



NETWORK 2006 Special Edition FISTULA FIRST NEWS

Can we reach the new goal?

Since the Fistula First Project was launched in 2003, each ESRD Network region has experienced an increase in AV fistula use and met individual improvement targets assigned by the Centers for Medicare & Medicaid (CMS). Additionally, the United States, as a whole, surpassed the 40% AVF prevalence goal recommended by the National Kidney Foundation Kidney Disease Outcomes Quality Initiative (KDOQI) and CMS, and currently reports 43% prevalent patients dialyzing with AVF. (June 2006)

As improvements were demonstrated, CMS increased the AVF prevalence goal to 66%, to be achieved by June 2009, and was followed by a newly recommended goal of > 65% prevalence in the KDOQI Guidelines for Vascular Access - 2006 Update. While these goals remain lower than current rates reported in Europe and Japan, only one ESRD Network reports a rate near 60%, and the southern Networks report rates in the low 40's or less. Networks are expected to reduce this quality deficit within their regions by meeting CMS assigned target goals of absolute improvement. Network 8 is to achieve a target increase of 4 percentage points by March 2007, and will have a similar or increased target each year, until the goal is met.

Currently, the Network 8 absolute improvement rate averages 0.3 percentage points per month. In order to meet our

target, this rate must be maintained or increased. This can be achieved by continued implementation of the 11 practice changes identified in the Fistula First Change Package. Network 8 dialysis facilities reporting high fistula rates have attributed successful outcomes to the following practice changes, which are described in the package:

- Increased nephrology leadership in vascular access planning
- Increased surgeon interest and skill, utilization of full range of surgical approaches, including transpositions and secondary AVF
- Increased communication among vascular access team members
- Use of pre-operative vessel mapping
- Appointment or hiring of vascular access coordinators to monitor accesses and follow-up

The chart on the following page describes the percentage of Network 8 facilities with reported AVF prevalence in described ranges. Though improvement is evident, and a small percentage of facilities have already met the new goal, approximately 60% continue to report AVF use in less than 40% of their patients. While few providers have not attempted to implement practice changes, many have. Yet these nephrologists, dialysis staff and surgeons continue to cite significant barriers that are viewed beyond their control, such as: late referral of patients to nephrologist, availability of skilled and willing surgeons, financial/reimbursement issues, poor cannulation skills and patient resistance.

Data prove that even when early referral to nephrologist occurs, additional barriers prevent AVF creation in the United States. The Dialysis Outcomes Practice Patterns Study (DOPPS) reports 68% of patients in the US under the care of nephrologists for > 4 months, and only 32% initiating dialysis with an AVF or AVG, at 16% each; compared to European countries, with 71-82% of patients under the care for > 4 months, and 52% initiating with permanent access, 49% AVF; and Japan, with 65% under care > 4 months, and 82% initiating with permanent access, 79% AVF. (2003 data)

From June 1, 2005 – May 31, 2006, Network 8 received 2728 forms (End Stage Renal Disease Medical Evidence Report – Medicare Entitlement and/or Patient Registration) for 4982 patients initiating hemodialysis. Data collected from these forms indicated 64% of patients were under the care of nephrologists for 6 months or more, but only 31% of these initiated dialysis with a permanent access, 22% AVF and 9% AVG. While the higher AVF percentage is encouraging, the percentage initiating treatment with catheters is alarming at 69%, of which only 29% had maturing AVF. (Percentage of maturing AVG not reported.)

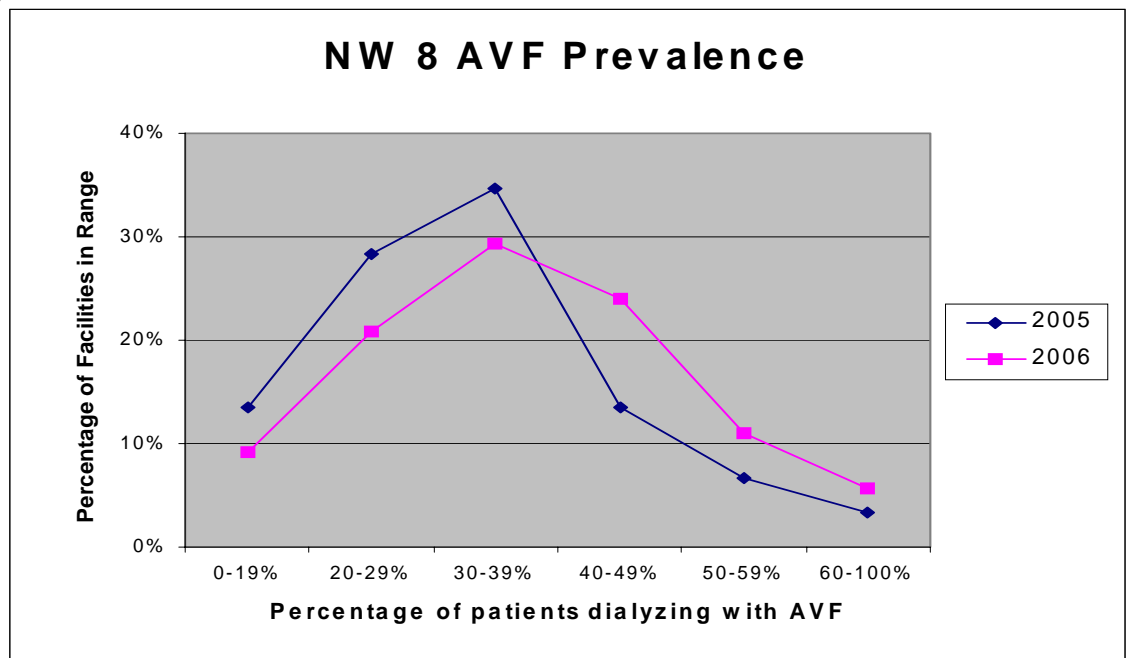
As central venous catheter use is related to increased risks of morbidity, mortality and failure of subsequent accesses, we must determine the causes of delays in permanent access placement in order to correct them. Providers report multiple reasons for delays, once patients are received by nephrologists, such as: time constraints,

leading to insufficient follow-up in getting patients referred to surgeons; prolonged time between call for surgical appointment and actual appointment, due to heavy appointment load; missed appointments, due to patient compliance, financial or transportation issues; patient refusal, related to denial of disease; time involved with pre-operative evaluation, which may include appointments for cardiac clearance and vessel mapping; and surgical scheduling delays, as vascular access procedures are often “add-ons” or viewed as low priority.

While the AVF goal may seem insurmountable with the number of identified barriers, we believe it is achievable through collaborative efforts of all health care providers, partners, and payors associated with chronic kidney disease (CKD) patients. The Fistula First Breakthrough Initiative coalition members and the ESRD Networks are working to address barriers, nationally and regionally, through patient and provider educational efforts and proposals for changes in the payment system. We encourage each of you to work within your practice to make the necessary changes to achieve the goal, and suggest the following specific measures to consider for implementation, along with the Fistula First Change Package:

- Education in community healthcare settings for individuals at risk for CKD
- Early diagnosis of chronic kidney disease through glomerular filtration rate (GFR) calculation by laboratories and primary care practitioners (PCPs)
- Increased communication/education with PCPs and nephrologists regarding CKD stages to ensure proper care delivery and timing of referral
- Increased recruitment and training of surgeons to perform vascular access procedures
- Early and continuous patient/family education regarding kidney replacement modalities, requirement for access, and access types
- Social worker involvement, to assist patients with coping skills, financial and transportation issues
- Involvement of hospital caseworkers or discharge planners to schedule surgical appointments prior to discharge
- Increased and early communication between nephrologists and surgeons to develop vascular access plan, to include completion of pre-op evaluation such as vessel mapping and cardiac clearance prior to surgical evaluation
- Increased education of dialysis facility staff in vascular access assessment and cannulation techniques
- Evaluation of clinical outcomes and costs related to hemodialysis vascular access type at the hospital level

We applaud the efforts of patients and providers in our region as they continue to make efforts to improve vascular access outcomes and welcome suggestions to share with others. Members of the Network 8 Medical Review Board and Quality Improvement staff are available for assistance with vascular access and other issues in the states of Alabama, Mississippi and Tennessee. To request assistance, or for more information on how to become involved in the Fistula First project, contact Ann Pridgen, Network 8 Fistula First Project Coordinator.



Fistula First Change Package: Recommended practice changes to increase AVF rates

1. Routine CQI review of vascular access
2. Early referral to nephrologist
3. Early referral to surgeon for “AVF only”
4. Surgeon selection
5. Full range of appropriate surgical approaches
6. Secondary AVFs in AVG patients
7. AVF placement in catheter patients
8. Cannulation training
9. Monitoring and surveillance
10. Continuing education: staff and patient
11. Outcomes feedback

Buttonhole Technique Decreases Dialysis Fears

A number of patients are now less fearful about their venipunctures at a Columbus, Mississippi dialysis facility.

Following a training session provided by vascular access expert, Debbie Brouwer; Liz McBride, Facility Nurse Manager, assigned staff to establish "buttonholes" on selected patients with A-V fistulas, a cannulation technique that follows the exact same tracks for needle placement with each dialysis. Medical Director, Dr. Jack Reed, requested the buttonhole cannulation training for the facility in order to preserve the high percentage of AV fistulas in use. Network 8 co-sponsored the event and invited nurses from surrounding areas, who were interested in starting the technique.

Patients were excited to try the technique, looking forward to less pain and trauma associated with cannulation, due to the ability to use blunt needles once the track was established. According to Ashley, the first staff nurse to perform the technique, tunnels were established after approximately 6 cannulations. To assist in the development of the tunnel, patients were asked to come in an extra day for needle placement. She found that patients who drove themselves were more likely to comply with this request.

Once the tracks were established, other nurses were allowed to place the needles. As other patients became eager to use the technique, additional nurses were assigned to select patients with AV fistulas to begin developing their "buttonholes" within the next month.

This technique is ideal for self-care and home patients, as it allows for easier self-cannulation or cannulation by the patient's helper. It is also ideal for patients with limited area for cannulation sites and for preservation of the access, as it reduces the number of "missed sticks". Additional benefits include decreased risk of infection, bleeding and perhaps most importantly to the patients, less pain and fear of cannulation.

Columbus nurses are willing to act as a resource for other staff's inquiries regarding buttonhole technique. You may contact them by calling the facility. (Phone number: 662-327-9208). Several facilities in Alabama and Tennessee have successfully initiated the buttonhole technique, as well, and experienced staff members are willing to field questions. Additional information is available through Medisystems and Network 8.

Buttonhole Cannulation Key Points:

- 1) The same person cannulates until the buttonhole track is formed (approximately 6-8 sticks).
- 2) Use same angle and depth each cannulation.
- 3) Track progress on a cannulation log.
- 4) When track is established, use blunt needles.
- 5) Use same gauge sharp and blunt needles.
- 6) If patient is doing daily dialysis, they will require 2 sets of buttonholes.
- 7) Do not direct the needle; let the needle follow the tracks.
- 8) If a site is not developing, abandon the site and select another site.
- 9) If you do not know how to cannulate a buttonhole site, keep rotating sites at least one inch away to preserve the tracks.
- 10) Using sharp needles after the track forms can cause cutting of the track and oozing during dialysis.
- 11) Never use excessive force when changing to blunt needles.
- 12) Remove the scab using aseptic technique with tweezers or saline-soaked 2x2, not the needle.

Memphis Area Fistula First Coalition

When the Fistula First Project was introduced in 2003, Tennessee was noted to have significantly lower rates of AVF use than Alabama and Mississippi, as well as most other states in the nation.

And though fistula use has increased over the project period, areas of Tennessee, particularly West Tennessee, continue to report low AVF prevalence. With Memphis serving as a West Tennessee healthcare center, Network 8 determined the need for focused improvement efforts and began a coalition to address the issue. QSource, the Tennessee Quality Improvement Organization, joined as a key partner, and area nephrologists, dialysis facilities, hospitals, surgeons, interventionalists, and patient and professional organizations were invited to participate, and are now actively working toward the goal of increasing AVF use in the Memphis area. If you are in the Memphis area and would like to become a part of the coalition, or for more information on coalition activities, contact Ann Pridgen at Network 8.

2006 Updates to KDOQI Vascular Access

The National Kidney Foundation Kidney Disease Outcomes Quality Initiative (KDOQI) recently published the Clinical Practice Guidelines for Vascular Access, Update 2006, as a supplement to the July issue of the *American Journal of Kidney Diseases*. Revisions include clear distinctions between clinical practice guidelines that are evidence based and clinical practice recommendations that are opinion based. The strength of each guideline is ranked according to the quality of supporting evidence and additional considerations such as cost and feasibility.

The guidelines focus on appropriate preparation and placement of the vascular access, cannulation techniques and accession of hemodialysis catheters, detection of access dysfunction, prevention and treatment of access complications, and clinical outcome goals. The recommendations focus on the same topics plus vascular access in pediatric patients.



Highlights of the guidelines include:

Guideline 1. Patient Preparation for Permanent Hemodialysis Access

- Avoid venipunctures (to include IV catheters, subclavian catheters or PICC lines) in upper extremities suitable for vascular access in CKD patients with CKD stage 4 or 5.
- Patients should have a functional permanent access at initiation of dialysis.
- An AVF should be considered after every access failure.
- A backup HD access is not necessary in most PD patients. (Some Fistula First proponents were disappointed by this; though Guideline 2.1.6 states that fistula creation should be considered in PD patients showing signs of modality failure.)
- PD catheters may be used as a bridge during fistula maturation.
- Pre-op evaluations should include history and physical exam, duplex ultrasound of upper-extremity arteries and veins, and central vein evaluation in patients with history of central venous catheter or pacemaker.

Guideline 2. Selection and Placement of Hemodialysis Access

- Descending of preference
 - Preferred – Fistulae
 - Wrist (radiolcephalic)
 - Elbow (brachiocephalic)
 - Transposed brachial basilica vein
 - Acceptable – AVG
 - Forearm loop preferable to straight
 - Upper-arm
 - Chest wall or lower extremity after all upper-arm sites exhausted

Guideline 3. Cannulation of Fistulae and Grafts and Accession of Hemodialysis Catheters and Port Catheter Systems

- Fistulae more likely ready for use when meet the Rule of 6s:
 - Flow > 600ml/min
 - Diameter at least 0.6 cm
 - No more than 0.6 cm deep with discernible margins

Ess Clinical Practice Guidelines

- Perform imaging study if AVF not mature by 6 weeks.
- Constant-site cannulation (buttonhole) technique for AVF added

Guideline 4. Detection of Access Dysfunction: Monitoring, Surveillance and Diagnostic Testing

- Perform physical exam at least monthly to determine access dysfunction.
- Graft surveillance
 - Preferred methods: Intra-access flow, directly measured or derived static venous pressure, duplex ultrasound
 - Acceptable: Physical findings
 - Unacceptable: Unstandardized dynamic venous pressures
- Fistulae surveillance
 - Preferred methods: Direct flow measurements, physical findings, duplex ultrasound
 - Acceptable: Recirculation using a non-urea-based dilutional method, direct or derived static pressures

Guideline 5. Treatment of Fistula Complications

- Conduct program that allows early detection of access dysfunction, particularly delays in maturation. Evaluate patient within 6 weeks of fistula creation.
- Indications for intervention: inability to achieve prescribed blood flow rate, hemodynamically significant venous stenosis, aneurysm formation, postaneurysmal stenosis that drives aneurysm, ischemia in access arm
- Perform thrombectomy ASAP, but can be successful after several days.

Guideline 6. Treatment of AV Graft Complications

- Treatment of AVG thrombosis can be performed percutaneously or surgically, basing the decision on expediency and physician expertise.
- AVG thrombectomy should be performed urgently to minimize need for HD catheter.

Guideline 7. Prevention and Treatment of Catheter and Port Complications

- Evaluation of catheter dysfunction, defined as failure to maintain blood flow of 300ml/min or greater at a prepump arterial pressure more negative than – 250 mm Hg.

Guideline 8. Clinical Outcome Goals

- Prevalent functional AVF rate of greater than 65% of patients
- Cuffed catheter for permanent access in less than 10% of patients – defined as use of catheter > 3 months in absence of maturing AVF or AVG

To review the complete set of guidelines, watch for posting on the National Kidney Foundation website: www.kidney.org.

National Kidney Foundation. *KDOQI Clinical Practice Guidelines and Clinical Practice Recommendations for 2006 Updates: Hemodialysis Adequacy, Peritoneal Dialysis Adequacy and Vascular Access*. Am J Kidney Dis 48:S1- S322, 2006 (suppl1).

Fistula First Recognition

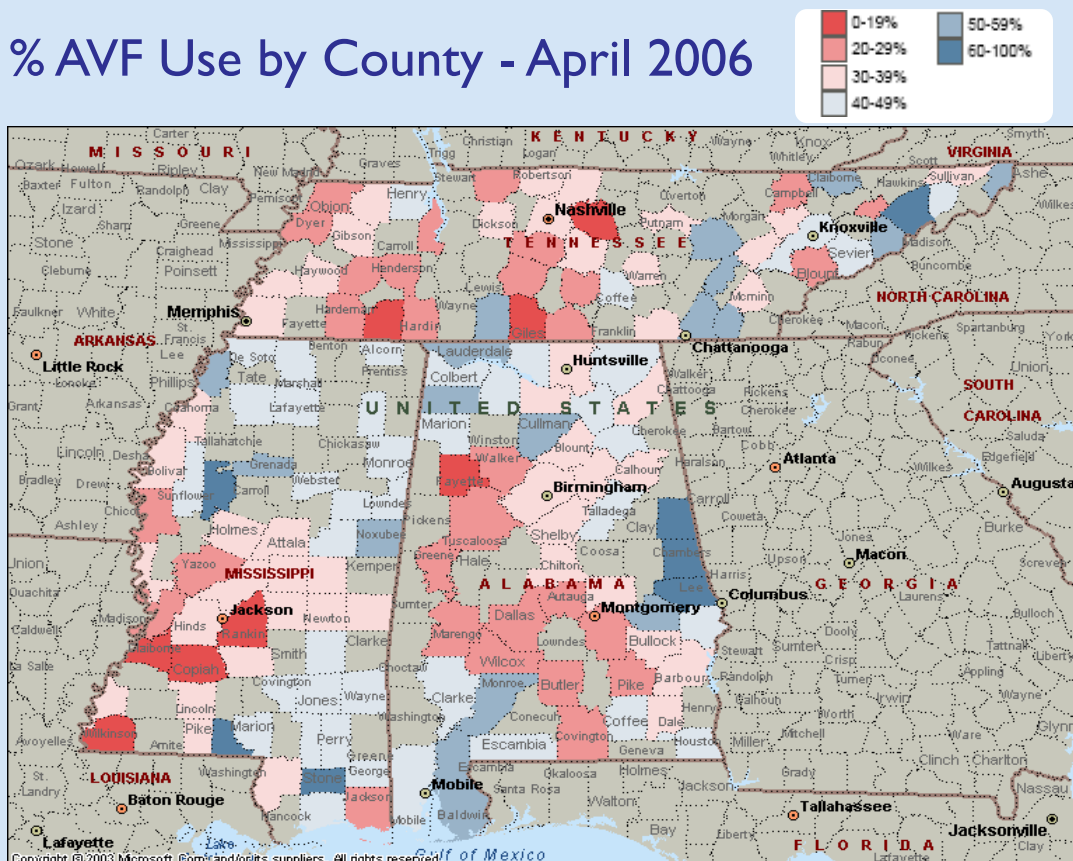
With the increase of the Fistula First goal to 66%, Network 8 has increased facility recognition criteria to a quarterly average of **45%** AVF prevalence. While we commend those that have reached the previous 40% goal, we want to reward those that continue to improve. Highest recognition is awarded to those who have already reached the 66% goal! (Facilities indicated by bold print.) Congratulations to all of these facilities for this achievement!

ADS - Shelby
 Appalachian Dialysis
 Atmore Dialysis
 BMA - Magnolia
 Bradley Dialysis
Chattanooga Kidney Center
 Collins Dialysis
 Columbia Dialysis
 Crossville Dialysis
 Davita - Brownsville
 DCI - Beech Lake
 DCI - Cullman
 DCI - Dayton
 DCI - Hixson
 DCI - Lyerly
 DCI - Paris
 DCI - Phenix City
 DCI - Sevierville
 Dialysis Associates of Portland
 Dialysis Associates of Tullahoma
 East Knoxville Dialysis
 FMC - Aberdeen
FMC - Athens
FMC - Auburn
FMC - Bay Minnette
 FMC - Biloxi SMKC
 FMC - Chambers
FMC - Dadeville

FMC - Dauphin Island Pkwy
 FMC - D'Iberville SMKC
 FMC - East Mobile
 FMC - Eastern Shore
FMC - Eastern Tennessee
 FMC - Eupora
 FMC - Fort Sanders
 FMC - Graceland
FMC - Greenwood
 FMC - Grenada
 FMC - Holly Springs
 FMC - Indianola
 FMC - Jackson (Tombigbee)
 FMC - Kingsport
FMC - Langdale
 FMC - Louisville
 FMC - Macon
FMC - Magnolia
 FMC - Monroeville (Whetstone)
 FMC - Mountain City
 FMC - Newport
 FMC - North Gulfport SMKC
FMC - Opelika
 FMC - Oxford
 FMC - Port City
 FMC - Prichard
 FMC - Sardis
 FMC - Scottsboro

FMC - Starkville
 FMC - Tunica
 FMC - Tupelo
 FMC - Tuskegee
 FMC - West Kingsport
 FMC - West Mobile
 Gambro - Boaz
 Gambro - Cumberland
 Gambro - Eufaula
 Gambro - Florence
 Gambro - Lawrenceburg
 Gambro - Russellville
 Gambro - Sheffield
 Hattiesburg Clinic Dialysis
 Landmark Dialysis
 Laurel Dialysis
 Physician's Choice - Alexander City
 Richton Dialysis
Roanoke Dialysis
 South Baldwin Dialysis
 Tylertown Dialysis
 VA - Birmingham
 VA - Jackson
 VA - Nashville Dialysis
 Vanderbilt Dialysis East
 Waynesboro Dialysis
Wiggins Dialysis

% AVF Use by County - April 2006



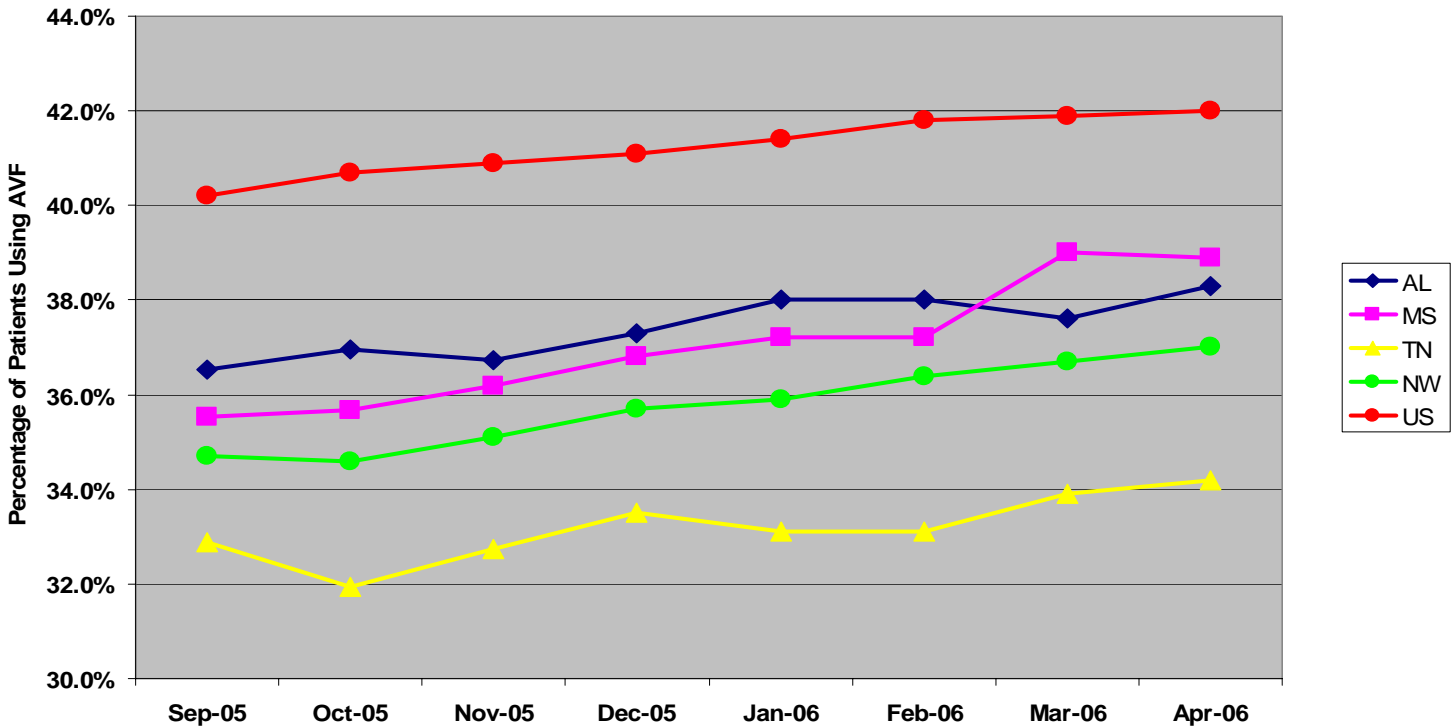
Network 8, Inc., a CMS contractor, is the quality improvement organization serving the dialysis and transplant centers in Alabama, Mississippi, and Tennessee. For more information regarding the Fistula First initiative or other Network 8 services, contact Ann Pridden, RN, CDN, Quality Improvement Director.

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AVF Use Comparing Network 8 Region to US



Super Star Surgeons—Clinics with AVF rates > 65% have credited the following surgeons/staff for their phenomenal AVF outcomes.

| | | | |
|----------------------------------|--|--------------------------------|---|
| Chattanooga Kidney Center | Joel B. Clements, MD Christopher Lesar, MD | FMC – Eastern Tennessee | Jeff Glezer, MD |
| FMC – Athens | Joel B. Clements, MD Luke Erdoes, MD Michael Greer, MD Christopher Lesar, MD Richard Sprouse, MD | FMC – Greenwood | John Lucas III, MD |
| FMC – Auburn | Allen Lazenby, MD | FMC – Langdale | Allen Lazenby, MD |
| FMC – Bay Minette | Gregory McGee, MD David Mull, MD Randall McKissack, MD | FMC – Magnolia | Gregory McGee, MD Frank McPhillips, MD Howard Walker, MD |
| FMC – Dadeville | Allen Lazenby, MD John Thomas, MD Clay Harper, MD Stephen Lock, MD William Adkins, MD | FMC – Opelika | Allen Lazenby, MD John Thomas, MD |
| | | Roanoke Dialysis | Allen Lazenby, MD Lisa Stiggers, RN (Dr. Lazenby's nurse) |
| | | Wiggins Dialysis | Hattiesburg Clinic Surgeons |

The common denominator for these surgeons? According to dialysis facility staff, these surgeons are all “great to work with”, they “really care about our patients”, and “they talk to us”. Our most sincere thanks go to each and every one on the SuperStar list for the difference you make for our patients!!!



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Fistula First Breakthrough Initiative (FFBI)

As a CMS Breakthrough Initiative, the Fistula First project has gained increased support and participation from national and regional health care organizations. Organization representatives participate in the coalition and serve on various task forces to accomplish the coalition goals. Each task force is currently working on specific projects or issues as described below. To see a list of coalition partners and get updates on FFBI progress, go to the Fistula First website: www.fistulafirst.org

- Beneficiary education – review and approval of existing vascular access materials for patients, development of new patient materials to fill identified gaps, development of Fistula First patient website
- Program operations – development of pay-for-performance (P4P) recommendations, development of philosophical/ treatment statement, development of a vascular access procedures coding booklet for payers and practitioners
- Quality measurement and information – development of recommendations regarding need for patient-specific vascular access data, analysis of vascular access data from 2728 form, development of proposal for buttonhole cannulation study
- Clinical practice – development of criteria for successful AV fistula, distribution of surgical video series, collaboration with program operations on coding booklet and P4P recommendations
- Practitioner education – production of cannulation video/tool packet featuring Debbie Brouwer and Linda Ball
- Marketing and communication – collaboration with Pyramid Communications (a public affairs firm dedicated to socially responsible causes) to develop the message platform and branding designs