





2015 Annual Report

Table of Contents

Leadership 3 Stroke Survivor Events 10 6th Annual Stroke Conference 12 AR SAVES Spoke Sites Data 16 Advanced Stroke Life Support 17 Drive Time Map 18 AR SAVES Overview 24 AR SAVES Team 26 Call Center 27 Message from the Director 28 Message from the Medical Director 29 What's Next







Roy Kitchen, MBA Business Administrator

The Center for Distance Health exists to facilitate distance health implementation of educational, clinical, research, and outreach opportunities, including the effective management of needs assessments and efficient resource matches to eliminate disparities in health care.

This annual report was produced by Creative Services and the Office of Communications & Marketing, University of Arkansas for Medical Sciences

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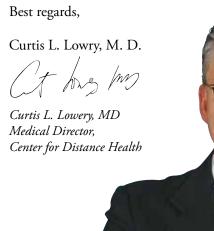
Every passing year with the Center for Distance Health amazes me. I reflect on our meager beginnings, with just a small group of dreamers, and even I couldn't have imagined where those dreams have taken us over the last 11 years. I can walk through our offices and see new faces full of spirit and hope for change, and I can see familiar faces with the same exact spirit and hope. I consider myself a very lucky man to have seen such a far reaching and tremendous concept unfold and grow before my eyes. It is our people that make the metamorphosis complete.

Part of our commitment was the development of our online educational portal, Learn on Demand, officially launched in 2014. Over 100 AR SAVES and other CDH educational modules have been launched since its premiere year. With over 6500 participants from 32 states accessing live presentations and/or enduring materials through Learn on Demand, we can safely say that the Center for Distance Health education is in demand.

This past year, we suffered the loss of our friend and colleague, Adam Rule. Adam's dedication to

the Center for Distance Health and the spirit of learning never waned. He became part of our CDH family, which makes the loss all the tougher for all of us. It is to Adam I wish to dedicate this AR SAVES annual report. He made so many of the achievements listed in these pages possible. Your CDH family will always remember you, Adam.

Every new year is a new challenge, but with the support of our unmatched team of CDH and AR SAVES staff and rural partners, we can navigate any obstacle. I am honored to work alongside such a dedicated team year after year.





With Helpfrom AR SAVES, Stroke Survivor Dances His Way to Recovery

By Ben Boulden

On a Friday in May, a stroke felled George Crocker and made him unable to even roll over on the floor of his garage. By Sunday, he was dancing on the floor of his patient room in the UAMS Medical Center, thanks to quick treatment through the AR SAVES network.

A retired Army Lieutenant General with 34 years of service, Crocker on May 8 was doing some routine maintenance on one of his cars at his home in the Choctaw community outside Clinton. While doing that, he felt a sharp pain in the back of his head. Crocker has no memory of falling, but the next thing he recalls was being face down on the floor of the garage and unable to move his arm or roll over onto his back.

His wife, Vonda Crocker, found him a few minutes later when she entered the garage. She called emergency medical services, and they in turn alerted the Emergency Department at the Ozark Health Medical Center in Clinton, an AR SAVES partner.

Because of the early notice, the department's staff was able to initiate a telemedicine consultation with an AR SAVES physician at UAMS within about 30 minutes after Crocker had his stroke. The physician recommended Crocker receive t-PA.

Within just a few minutes, his arm, which had locked into a cramped position against his torso at the onset of the stroke, began to relax, Crocker said.

"... I was trying to talk Dr. Bianchi into discharging me, he asked me if I could get around fully now, so I got up and danced for him. He discharged me, and I came back home." Next, he was transported by ambulance to UAMS Medical Center, underwent a brain scan, administered more t-PA via a catheter by interventional radiologist Adewumi Amole, M.D., and had two clots removed from his brain.

"As the evening progressed, I could remember better and think better," Crocker said. "By 3:30 a.m., I could form complete sentences and speak them. Dr. Bianchi assessed me, and I was even better after sleeping." Nicolas Bianchi, M.D., is medical director of the AR SAVES Telestroke Program.



On May 9, Crocker was transferred to a general patient ward in the medical center, and by Sunday, he had fully recovered.

"On Sunday, I was trying to talk Dr. Bianchi into discharging me," Crocker said. "He asked me if I could get around fully now, so I got up and danced for him. He discharged me, and I came back home."

By May 14, just six days after his stroke, Crocker helped out the AR SAVES program that helped him. He did it by throwing a ceremonial pitch at Dickey-Stephens Park in North Little Rock as part of a Strike Out Stroke Night event organized by AR SAVES in cooperation with the Arkansas Travelers baseball team for stroke awareness.

Community Education

Ever since the beginning of AR SAVES, we knew the importance of community education would be the game changer in making this statewide program complete. We can have the best trained healthcare staff waiting at the door, but unless Arkansans recognize the signs and symptoms of stroke, call 911, then it's all for naught. We are recognized nationally for the amount of public education we do each year. In fiscal year 2015 we had over 1300 outreach events, and reached over 440,000 Arkansans about the importance of recognition of stroke. This reflects a 13% increase in events and a 14% increase in the number of Arkansans touched by our AR SAVES sites from the previous year.













Strike Out Stroke Night

Some fast balls thrown from the pitcher's mound by stroke survivors at Strike Out Stroke Night events in Dickey-Stephens Park in North Little Rock and Arvest Park in Springdale.

Five survivors threw their strikes against stroke May 14 at the AR SAVES Strike Out Stroke Night during a pregame ceremony at Dickey-Stephens Park at an Arkansas Travelers game against the Tulsa Drillers.

On April 15, survivors did the same at Arvest Park in Springdale before a game pitting the Northwest

Arkansas Naturals against the Midland, Texas Rockhounds – both games featuring teams from Minor League Baseball's Class AA Texas League.







Chuck Wagon Races

Each year, over Labor Day weekend, an estimated 20,000 people are on hand to watch the excitement of chuckwagon racing, bronc fanning, and the Snowy

River Race. Brooke Keith and Jessica Branham were also there to provide information and to hand out AR SAVES handouts, pens and fans.



Tackle Stroke Nights Around Arkansas

Barton High, McGehee High and Blytheville High schools all participated in a Tackle Stroke night in September while Monticello High school participated in October. Fans, bracelets, tattoos, magnets and other stroke information were handed out. Cheerleaders threw stress ball "brains" into the stands throughout the games.









Christmas Parade

The 18th annual Christmas Parade of the Ozarks took place Saturday evening (Nov. 29). Highlights include cars, vans, and floats wrapped in lights. Over 50 local businesses, churches and community groups were involved, including Bobbi Mathis with the ACT FAST float.







6th 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 Champion
Ashley County Medical Center



Site Champion Conway Regional Medical Center



Nurse Facilitator Champions



Christi Foust, RN at AR Methodist Hospital, Paragould, AR

Stroke Champion



Ticia Covington



Vicki Witcher, RN at CrossRidge Community Hospital, Wynne, AR

Physician Champions



Eli Denney, DO - North Ar. Regional Medical Center, Harrison, AR



Stanko Vuk, MD - Ozark Medical Center, Clinton

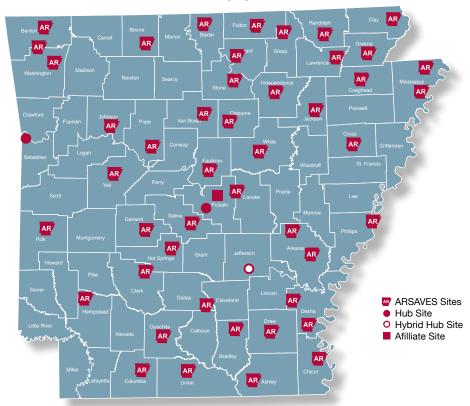
AR SAVES Sites around Arkansas

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	15	7	8	11	31	36,611
Ashley Co MC/Crossett	10	3	7	37	39	6,740
Baptist Health /Arkadelphia	14	6	8	12	31	10,447
Baptist Health /Heber Springs	8	3	5	12	28	12,382
Baptist Health /Malvern	11	4	7	10	23	3,042
Baptist Health /Stuttgart	8	4	4	13	26	4,198
Baxter Reg/Mountain Home	66	18	48	11	32	96,398
Bradley County MC/Warren	7	2	5	12	25	1,701
Chambers Memorial/Danville	7	3	4	20	24	1,956
Chicot Memorial/Lake Village	7	3	4	13	28	1,213
Conway Regional/Conway	53	18	35	47	37	19,693
CMC/Izard Co/Calico Rock	7	3	4	10	25	6,483
CrossRidge Community Hospital/Wynne	5	1	4	12	48	3,847
Dallas Co/Fordyce	9	1	8	3	25	1,018
Delta Memorial/Dumas	2	1	1	11	29	871
DeWitt Hospital	2	0	2	11	26	2,271
Drew County MC/Monticello	10	6	4	14	9	1,205
Five Rivers MC/Pocahontas	15	6	9	15	25	1,829
Fulton County Hospital/Salem	6	3	3	26	15	1,294
Great River MC/Blytheville	12	1	11	28	39	20,164
Harris Hospital/Newport	4	1	3	11	42	4,094
Helena Regional MC/ Helena	11	4	7	11	16	2,757
Howard Memorial/Nashville	5	0	5	12	36	2,051
Johnson Reg/Clarksville	8	4	4	9	22	1,884

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	6	3	3	9	21	1,782
Magnolia Regional MC/ Magnolia	0	0	0	12	30	7,777
McGehee/Desha	2	1	1	11	25	2,460
Mena Regional MC/ Mena	7	2	5	9	14	611
MCSA/El Dorado	19	9	10	23	71	6363
National Park/Hot Springs	30	10	20	13	36	9,461
NEA/Jonesboro	10	5	5	21	9	30,241
North AR Regional /Harrison	67	9	58	25	30	3,926
North Metro Medical Center/ Jacksonville	0	0	0	4	0	0
Northwest MC/Bentonville	20	6	14	10	31	7,273
Northwest MC/Springdale	24	8	16	17	33	6,284
Ouachita CO/Camden	11	5	6	8	29	1,988
Ozark Health MC/Clinton	8	4	4	13	28	9,469
Piggott Community Hospital/Pigott	7	2	5	12	40	17,264
Saline Memorial/Benton	18	8	10	9	29	44,011
SMC/Osceola	1	0	1	17	32	3,870
Sparks/Ft. Smith	18	7	11	25	14	3,621
St Mary's/Russellville	35	10	25	16	22	1,730
Stone Co MC/ Mt. View	10	5	5	12	24	2,126
Washington Reg/Fayetteville	38	10	28	13	26	2,170
White County MC/Searcy	54	18	36	16	30	2,225
White River MC/Batesville	34	11	23	14	44	18,513
White River/Cherokee Village	7	2	5	12	29	17,716
FY 2015 TOTALS	728	237	491	692	1328	445,030

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	South Mississippi County Regional Hospital	Osceola	Mississippi
Delta Memorial Hospital	Dumas	Desha	*Sparks Health System	Fort Smith	Sebastian
DeWitt Hospital and Nursing Home	DeWitt	Arkansas	Stone County Medical Center	Mountain View	Stone
Drew Memorial Hospital	Monticello	Drew	St. Mary's Regional Medical Center	Russellville	Pope
Five Rivers Medical Center	Pocahontas	Randolph	*UAMS Medical Center	Little Rock	Pulaski
Fulton County Hospital	Salem	Fulton	Unity Health - Harris Hospital	Newport	Jackson
Great River Medical Center	Blytheville	Mississippi	Unity Health - White County Medical Center	Searcy	White
Helena Regional Medical Center	Helena	Phillips	Washington Regional Medical Center	Fayetteville	Washington
Howard Memorial Hospital	Nashville	Howard	White River Medical Center	Batesville	Independence
**Jefferson Regional Medical Center	Pine Bluff	Jefferson	White River Medical Complex	Cherokee Village	Sharp
Johnson Regional Medical Center	Clarksville	Johnson			
Lawrence Memorial Hospital	Walnut Ridge	Lawrence	* Hub Site ** Hybrid Hub Site *** Affiliate		
Magnolia Regional Medical Center	Magnolia	Columbia			

AR SAVES Sites FY 2015



AR SAVES Welcomes 4 new sites: Baptist Health - Malvern 44th site (August 28, 2014), Fulton County Medical Center - 45th site (November 3, 2015), NEA Jonesboro 46th Site (March 23, 2015), North Metro Medical Center - Jacksonville 47th site (July 6, 2015)

Advanced Stroke Life Support

The AR SAVES team in 2014 made a big push in education directed at Emergency Medical Services providers in rural Arkansas.

In different locations in rural Arkansas, AR SAVES has taught several hands-on eight-hour classes that teach participants to perform focused evaluations to identify stroke locations in the brain and their severity in the patient.

The course teaches emergency medical professionals to recognize stroke signs and symptoms, explains early treatment for stroke and fosters the use of consistent examination methods and communication from EMS to the hospital.

Expedited treatment is critical for any stroke patient, but especially in isolated, rural areas where the trip to a hospital may take longer than in an urban setting.

Traditionally, EMS professionals have been taught a different type of stroke examination than clinicians in the hospital.

The course gives medical professionals common terminology and is relevant for physicians and nurses as well as paramedics and emergency medical technicians. The goal is to optimize care, so the people in the field are using the same key words that hospital nurses and physicians understand. With improved

communications between them, the patient will receive faster, timely and definitive treatment for stroke.

AR SAVES supplies instructors, books and other course materials. The only thing the local sponsor is asked to do is provide a classroom and 20 students.





Drive Time Map

In 2012, the Arkansas Heart Association mapped the Arkansas population and drive time distances. The data

Telemedicine sites by county. The results showed that 1.9 million were within a 30-minute drive of an acute

stroke treating hospital (68.4 percent), and 2.7 million were within a 60-minute drive time of a stroke hospital (68.4 percent).

With the additional sites, AR SAVES has added over the past three years, the program increased the outreach to 2.05 million within a 30-minute drive (75 percent), and 2.99 million within a 60-minute drive (98 percent).

Nearly every Arkansan is now within 60 minutes of acute stroke care.

*When data for this map was run, Crittenden Regional Hospital was still open.

AR SAVES Overview

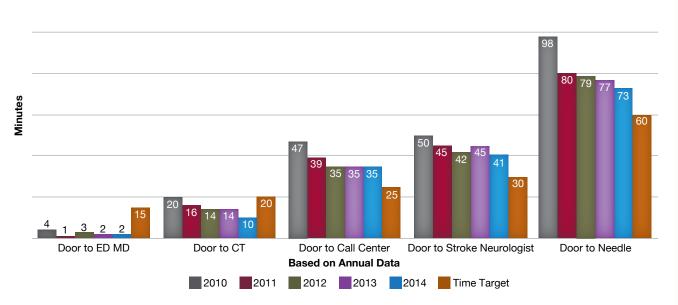
AR SAVES continues to use nationally recognized best stroke guidelines as published by the American Heart Association, known better as Get With the Guidelines (GWTG). These guidelines direct our AR SAVES Code Telestroke practices, which we have implemented within our partner sites to decrease our door-to-needle (DTN) times for the best patient outcomes. Those standards include: door to Emergency Department (ED) physician evaluation – 15 minutes, door to CT and labs – 20 minutes, door to SAVES Call Center – 25 minutes, door to stroke neurologist consult – 30 minutes, and/or door to t-PA – 60 minutes.

In FY 2015, AR SAVES total consults increased by 12.5 percent compared to the previous year, and our t-PA delivery cases increased by 17 percent. In a report published by the American Heart Association Stroke Journal, March 2014, it was reported, "the overall rate of stroke thrombolysis in the United States is less than 5 percent, a figure that is consistent internationally. However, hospitals using telemedicine typically report t-PA rates around 15 percent of

all strokes." We are pleased to report that our t-PA average remains higher than reported in this journal at 32 percent of all consults in FY 2015! In this fiscal year, our t-PA administration increased by 17 percent with all consults, and our non-delivery decreased by 10 percent from the previous fiscal year.

An article by Bruno, A. in the Stroke Journal 2013, titled "Timeliness of Intravenous Thrombolysis via Telestroke in Georgia," assesses the opportunities to shorten the door-to-needle time by looking at multiple time intervals in a telestroke system. Median time from ED arrival to thrombolysis initiation was 88 minutes. Thrombolysis was initiated within 60 minutes from ED arrival in 13 percent of patients. This telestroke coverage was reported only in 17 EDs in Georgia. AR SAVES showed 23 percent of all of our t-PA cases had door-to-needle times within 60 minutes. AR SAVES door-to-needle time overall is down to 73 minutes.

"AR SAVES since the beginning, has treated over 850 Ischemic Stroke patients with t-PA"



Nationally, the median time from ED arrival to thrombolysis initiation was 88 minutes.

In Arkansas, with AR SAVES





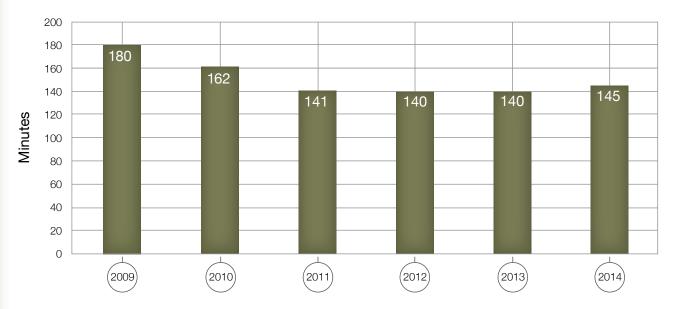
Overall it's down to

minutes, which is

15^r

minutes faster than the national average

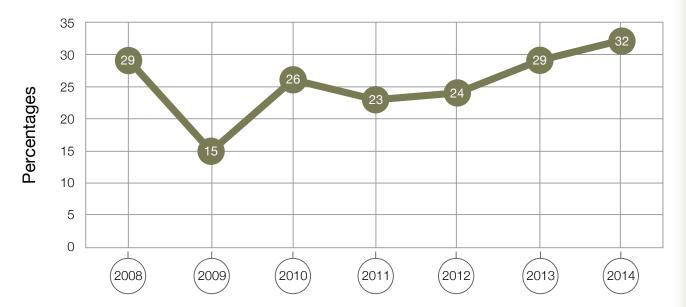
Median Onset of Symptoms to t-PA



"Continuing to reach more Arkansans about the signs and symptoms of stroke is critical to saving more lives"

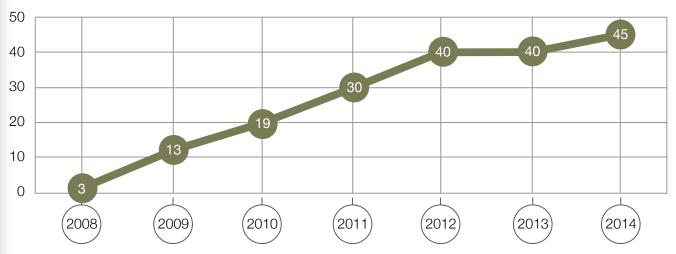
Michael Manley

AR SAVES Director

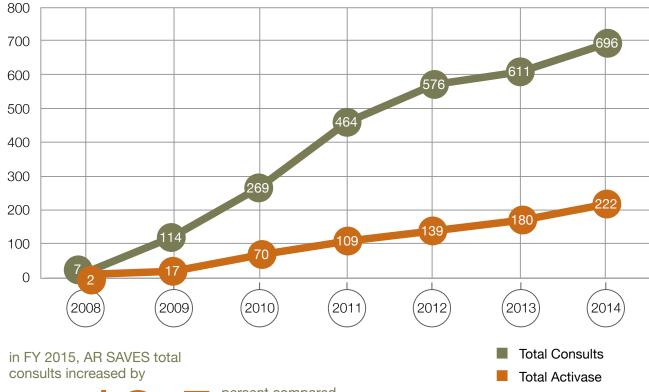


Hospitals using telemedicine typically report t-PA rates around 15 percent of all strokes. We are pleased to report that our t-PA average remains higher than reported in this journal at

32% of all consults in FY2015



of all Arkansans are now within 60 minutes of an AR SAVES Stroke Hospital or a Primary Stroke Center



percent compared to the previous year, and our t-PA delivery cases increased by

percent

AR SAVES Staff

Directors



Michael Manley, R.N. Director AR SAVES



Nicolas Bianchi, M.D. Medical Director

Community Educators



Lauren Scott



Rick Washam



Olivia Wilson

IT



Phillip Martin

Administration



Conelia Williamson



Ashley Moskow

Outreach RNs



Debi Johnson, R.N.



Delbert McCutchen, R.N.



Tiffany Morgan, R.N.



David Wollard, R.N.

In 2015, AR SAVES 1, 300 outreach events and reached over 440,000

Call Center







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

850

Ischemic Stroke patients with t-PA

Call Center focus



The AR SAVES Call Center is the critical point of where everything comes into play with our ischemic stroke treatment. With 24/7 coverage, the telemedics and nurses truly make everything happen. As our program has grown during the past six years, so have our consults and the crucial, educational mock strokes that our sites perform.

The Call Center is an integral part in assisting our AR SAVES sites in reaching the goal of door-to-needle times of 60 minutes or less. They not only coordinate the connection between the stroke neurologist and emergency department, but they play a critical role in ensuring patient safety, closed loop communication, and assistance with transferring the stroke patient to the most appropriate facility. As with everything we do at AR SAVES, the primary focus is on the patient.

Message from the Director



Margaret Mead wrote "never believe that a few people can't change the world, for indeed, that's all who ever have."

As Arkansas (AR) SAVES enters into its seventh year, we have seen many changes in not only care for ischemic stroke patients, but overall telehealth

in general here in the state. We have moved the needle once again for giving access for our hospitals to stroke neurologists over the entire state. As of June 30, 2015, we are covering 47 Emergency Departments, and will have an additional department trained in the first quarter of FY 2016. Management of population health is a huge topic of conversation in the health care arena nationally right now. AR SAVES is a great example of how medical institutions in Arkansas can partner to take care of some of the most critical patients. Using the same telehealth network, we also are able to leverage other specialties as well to benefit those communities.

As we have stressed in the past, we are just not a clinical program. This next year will bring more public awareness and emergency medical provider education in the AR SAVES areas. This will not only include EMS, but also working with fire and law enforcement programs all across the state.

Another expansion that you will see with our stroke network is finding appropriate hospitals that can care for lower acuity t-PA patients closer to home. The AR SAVES Call Center is very vital to not only taking care of the patient in the acute situation but also assisting with getting that same patient to the appropriate level of care at centers as close to home as possible. As our referrals continue to climb, so does the need for these patients to be treated in the most appropriate medical center.

We look forward to our continued partnership with Arkansas Medicaid, our very vital 47 spoke sites, the Arkansas Acute Stroke Care Task Force and our receiving hospitals in FY 2016. There is no other state that has this amount of stroke coverage for their citizens. Arkansas is truly recognized as a national model.

Michael Manley, MNSc AR SAVES Director CDH Outreach Director

From the Medical Director



It is my pleasure to share the performance of the AR SAVES program with you. Over the past year, the program has maintained a high level of activity and continued to cover most of the Arkansas population within 60 minutes driving

time to any of our hospital sites, so that when appropriate, every witnessed stroke in the state of Arkansas should be able to receive intravenous t-PA.

As you can see in this report, the program has grown. There were new sites added, more consults, and more patients receiving thrombolysis and at the same time achieving improvements in all median time targets. The "door-to-needle time" reflects the time spent from hospital arrival until the medication is given, while the "onset-to-treatment time" includes not only the hospital phase but also the pre-hospital phase from identification of the case to the final

treatment. This improvement reflects the efficacy of community and EMS education and training.

Acute stroke care in Arkansas is approaching critical times as there is a strong movement towards designating stroke centers at its various levels and designing a statewide system of care for stroke patients. Obviously, our AR SAVES sites and hubs will be directly involved in the process and should be the leaders and supporters of this movement by achieving and maintaining qualifications as Acute Stroke Ready Hospitals and Primary Stroke Centers, respectively as per the Joint Commission criteria. This is a challenging task and may have cost implications for smaller hospitals, so I encourage all to become involved in the process. There are many ways to obtain funding and support.

In the future we will continue to strive for even better numbers, targeting a "door-to-needle time" of less than 60 minutes. I also foresee that most AR SAVES sites will qualify as Acute Stroke Ready Hospitals, will be highly involved in the Arkansas

Stroke Registry and will be key links in the stroke systems of care for the state.

I congratulate everybody within the AR SAVES family for these achievements, and I encourage everyone to continue to work to optimize the program.

Sincerely,

Nicolas Bianchi, MD

Medical Director,

AR SAVES Telestroke Program

Director, Stroke Program

Assistant Professor,

Department of Neurology,

College of Medicine

University of Arkansas for Medical Sciences

Editor's Note: Nicolas Bianchi, M.D., chose to step down as Medical Director **effective July 30, 2015**. AR SAVES thanks him for his service.

What's next for FY2016

- = AR SAVES will be increasing its outreach to Law Enforcement and Fire Departments throughout the state, as well as increasing its current education to EMS providers.
- AR SAVES will be active in the AR Acute Stroke Care Task Force by assisting with the possible implementation of Acute Stroke Center designations.
- Through the acquisition of special grants, AR SAVES will be touring the state with the new Mega Brain educational display.
- = AR SAVES annual conference will be hosted back in Little Rock at the end of April, 2016.







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