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Fistula First *focus*

CMS Sets New Goals for Fistula First Initiative 2006 - 2009

Mapping A New Vision for the Fistula First Initiative

Be sure to see new maps and scales reflecting 2006 - 2009 goals highlighted in this article.

In 2005, the Centers for Medicaid and Medicare Services (CMS) announced that the national AV Fistula (AVF) goal for prevalent hemodialysis patients would be increasing to 66% by 2009. Additionally, the K/DOQI vascular access guidelines are being modified to reflect this upward trend placing the current AVF goal for prevalent hemodialysis patients at 50%.

To achieve this goal, the Medical Review Board (MRB) of The Renal Network, Inc. revised the current Network AVF goals. In order to realize the CMS AVF rate of 66% by 2009 our Network's plan supports a 50% prevalent hemodialysis patient AVF rate by December 2007. In the two years following, this goal will increase by 8% per year. This rate change gives us an expectant goal of 58% by the end of 2008 and 66% by the end of 2009.

The maps contained in this newsletter demonstrate our present Network AVF rates. As defined by the MRB, the map scale reflects the AVF ranges that will be used to demonstrate progress being achieved throughout the Network. These maps will enable you to monitor your progress in achieving the goals that have been set.

Access Monitoring

As an outpatient dialysis unit we were having problems with our accesses. The problems noted were clotting of the access and then getting the fistulagrams done in timely fashion to save the access. The unit was introduced to the Transonic monitoring system. We gathered as a group to decide the pros and cons of having a transonic system. The decision was made to purchase the transonic.

When taking on the position of access nurses for our unit, we initiated a plan of action. The first step was to be educated on using the Transonic

Our nursing goal was to improve the life of the fistulas and grafts in our unit.

and understanding the results. The next step was to educate the nephrologists on the abilities of the Transonic and write a protocol that would enable us to intervene when necessary. Also in our plan we recruited a cardiologist to take an interest in our access problems and to become our interventionalist specialist.

Our nursing goal was to improve the life of the fistulas and grafts in our unit. We pulled our resources together and used that information to list our pros and cons of monitoring accesses:

No monitoring versus monitoring:

- No monitoring
 - Unable to detect failing access until clotted
 - Missed dialysis treatments
 - Increased placement of dialysis catheter lines
 - Increased surgeries that de-clot current accesses or placement of new accesses

- Monitoring
 - Detect stenosis
 - Decrease in missed treatments due to clotted accesses
 - Reduce need for line placement
 - Ability to schedule fistula grams before clotting and on non-dialysis days
 - Able to notify physicians that the patient's access is not meeting K/DOQI (Kidney Dialysis Quality Initiative)
 - Appropriate needle placement

The Transonic HD02 provides a non-invasive accurate and immediate assessment of fistulas and grafts. Using an ultrasound velocity dilution technique, the transonic monitors the delivered blood flow, access recirculation, and access flow. With this information it enables us to identify patients at risk for thrombosis and stenosis. The program calculates each patient's results and correlates clinical statistics.

The impact on our nursing practice is shown by:

- Improving URRs and Kt/Vs (measures the quality of dialysis the patient is receiving)
- Saving existing fistulas and grafts by decreasing clotting accesses
- Decreasing hospitalizations and surgeries
- Decreasing the risk of infections, due to fewer dialysis catheter placements
- Improving the patient's quality of life
- Increasing patient knowledge about access
- Educating the staff on needle placement

The first evaluation of our monitoring was from July of 2005 to March 2006. In our unit we have a total of 50 patients who have a fistula or a graft.

The results we found were:

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- 322 monitoring episodes were done, of these 35 were below K/DOQI guidelines
- Of the 35 below guidelines 18 interventions were done
- 15 Interventions showed improvement of the access and three showed no improvement
- Problems found with accesses during the intervention were: 1) Patient has small veins, 2) Access underdeveloped, 3) Stenosis, clotting or some type of blockage
- 17 interventions not done due to: 1) Patient refusal, 2) Patient cardiac status, 3) Needle placement for that treatment

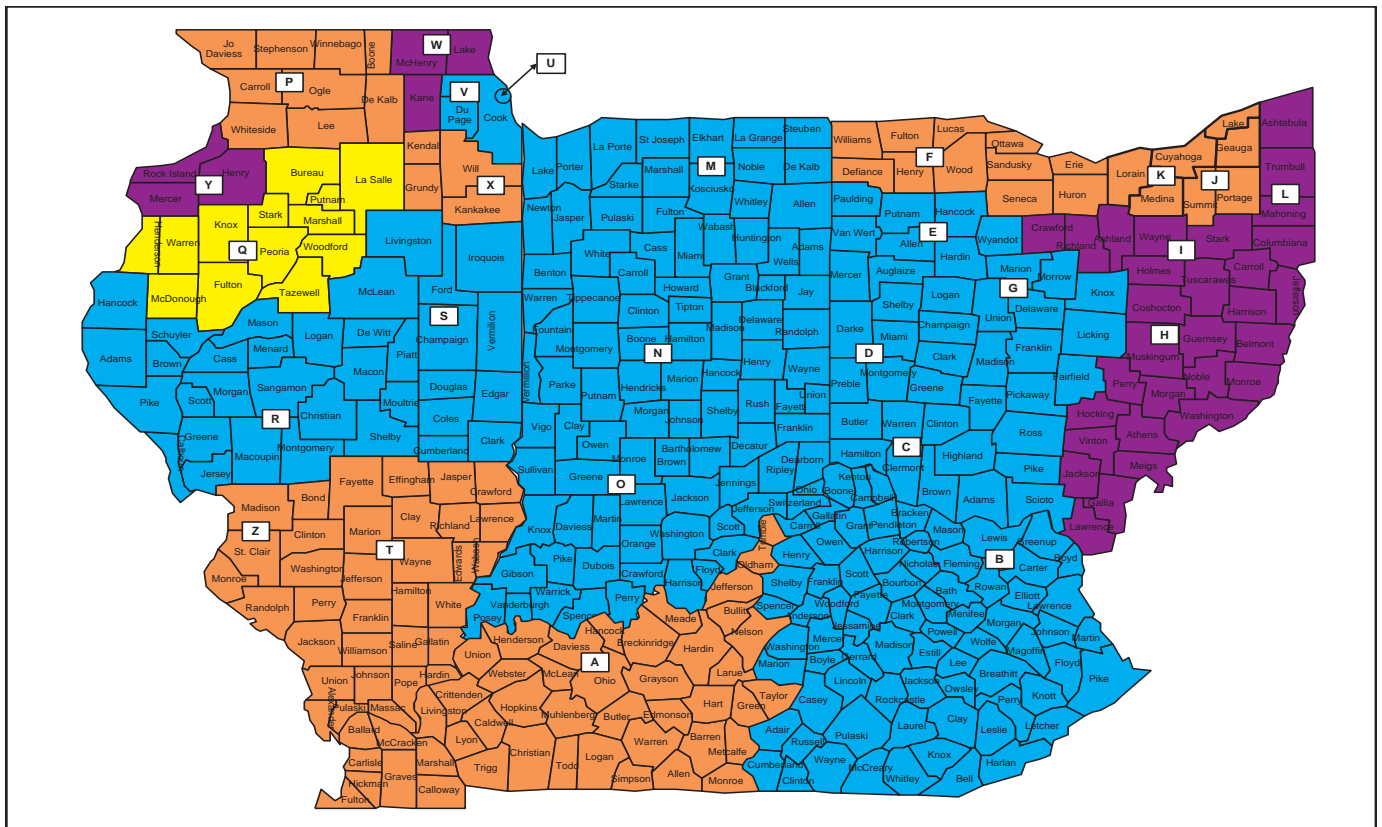
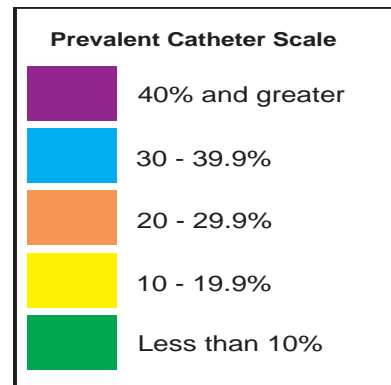
We will continue to monitor our patients on a monthly basis and at one year reevaluate our progress of maintaining our patient's accesses.

Jennifer Drechsler RN, Access Nurse and Pam Beller RN, Access Nurse
Aultman Dialysis Center of Canton, Canton, Ohio

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Prevalent Catheter Rates by HSA (March 2006)



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Buttonhole successes with small fistulas, needle-phobes, and unskilled cannulators: 4 years experience in NHD

When I joined University Hospitals of Cleveland's Nocturnal Home Hemodialysis (NHD) program as its training technician in 1998, the program was operating under the belief that needles were unsafe in unmonitored, sleeping people. Therefore the four existing patients were dialyzing with tunneled catheters, as did the next 13 patients that trained between fall 1999 and spring 2002.

In the meantime, the NHD program in Toronto, Ontario began to report both safety and success in patients with A/V fistulas using the buttonhole technique.

This gave both the physician and the nurses with whom I work the confidence to allow me to teach buttonhole cannulation to the next candidate with an appropriate fistula.

That candidate turned out to be a 29-year-old woman with a transposed right thigh saphenous vein fistula of four months maturity (and a pregnancy of 17 weeks gestation). We are pleased to report that both the buttonhole cannulation and the pregnancy were successful—as was her subsequent pregnancy a year later.

Our experience, then and since, has confirmed what had been reported anecdotally in the literature: that single cannulators have the best long term success—and the most constant attendant at any given person's dialysis is always that person him/herself.

In the past four years our prevalent patient population has remained stable at 12 to 14 patients at home; patients who were transplanted have offset our program's growth. In the fall of 2002 we had 14 patients with catheters, at present we have three. New patients were told that native access was expected and existing patients were encouraged to have access placed.

We use the Medi-Systems™ procedure for establishing buttonholes, with the exception that we insist that a single cannulator be elected (patient or partner). Buttonholes are initially established, using sharp needles, by a single technician over the course of two to three weeks. When the switch can be made to blunt needles, the patient is guided through the cannulation process. Because the patient is using blunt needles, the likelihood of the inexperienced patient damaging the new tissue tunnel is minimized.

...single cannulators have the best long term success...

To date, seven of the nine patients with whom we started buttonholes have mastered the cannulation with blunt needles and reported no leaking or infiltration. None of them have needed thrombectomies or revisions, although one patient had ligation of some peripherals. Two patients persist, against advice, to use sharp needles in their buttonhole sites; both have reported periodic problems with leaking. We have only had one buttonhole patient report missing a treatment because he could not cannulate.

This experience reinforced for us the importance of establishing two sets of buttonholes during the training. For the thicker-skinned, that may mean inserting four needles per session during the initial development period, and only using two of them.

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Getting patients to return, post-training, for assistance in development of new buttonholes is often problematic.

Our program holds a bias that transposed saphenous vein fistulas placed in the upper thigh were the best choice for self-cannulation in general and NHD in particular for the simple reasons that: a) use of the leg allows the patient both hands free for cannulation and secure taping; and b) legs move about less during sleep than do arms. We had one patient whose access surgeon believed that her thigh fistula had remained too small to be of use. However, that patient now has two sets of buttonholes that she successfully cannulates.

Another indication for buttonhole use is in patients with needle anxiety. Patients perceive a difference between inserting a sharp needle through their skin and slipping a blunt needle down an existing tunnel. Few patients like needles, but we have worked with two for whom the experience prompted major panic attacks replete with tears, trembling, and hyperventilation. Careful use of lidocaine cream and guided imagery got them through the experience and both now successfully self-cannulate using blunt needles.

Buttonhole cannulation has been an important component of the success of our fistula use. We feel that because of the measure of safety that the use of blunt needles provides, we have been able to make the switch from an all catheter program to fistula use in a wide variety of patients.

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A Patient Viewpoint

My name is Michael France. I am a 28-year-old male on hemodialysis at the Muncie, Indiana Outpatient Dialysis Unit.



In August of 2005 I started hemodialysis after being diagnosed with kidney failure and having a catheter placed. There were several concerns related to the catheter use: family, work and hygiene.

I am married with an active two-year-old son. While playing with my son I was constantly concerned about the catheter being pulled out.

My doctor advised me not to work with the catheter in place, due to risk for infection and dislocation. Being a mechanic, my work environment is not clean and my arms are frequently over my head.

Hygiene was a major concern since showering is not permitted with a catheter.

A fistula was placed in September and cannulation started in December. Initially, I had some concerns about the pain and discomfort with the needle sticks, etc. However, use of the *Emla* cream relieved most of the pain.

The fistula is more convenient, less stressful, and safer. I would recommend a fistula to anyone needing to start hemodialysis or currently receiving hemodialysis treatment.

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International Pediatric Fistula First Initiative

The International Pediatric Fistula First Initiative (IPFFI) was launched in September 2005. Recent data have shown a significant decreased morbidity and mortality in children with an arteriovenous fistula (AVF) or arteriovenous graft (AVG) as compared to a central venous catheter (CVC).

In fact, studies have reported better dialysis clearances (Kt/V and URR), anemia control (hemoglobin levels), and less inflammation with AVF and AVGs in children. Furthermore, there are fewer infections and hospitalizations reported with AVF and AVG use as compared to CVC.

Children have fewer activity restrictions with a fistula as compared to catheter—they can shower, swim, participate in exercise, etc., allowing children to be active with their peers and an improved quality of life. Use of AVF in pediatric dialysis patients also preserves blood vessels for future access placement when these patients are adults so that lifespan can also be increased.

The objective of IPFFI is to increase awareness for (AVF) placement in pediatric hemodialysis patients, and to help caregivers overcome perceived barriers to successful placement.

The project is being conducted at pediatric hemodialysis centers and uses a multidisciplinary approach targeting hemodialysis nurses, pediatric nephrologists, vascular access surgeons, and interventional radiologists.

The methods utilized include pre and post educational survey tools and a CME accredited educational DVD. Following the viewing of the DVD, educational adjuncts directed at all team

members will be made available.

Patient data collection forms will be kept at each participating center to track fistula outcome rates and dialysis adequacy data as it relates to vascular access.

IPFFI has continued to recruit interested centers for participation. At present, two center visits with initial educational program presentation have occurred; institutional review board (IRB) approval has been obtained at three additional

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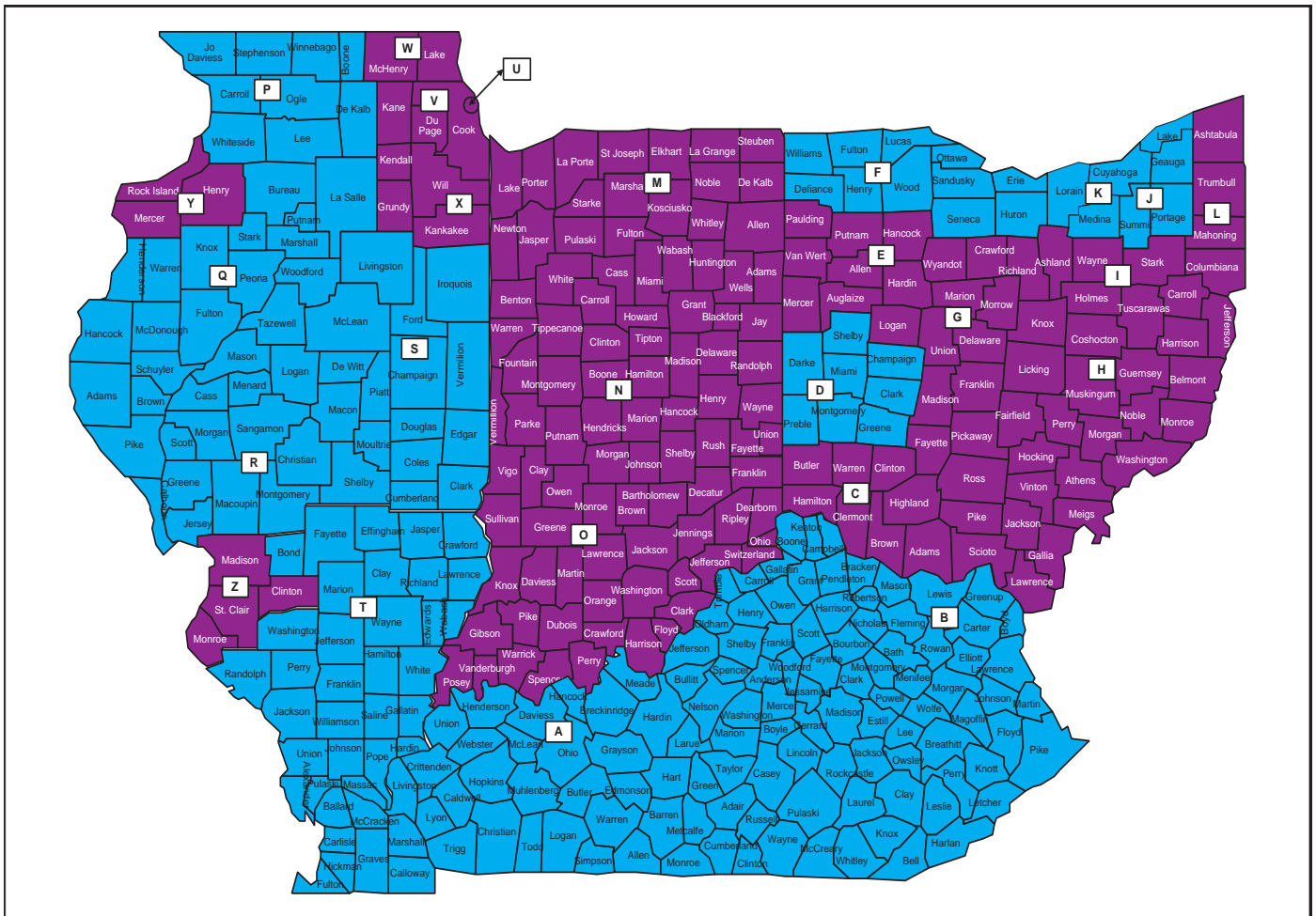
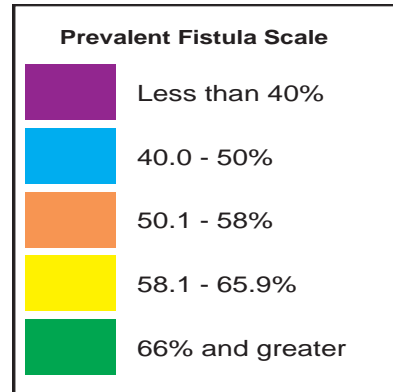
participating centers, and is pending at several other centers. The committee hopes to have continued center enrollment throughout 2006. The group has given oral presentations at the 2006 spring meeting of the Midwest Pediatric Nephrology Consortium and the Annual Meeting of the American Nephrology Nurses Association.

The group has the endorsement of The Renal Network, Inc. (ESRD Network 9/10) and Renal Network 11, as well as the Midwest Pediatric Nephrology Consortium.

The committee is chaired by two pediatric nephrologists, Deepa H. Chand, M.D., MHSA (Cleveland Clinic Children's Hospital) and Rudolph P. Valentini, M.D. (Children's Hospital of Michigan), and includes Maria Alonso, M.D. (Pediatric Surgery, Cincinnati Children's Hospital), Denis Geary, M.D. (Pediatric Nephrology, Hospital for Sick Children), Leonard Krajewski, M.D. (Vascular Surgery, The Cleveland Clinic Foundation), Mark Sands, M.D. (Interventional Radiology, The Cleveland Clinic Foundation), and C. Frederic Strife, M.D. (Pediatric Nephrology, Cincinnati Children's Hospital).

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Prevalent Fistula Rates by HSA (March 2006)



Fistula First is working. In the first three years of this national initiative, Network 9 increased from 30.3 to 39.2 prevalent fistula use while Network 10 increased from 33.3 to 39.3 in prevalent fistula use. These increases have been reached through the dedication of our nephrology community. Thank you and congratulations to all of the facilities which achieved the 2003 - 2006 goals for Fistula First!

***Fistula First Quality Award
Winner Highlight***

Dialysis Clinics, Inc.

**499 E. McMillan
Cincinnati, OH 45206
Contact: K. Shashi Kant, MD
Phone: 513-588-5471
Program Participation: 115 patients**

This multi-disciplinary access team describes their patient population as medically underserved and states late referral and multiple co-morbid factors as affecting their quality improvement processes. Keeping this in mind, they developed formal quality improvement processes directed at improving AV fistula in their patient population. By following guidelines presented in seven of the “11 Change Concepts” they markedly changed their patient outcomes in the area of vascular access.

A multi-disciplinary team was formed and identified barriers to AVF placement. This team focused on strategies to develop primary and secondary AVF in their patients. Monthly CQI meetings allowed for tracking of access and access complications leading to intervention.

- Eligible patients received graft to fistula conversions.
- Monthly access monitoring and review of access data led to early intervention for flow problems.
- Cannulation training was provided for all staff and master cannulators were identified.
- Buttonhole cannulation technique was initiated in some patients.

This facility identified plans to continue with new CQI that will enable them to continue improvement in the area of vascular access.

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