent example of collaboration and expertise.

“I feel like the AR SAVES program is a positive addition to providing for the health care needs of our patients at Ouachita County Medical Center and my staff feels the same,” said Ashley Cook, a trained nurse who is now the emergency room nurse manager. “We have an excellent team of professionals here, but there’s an extra sense of security knowing a stroke neurologist is literally just a phone call away.”

The nurses, technicians and physicians at the 36 participating AR SAVES hospitals must work quickly and seamlessly to assess a stroke patient, perform a blood test and CT scan, then connect via high-speed, two-way video with a stroke neurologist. The subsequent exam helps determine whether a patient should receive the clot-dissolving drug t-PA.

The medical team at the Camden hospital came on board the AR SAVES network in 2011 after training on mock case scenarios. Crystal Duncan, a nurse who has assisted in two actual t-PA calls, says those mock sessions are essential. “You learn to listen to each neurologist who may have different ways of communicating instructions. The sessions help us build our confidence on camera with

assessing patients using the National Institutes of Health Stroke Scale.”

Speed is of the essence because t-PA is most effective the more quickly a patient receives it following the onset of stroke symptoms. Patients can receive the drug up to 4.5 hours of the first signs of stroke.

Duncan commends the telemedicine technology analysts who prepared Ouachita County Medical Center to connect with stroke experts. “The IT people at UAMS are really on top of things. They don’t just pack up the equipment and send it our way and say ‘good luck to y’all!’ They really make sure we’re comfortable with the process.”

Duncan also serves as Ouachita County Medical Center’s AR SAVES community liaison. She’s helped raise awareness about the signs of a stroke by speaking with the public at the Minority Health Fair, the Ouachita County Fair and the Strike out Stroke event with the Arkansas Travelers. “It’s exciting to talk with people who tell me they’re happy a program like this is in place now, because they had relatives who could have benefited from it in the past.”

PHYSICIAN PROFILE

Scott Archer, M.D., Sees Benefits of Stroke Program

By Sally Graham



Dr. Scott Archer, director of Saline Memorial Hospital's emergency department, knows first-hand how AR SAVES has impacted the residents of Saline County.

"They like going to their community hospital," Archer said. "With AR SAVES, patients enjoy world-class medicine right here because we are able to give them the same treatment that they would receive in Little Rock."

Saline Memorial Hospital is a 167-bed facility serving Benton, a town with a population of 30,000 and the surrounding communities.

"Some of our patients live 45 minutes away," Archer said. "What happens is patients delay coming to the hospital after the onset of stroke symptoms," like slurred speech and sudden numbness of the face. "By the time they get to Saline Memorial, they may be pressing up against the therapeutic window of when we can administer t-PA," the clot-busting drug.

Archer says the telemedicine model of patient

care the AR SAVES network uses has many applications. "UAMS is ingenious to lead this program. It shows us the benefits of consultations through telemedicine. Oftentimes, we explain why findings on their CT scan prevent us from administering the drug. I see this system working for trauma cases, burns and pediatric patients."

Archer said medical professionals work collaboratively to instill confidence in patients. "Families are in the room and see the stroke specialist and emergency room physician talking. They know their condition is being taken seriously and that they will get the best care even if that means they are not candidates for t-PA. Patients are getting the best therapy, whether it's t-PA, or hospitalization or, if need be, transfer to another medical facility in Little Rock."

"At first, we were curious. 'How would this work?' But once the physicians accepted it and understood the benefits, all the team members were ready for the challenge."

CEO PROFILE

Camden's Commitment

By Sally Graham



David Cicero, president and CEO of Ouachita County Medical Center, says partnering with AR SAVES in 2011 was “just a no-brainer.”

The partnership helps the 98-bed acute care facility carry out its mission to provide accessible and quality health care in a safe and confidential environment.

Cicero, who became CEO in 2001, has spent his professional life improving access to quality health care in Camden, a town of 13,000 people on a bluff overlooking the Ouachita River. He first walked through the doors of the hospital 34 years ago to serve as its chief financial officer and he's been committed to the community and patient care ever since.

“The telemedicine link from our emergency room to stroke specialists has given us a resource that we didn't have access to before,” Cicero said. “There's

an extra level of comfort for our ER physicians and for our patients.”

Stephen Tabe, M.D., emergency room director at the Camden hospital, is a long-time advocate of t-PA, the clot-dissolving drug. He has been administering it for the last 13 years.

“Our own Dr. Tabe,” Cicero said, “welcomed and embraced the concept of AR SAVES to sound off against an on-call neurologist, especially in sensitive cases, in life-saving speed. ‘Should we or shouldn't we give t-PA?’ We were ready – because Dr. Tabe had had experience with t-PA – to jump right in and do it. Every physician likes to feel like they are not alone. It's nice to have that back up.”

Cicero says he “knew from the get-go” that the medical center was interested in joining the AR SAVES network. “It was the right thing to do for patients and their safety.”

TEAM



Nicolas A. Bianchi, M.D., is the AR SAVES medical director and UAMS Stroke Program director leading the stroke service and working toward continued certification of UAMS as primary stroke center. He did an internal medicine residence training in Argentina and then completed neurology residency training at the University of Miami-Jackson Memorial Hospital. Then he stayed in Miami for a fellowship in vascular neurology. He joined the UAMS Department of Neurology in August 2011. He is board certified in neurology, and is vascular neurology board eligible. He is a member of the American Heart Association and serves on the Stroke Council.



David Fletcher is the evaluation director for the Center for Distance Health, where he evaluates the efficacy and efficiency of distance health programs by examining UAMS data and Medicaid claims.

Before joining UAMS in 2005, he worked for more than 10 years in financial analysis in the health care industry, including Walmart, building a third-party billing system for its Vision Centers and for Electronic Data Systems examining recipient and expenditure data of the Arkansas Medicaid program.

Fletcher received a Bachelor of Science in economics and finance and a Bachelor of Science in management and marketing from Arkansas Tech University, and an M.B.A. from the University of Arkansas at Little Rock.



Julie Hall-Barrow, Ed.D., is the director of education for the Center for Distance Health, where she provides oversight of the educational programs and provides training, communications and resources to networks across the state.

Also, she coordinates pediatric telemedicine activities at Arkansas Children's Hospital and UAMS and is the lead project director for AR SAVES. She received a doctorate in higher education from the University of Arkansas at Little Rock. She has published in peer-reviewed journals in the areas of health promotion, wellness and telemedicine. Hall-Barrow is also a member of the statewide Cardiovascular Committee.



Sami I. Harik, M.D., is a professor of neurology and former Department of Neurology chairman in the UAMS College of Medicine. He is one of five on-call neurologists in the AR SAVES program.

Harik received a medical degree from the American University of Beirut, School of Medicine in 1965. After postdoctoral training, he served as an assistant professor of medicine and attending neurologist at the American University Medical Center in Beirut, associate professor of neurology at the University of Miami, and professor of neurology and vice chairman of the Department of Neurology at Case Western Reserve University, School of Medicine, in Cleveland, Ohio. He joined UAMS in 1991.



Archana Hinduja, M.D., is an assistant professor of neurology in the UAMS College of Medicine and is one of the on-call neurologists for the AR SAVES program. She received her medical degree from Coimbatore Medical College in Coimbatore, India.

She served a residency in neurology at Seton Hall School of Graduate Medical Education with New Jersey Neuroscience Institute at Edison, NJ. She also completed a fellowship in Neurocritical care at the Cleveland Clinic Foundation in Cleveland, Ohio.

Hinduja is a member of the American Academy of Neurology, Neurocritical Care Society, and of the Society of Critical Care Medicine.



Terri Imus, R.N., is the lead outreach nurse for AR SAVES. She is an experienced registered nurse specializing in telemedicine and outreach in distance health. She has 15 years experience in high-risk obstetrics, adult critical care, post-anesthesia care and telemedicine.

Imus educates the public as well as health care providers in basic life support, maternal-fetal monitoring and hands-on training in the use of telemedicine equipment. She also provides community and professional education in the areas of stroke, telemedicine and high-risk obstetrics.

She became a licensed registered nurse in 1988. She is certified in critical care and received a Legal Nurse Consultant diploma in 2001.



Debra Johnson, R.N., B.S.N., has 15 years experience in the field of neurology. She works closely with the neurology physicians specializing in stroke and with communities outside Little Rock on the AR SAVES project. Johnson follows the patient from the initial call through the three-month review examination. She also works with the nurse facilitators in the rural hospitals to coordinate ongoing training through mock calls and to ensure that all telemedicine units are running smoothly.



Vladimir Karpitskiy, M.D., Ph.D., joined AR SAVES in 2009 as an on-call neurologist. He is board certified in adult neurology, neuromuscular medicine and vascular neurology. He opened a private practice in 2003 in Hot Springs, where he still practices.

Karpitskiy obtained his medical degree and a doctorate at the Crimea Medical School. Before immigrating to the United States, he was a professor of medicine in the USSR. He completed a neurology residency at Washington University Medical School Medical Center in St. Louis in 2003.



Delbert C. McCutchen, RN/EMT-A, is an outreach nurse for AR SAVES. He has an extensive background in EMS and Emergency nursing. He helps to provide support and education to the AR SAVES distant sites through person-to-person visits, interactive video training and continuing education. He also provides education to EMS services in and around those distant sites.

McCutchen has 16 years experience as an EMT. He received his AAS in nursing at North Arkansas College and is a certified instructor in CPR, ACLS, PALS and TNCC. He is a professional member of the American Heart Association and a member of the Emergency Nurses Association.



Tammy Northcutt, R.N., is assistant manager of the ANGELS Call Center. She is the lead triage nurse for AR SAVES, which entails coordinating the training of the triage nurses to facilitate the telestroke calls, including interactive video, documentation of the consults, and mock calls between the emergency room distant sites, the call center triage nurse and the neurologist. She also collects data of all stroke calls.

Northcutt received her L.P.N. from Baptist Health School of Practical Nursing and earned an associate degree in registered nursing from the University of Arkansas at Little Rock. She is certified by the American Heart Association in CPR and holds a NIH Stroke Scale Certification.



Stacy Pitsch, B.S.N., RNC-nic, is an outreach nurse for AR SAVES and provides clinical training and education for assigned sites. She is responsible for the performance of these sites, reviewing all calls and providing QI reporting on these calls. Her experience is in high-risk labor and delivery and neonatal intensive care.

Pitsch received a diploma of nursing from Baptist Health Schools of Nursing in 2000 and a Bachelor of Science in Nursing at the University of Arkansas at Little Rock. She is pursuing a master's degree in the nurse practitioner program at UAMS. Stacy is also ANCC certified in her specialty field.



Lauren Scott, CHES, is one of two health educators for the AR SAVES program. Traveling extensively around southern Arkansas, she disseminates educational materials, makes presentations, attends health fairs and collaborates with hospitals in spreading the message of stroke symptoms and the importance of calling 911 immediately. She earned a Bachelor of Science in health education from the University of Central Arkansas in Conway and is a certified health education specialist.



Margaret Tremwell, M.D., is an on-call neurologist with the AR SAVES program. She received her medical degree from the University of Florida, College of Medicine in Gainesville, Fla., where she also completed her residency. She completed a fellowship in cerebrovascular disease and stroke at the University of California, Los Angeles.

Tremwell is board certified in neurology and vascular neurology by the American Board of Psychiatry and Neurology. She is a member of the American Academy of Neurology and the American Medical Association



Rick Washam, B.S.E., M.A.T., M.Ed. is a health educator for the AR SAVES program. He educates the public on the warning signs of stroke and the need to identify stroke as a medical emergency. Washam facilitates the planning and organizing of AR SAVES stroke health education programs for group and community needs. He develops and maintains cooperation between public, civic, professional and voluntary agencies as well as prepares and disseminates stroke educational and informational materials throughout these communities.

Washam received a Bachelor of Science in education, health education and biology from the University of Central Arkansas, a Master of Arts in teaching from Harding University and a Master of Education from Harding University.



Loretta Williams, R.N., has been an outreach nurse for AR SAVES for four years. She has an extensive background in rehabilitation nursing. She provides support to the AR SAVES distant sites through person-to-person visits, interactive video training and continuing education. She collects and reports data to the Center for Distance Health.

Williams received a Diploma of Nursing from Baptist Health School of Nursing, and NIH Stroke Certification. She is a participant of the Silent/Clinical Disease Workgroup at the Arkansas Department of Health - Heart Disease and Stroke Prevention Section.

ADMINISTRATIVE STAFF



Tina Benton, B.S.N., is program director of the Antenatal & Neonatal Guidelines and Education Learning System (ANGELS) in the Department of Obstetrics and Gynecology at UAMS, and the clinical division director and operations manager of the Center for Distance Health. Benton helped develop ANGELS in 2003 after 12 years as a perinatal outreach nurse in the Department of Obstetrics and Gynecology's Division of Maternal-Fetal Medicine. She received a Bachelor of Science in nursing at Henderson State University. She has presented posters at several telemedicine meetings in the United States and is a long-standing member of the Association of Women's Health, Obstetric and Neonatal Nurses.



Roy Kitchen, B.S., M.S., is the business administrator for the Center of Distance Health and the deputy administrator for the Department of OB/GYN. He develops and oversees day-to-day administration of the center, training and technical assistance, and programs. He works with grants and assists with negotiations of contracts, including development of new business proposals, affiliation agreements, memorandums of understanding and preparation of cost analysis and financial impact.

Kitchen received a Bachelor of Science in business administration and Master of Science in operations management both from the University of Arkansas, Fayetteville. He joined UAMS in 2002 as administrator in the Division of Cardiovascular Medicine before moving to the Center for Distance Health in 2006.



Conelia Williamson is the administrative coordinator for the AR SAVES program. She oversees contracts and credentialing for all sites around the state. Williamson has 23 years of experience with UAMS serving in several capacities. Williamson also serves as administrative support for the pediatric section educational programs of the Center for Distance Health.

PRESENTATIONS

- 1** Predictors of Poor Outcome in Moderate to Severe Strokes in a Statewide Telestroke Network. Shadi Yaghi, Archana Hinduja, Salah G Keyrouz and the Arkansas SAVES group. International Stroke Conference, February 2012, New Orleans (Poster)
- 2** Intravenous thrombolysis for minor strokes: Outcome in a cohort of patients treated through telemedicine. Shadi Yaghi, Salah G Keyrouz, Archana Hinduja and the Arkansas SAVES group. International Stroke Conference, February 2012, New Orleans (Poster)
- 3** Time to thrombolysis: does it make a difference in outcome in a statewide telestroke network? Shadi Yaghi, Archana Hinduja, Salah G Keyrouz and the Arkansas SAVES group. International Stroke Conference, February 2012, New Orleans (Poster)
- 4** Efficiency and Outcome of after Hours IV Thrombolysis in a statewide Telestroke Network. Shadi Yaghi, Archana Hinduja, Nicolas Bianchi, Shuja Rayaz, Salah G. Keyrouz and the Arkansas SAVES group. American Academy of Neurology 64th annual meeting, April 2011, New Orleans (Poster)
- 5** The Effect of Preadmission Medications on Outcome Following IV Thrombolysis in a Statewide Telestroke Network. Archana Hinduja, Salah G. Keyrouz, Nicolas Bianchi, Shuja Rayaz, Shadi Yaghi and the Arkansas SAVES group. American Academy of Neurology 64th annual meeting, April 2011, New Orleans (Poster)
- 6** Intravenous Thrombolysis administered by Vascular versus Non-vascular Neurologists in a Statewide Telestroke Network. Shadi Yaghi, Salah G. Keyrouz, Archana Hinduja, Shuja Rayaz, Nicolas Bianchi and the Arkansas SAVES group. American Academy of Neurology 64th annual meeting, April 2011, New Orleans (Poster)
- 7** Rural Stroke Educations & Care for Pre-hospital Providers. Delbert C. McCutchen. AEMTA Spring Fling, March 2011, Batesville (Presentation)
- 8** EMS Plays a Critical Role in Emergent Care of Acute Stroke Patients. Delbert C. McCutchen. AEMTA State Conference, August 2011, Hot Springs (Presentation)
- 9** Stroke Awareness, Is there Treatment for Stroke? Delbert C. McCutchen, Julie Hall-Barrow. Wal-Mart Corporate Headquarters; October 2011, Bentonville (Presentation)
- 10** Rural Arkansas – Stroke Education for EMS & First Responders. Delbert C. McCutchen, Rick Washam. National Park Regional Headquarters, January 2012, Harrison (Presentation)
- 11** Recognition & Treatment of Brain Injuries in the Acute Patient using Tele-Medicine. Delbert C. McCutchen. North Arkansas College (Nursing Students), March 2012, Harrison (Presentation)
- 12** Nursing Role in Telestroke, the Arkansas Experience. Terri Imus, RN. Ninth Annual Stroke Symposium Registration, University of Utah Nursing Association, April 2012, Salt Lake City (Presentation)

STRIKE OUT STROKE

Raising Awareness, Honoring Stroke Survivors

On two nights this year and last, groups of Arkansas stroke survivors walked unaided onto the infields of the state's two minor league baseball teams, bearing witness to the power of the AR SAVES stroke program.

Called Strike Out Stroke, the high-profile public awareness events were at games hosted by the Arkansas Travelers in North Little Rock and the Northwest Arkansas Naturals in Springdale.

Established in 2011 by the AR SAVES team, a function of the UAMS Center for Distance Health, Strike Out Stroke involved dozens of volunteers from AR SAVES hospitals who greeted fans wearing AR SAVES T-shirts and handing out materials with tips for recognizing stroke symptoms and the need to call 9-1-1 as soon as symptoms appear. Both Strike Out Stroke events in 2011 were sponsored by Cisco Systems Inc. In 2012 sponsors were One Vision Solutions and Direct Packet.

The events also were highlighted by the arrival of a SAVES stroke neurologist via helicopter, who delivered the ball for the ceremonial first pitch. In 2011, UAMS Chancellor Dan Rahn, M.D., threw the first pitch for the Travelers, while Lt. Gov. Mark Darr did so at the Naturals' game.

"Strike Out Stroke is really a celebration of those stroke survivors," said Julie Hall-Barrow, Ed.D., AR SAVES director. "We want to celebrate their lives, which they are enjoying with little or no disabilities. They're excited and we're excited."

Because of its success, Strike Out Stroke is expected to become a mainstay of AR SAVES' comprehensive public outreach efforts.



UAMS Chancellor Dan Rahn at Dickey-Stephens Park for Strike Out Stroke night in 2011.



Arvest Ballpark in Springdale was the site of Strike Out Stroke events in 2011 and 2012.

AROUND THE STATE



Johnson Co. Regional Medical Center AR SAVES Facilitator, Terri Stumbaugh, educates participants at community health fair in Clarksville.



Ticia Covington, AR SAVES stroke survivor, continues her teaching career in Searcy and announced the birth of her third child.



Dumas High School EAST students created a community stroke education video featuring, David Bullock, DeWitt stroke survivor and AR SAVES patient.



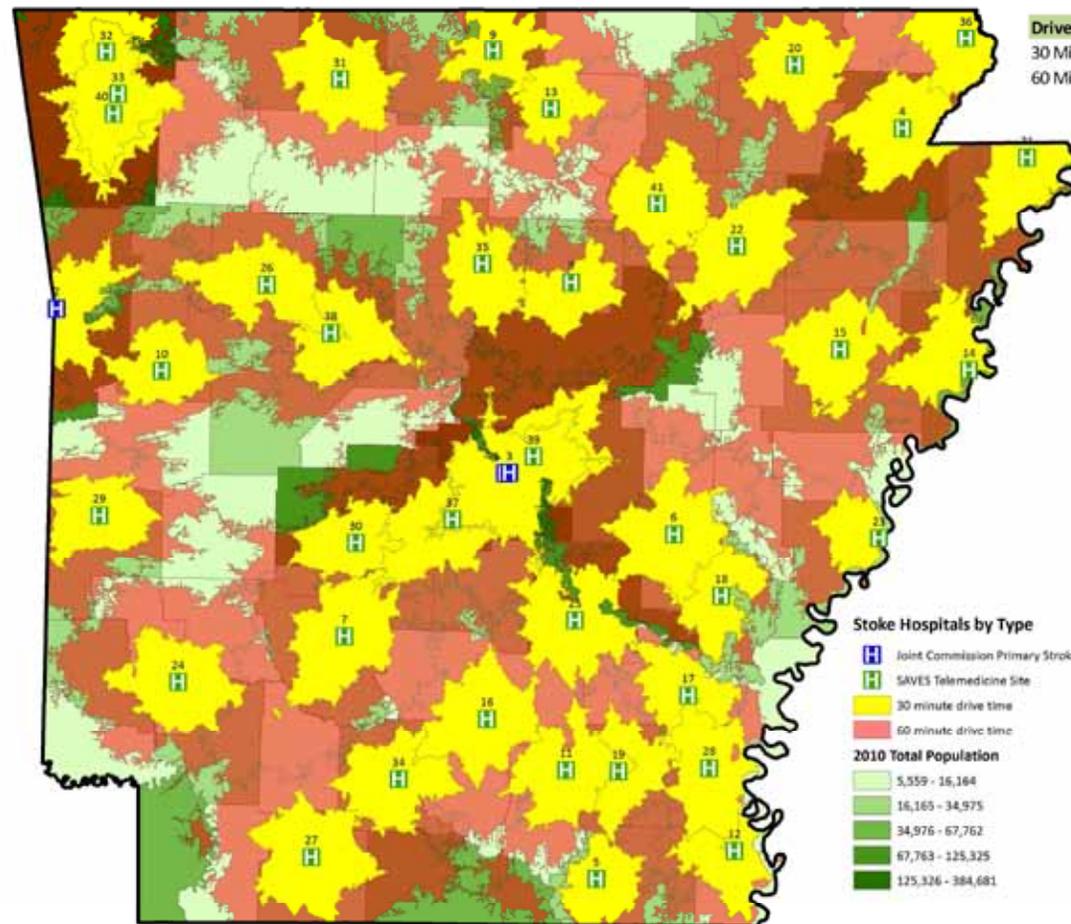
Northwest AHEC MASH (Medical Application of Science for Health) students learn the importance of acting FAST with stroke.

DRIVE TIMES TO ACUTE STROKE CARE

In August 2009, with two certified primary stroke centers in Arkansas, only 38.4 percent of the state population was within a 60-minute drive in an ambulance from a hospital equipped to provide acute stroke care. By June 2012, with three certified stroke centers and 36 other hospitals connected through AR SAVES, more than 95 percent of the state population is within a 60-minute drive of acute stroke care, an increase of 5 percent since last year (see map).

ARKANSAS STROKE SYSTEMS OF CARE

30 & 60 Minute Drive Times from Joint Commission Primary Stroke Centers and SAVES Telemedicine Sites
2010 Population by County



Drive Time	Population	Percent
30 Minutes	1,999,434	68.4%
60 Minutes	2,789,174	95.4%

- Joint Commission Primary Stroke Centers**
- 1 Baptist Medical Center - Little Rock
 - 2 Sparks Regional Medical Center
 - 3 University of Arkansas for Medical Sciences
- SAVES Telemedicine Sites**
- 4 Arkansas Methodist Hospital
 - 5 Ashley County Medical Center
 - 6 Baptist Medical Center / Stuttgart
 - 7 Baptist Medical Center / Arkadelphia
 - 8 Baptist Medical Center / Weber Springs
 - 9 Baxter Regional Medical Center, Mountain Home
 - 10 Booneville Community Hospital
 - 11 Bradley County Medical Center
 - 12 Chicot Memorial Hospital
 - 13 Community Medical Center - Izard County
 - 14 Crittenden Regional Hospital
 - 15 CrossRidge Community Hospital
 - 16 Dallas County Medical Center
 - 17 Delta Memorial Hospital
 - 18 Dewitt Hospital
 - 19 Drew Memorial Hospital
 - 20 Five Rivers Medical Center
 - 21 Great River Medical Center
 - 22 Harris Hospital
 - 23 Helena Regional Medical Center
 - 24 Howard Memorial Hospital
 - 25 Jefferson Regional Medical Center
 - 26 Johnson Regional Medical Center
 - 27 Magnolia City Hospital
 - 28 McGehee-Desha County Hospital
 - 29 Menard Regional Health System
 - 30 National Park Medical Center
 - 31 North Arkansas Medical Center
 - 32 NorthWest Medical Center, Bentonville
 - 33 Northwest Medical Center - Washington County
 - 34 Ouachita County Medical Center
 - 35 Ozark Health Medical Center
 - 36 Piggott Community Hospital
 - 37 Saline Memorial Hospital
 - 38 St. Mary's Hospital
 - 39 St. Vincent Health System/ North Little Rock
 - 40 Washington Regional Medical Center
 - 41 White River / Babesville

Stroke Hospitals by Type

- Joint Commission Primary Stroke Center
- SAVES Telemedicine Site
- 30 minute drive time
- 60 minute drive time

2010 Total Population

- 5,559 - 16,164
- 16,165 - 34,975
- 34,976 - 67,762
- 67,763 - 125,325
- 125,326 - 384,681



Source: ESRI 2010; Hospital Data as of 6-4-2012

BIANCHI COLUMN

From the Medical Director



In this era of great technological advances, we must use all available resources to extend the highest level of health care that urban centers enjoy into rural, underserved areas. The AR SAVES program, via two-way, audio-visual tele-consultation with vascular neurologists, is accomplishing that ideal in the field of acute stroke.

Over the last year, AR SAVES has made progress in many areas, including treatment rates, logistics, education, community outreach and research production.

Since its inception in 2008, AR SAVES continues to grow. Currently, more than 90 percent of the state's population resides within 60 minutes of driving time to a primary stroke center or telemedicine site.

The program continues to deliver critical stroke care to more and more Arkansans each year. We delivered t-PA to 109 patients in 2011 compared to 68 in 2010, for a total of 226 treated patients since its inception in November 2008. Our rate for 2012 seems to keep that pace and the ratio of consultations to t-PA is still around 23 percent, which is much higher than the national average. Our care for the sickest patients is made more effective by a rapid referral system, "the Stroke Pathway," intended to provide immediate access to the highest level of care that advanced endovascular procedures can provide.

We are constantly planning community activities such as "Strike Out Stroke" to celebrate our survivors and through them make a positive cultural change towards stroke in the rural communities.

The strong education efforts have encouraged many hospitals to participate in the newly developed Arkansas Stroke Registry that will provide statistics to drive the resources for better stroke prevention and treatment.

We have presented scientific posters and platform presentations in national and international meetings this year. And we held our Third Annual AR SAVES Telestroke Conference in Little Rock.

I am honored to succeed Dr. Keyrouz in leading the efforts to decrease stroke mortality and disability and to be part of this great team of health care professionals dedicated with enthusiasm to improve the health of Arkansans.

Sincerely,

A handwritten signature in black ink, appearing to read "Nicolas Bianchi". The signature is fluid and cursive.

Nicolas Bianchi, MD
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www.uams.edu/saves