III. CMS National Goals And Network Activities

The Medical Review Board, Board of Trustees and the Council reviewed national CMS goals promulgated in TARC's contract. The committees then formulated sub-goals and activities for the contract year. The sub-goals are used to focus attention on and promote action in specific areas of nephrology practice to attain national goals and improve the quality and delivery of health care services.

A. Improve the quality♦ and safety of dialysis related services provided for individuals with ESRD

a. Develop criteria and standards relating to the quality and appropriateness of patient care;

b. Conduct on-site reviews of facilities and providers, as necessary, utilizing standards of care established by the Network;

c. Identify facilities not meeting Network goals, assist facilities to develop appropriate plans for correction, and report to the Secretary (CMS) facilities and providers that are not providing appropriate medical care; and

d. Improve collaboration with providers to ensure goal achievement through the most efficient and effective means possible.

   i. Facilities will maintain expected levels of performance in national clinical performance indicators for anemia management (80% Hgb ≥ 11 gm/dL), dialysis adequacy (80% URR ≥ 65%), fistula use (66%), and reduction in use of access catheters by 3% each year.

   ii. Facilities will replace within 90 days of placement temporary catheter accesses.

Supportive Activities

In 2003, CMS launched with all networks the National Vascular Access Improvement Initiative, now called the Fistula First Breakthrough Initiative. The project was based on the K/DOQI guidelines, which stated that 40% of prevalent hemodialysis patients should use an arteriovenous fistula and 50% of the incident patients should use an arteriovenous fistula. Hemodialysis patients with fistulas have improved morbidity and mortality outcomes.

Since 1997, TARC collected vascular access data from all facilities as part of TARC's local Hemodialysis Improvement Project (HIP). Although the local project was terminated in 2003, the vascular access data collected served as historical reference information. The national project developed a new *Fistula First* data collection tool. The charts and graphs in the following sections used data from both sources: HIP data from 1999 through June 2003 and *Fistula First* data from December 2003 to the present.

♦ The Institute of Medicine's definition of quality: *The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.*

Network Results

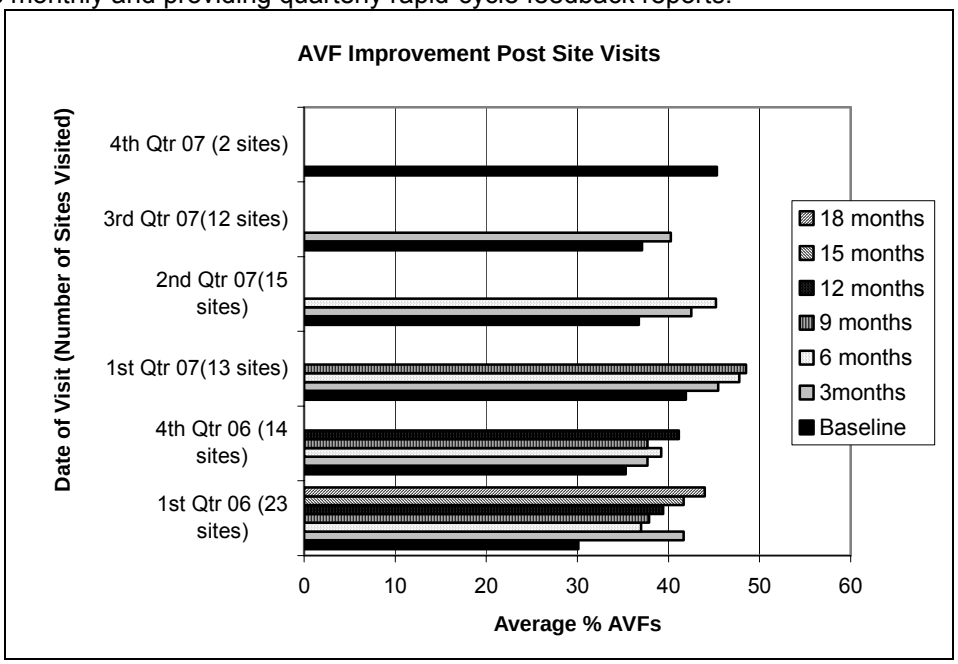
Improve Fistula Rates

TARC's fistula rates have increased in small increments since 1997 when the DOQI guidelines were published. The goal of the *Fistula First* project was to have 40% of prevalent patients using a fistula by 2006. This goal was raised by CMS and is now set at 66% by June 2009.

Since the inception of the *Fistula First* initiative in 2003, TARC has sponsored educational programs for vascular surgeons, nephrologists, and nurses in New Jersey, Puerto Rico and the US Virgin Islands. A DVD entitled, *Creating AV Fistulas In All Eligible Hemodialysis Patients* was distributed to each vascular surgeon within the network area. TARC developed a newsletter entitled *Fistula Gram,* which was distributed to the dialysis facility medical directors, all county medical societies; the chiefs of medicine at acute-care hospitals; and the chiefs of surgery at acute-care hospitals. Dialysis facilities were provided quarterly vascular access feedback reports that were mailed to every facility's medical director and administrator.

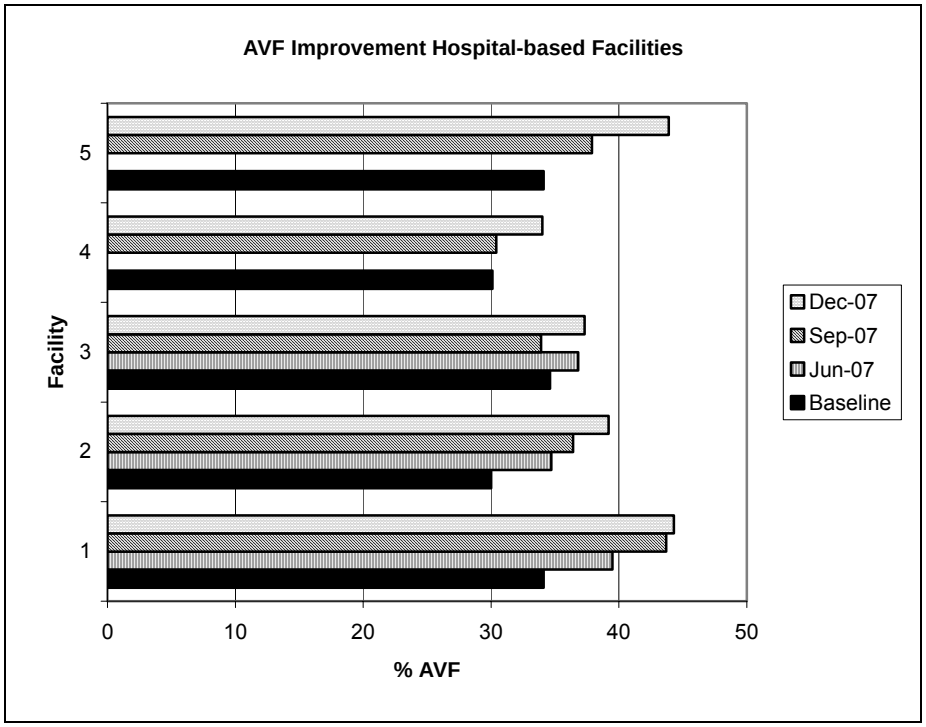
TARC has continued to look at this initiative and develop new strategies to continue to have the message implemented. TARC reviewed results of facilities with low fistula rates or elevated catheter rates and performed site evaluations at these facilities. The focus of the facility visits was the current facility process for increasing fistulas and decreasing catheters, especially catheters in place >90days. In 2007, 37 freestanding facilities and 5 hospital-based facilities were visited. Targeted facilities included dialysis centers with >30% prevalent catheter rate.

The graph below depicts the sustained fistula improvement at 77 facilities visited since the first quarter of 2006. Highlights of the 2007 site visits include: the average baseline prevalent fistula rate of the 13 facilities visited during the first quarter 2007 was 42% and at 9 months post-visit the average fistula rate was 48.5% which is an average improvement of 6.5%. Fifteen facilities were visited in the second quarter where the average baseline fistula rate was 36.7% and increased to 45% at 6 months post-visit. During the third quarter 12 sites were visited where the baseline average fistula rate was 37.1% and after 3 months the fistula rate had increased to 40.3%. TARC will continue to provide technical assistance to each facility and promote sustainability by tracking fistula rates monthly and providing quarterly rapid-cycle feedback reports.



TARC conducted 5 hospital-based site visits in 2007. Barriers to improved outcomes were fairly consistent and were related to the willingness and ability to develop non-traditional methods to overcome known problems. TARC staff assisted attendees to identify appropriate change concepts and develop a comprehensive, coordinated plan of action, which included:

- Select a champion surgeon and establish outcome-based criteria for fistula surgery;
- Track surgeon outcomes and report outcomes to hospital performance improvement;
- Organize multidisciplinary vascular access team;
- Develop a save-the-vein program;
- Provide educational programs to increase early identification and referral; and
- Consider setting up vascular access clinic days to accommodate patients who resist making an additional trip to the physician's office.



The graph above represents the results of the 5 hospital-based facility visits conducted in 2007. The vascular access data showed that site 1 had a 5.4% fistula increase from baseline (34.1% to 39.5%) in the first 3 months post-site visit and a 10.2% increase (34.1 to 44.3%) at 9 months.

Site 2's baseline AVF rate was 30%, increased to 34.7% after 3 months and was 39.2% at 9 months. A 9.2% improvement was observed in the first 9 months post-intervention.

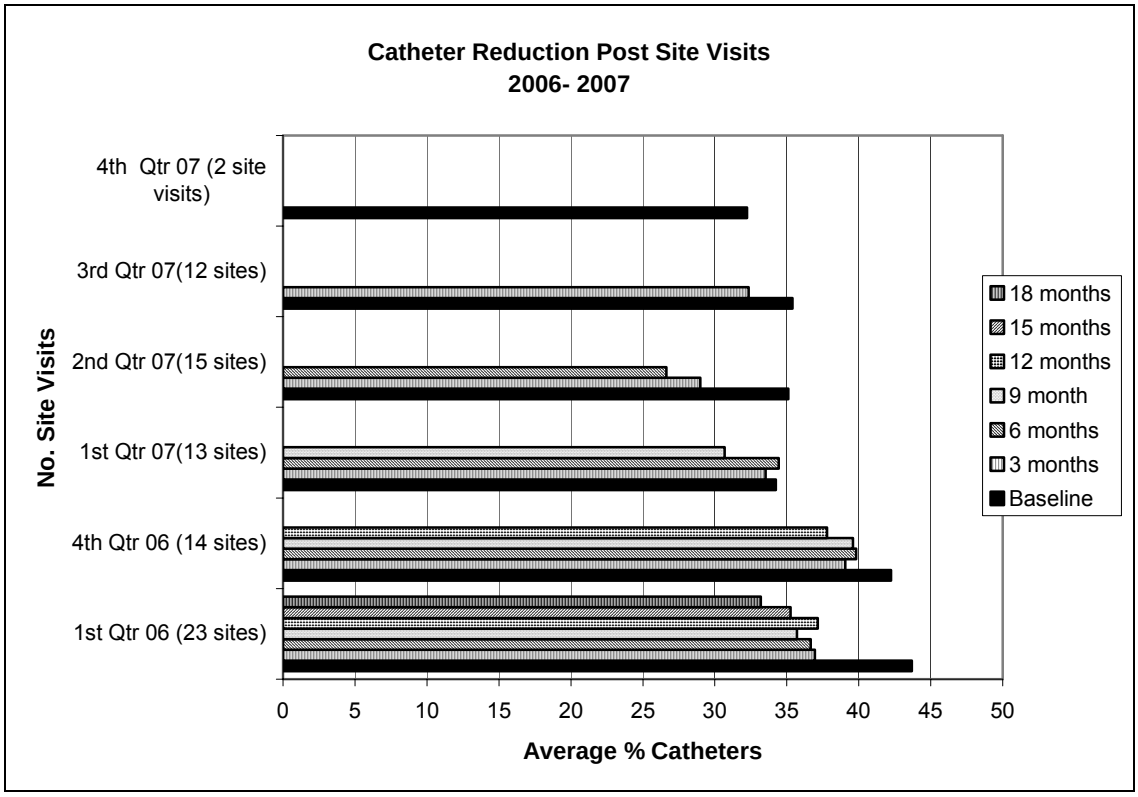
Site 3 had a baseline AVF rate of 34.6%, with a 3 month rate of 36.8%, which increased to 37.3% at 9 months.

The next group (site 4) of facilities was the most challenging where 3 dialysis facilities, collectively, treat 190 beneficiaries. The average baseline AVF rate was 30.1% and at 3 months there was no improvement with an average rate of 30.4%. At 6 months the fistula rate increased to 34%. TARC will continue to work with this group of facilities until sustained improvement is achieved.

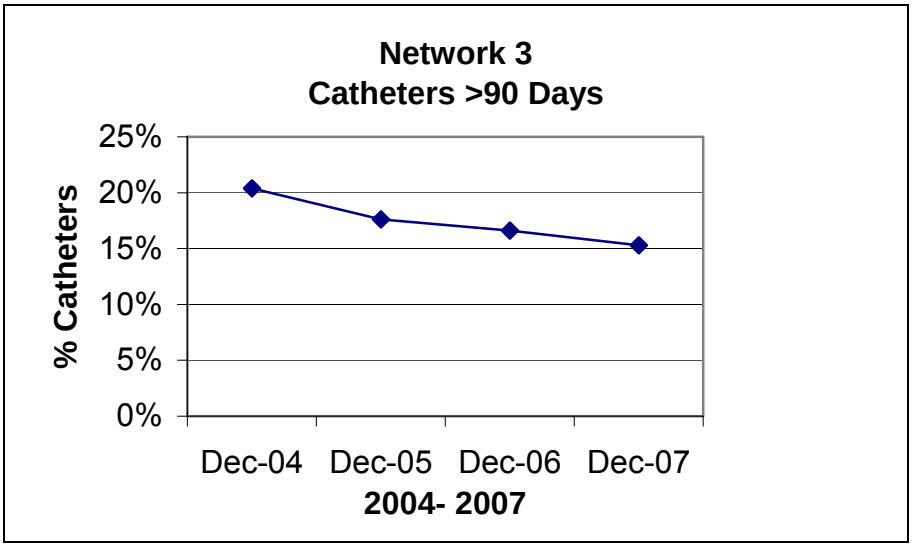
Site 5 was a hospital-based facility with a baseline AVF rate of 34.1% and at 3 months improved significantly; the December rate was 43.9%.

Catheter Reduction

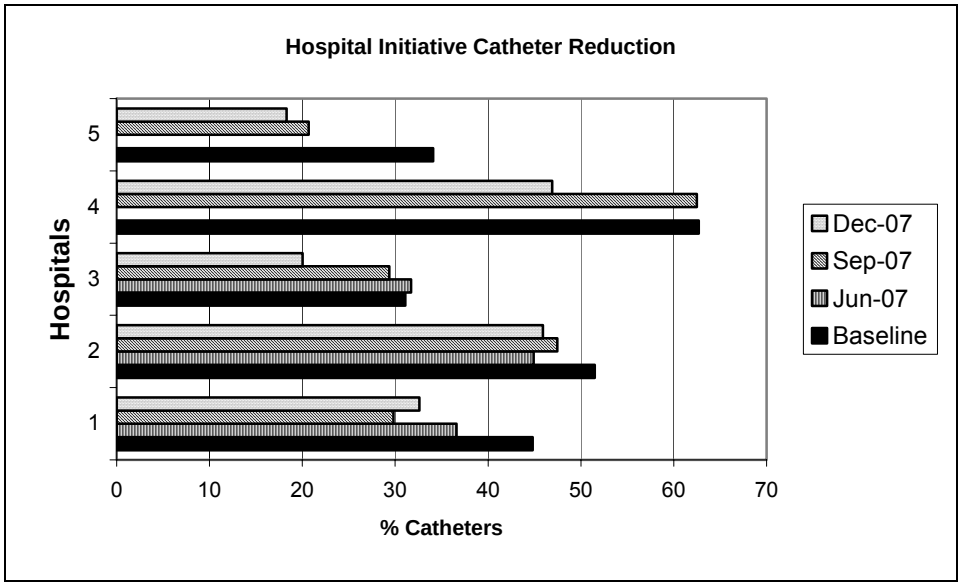
Many authors have associated high catheter rates with increased morbidity and mortality. In December 2007, 4,301 patients used catheters as the primary access, which is a decrease of 2.0% from the previous year. However, that number constitutes 30.46% of the total hemodialysis population. Most authors suggest that catheter prevalence in the caseload should be in the area of 10%.



The graph above shows sustained improvement noted at the 77 facilities visited since the first quarter of 2006. Highlights of the 2007 site visits include: the average baseline catheter rate of the 13 facilities visited during the first quarter was 34.2% and at 9 months an average rate of 30.7%, which was an average decrease of 3.5%. Fifteen facilities were visited in the second quarter when the average baseline catheter rate was 35.1% and decreased to 26.6% at 6 months. During the third quarter, 12 sites were visited where the baseline average rate was 35.4% and after 3 months decreased to 32.3%. TARC will continue to evaluate the effectiveness of site visits by collecting monthly vascular access data from 100% of eligible facilities.



The chart above shows the decrease in catheters used >90 days from December 2004 through December 2007. TARC will continue to work with facilities and encourage removal of all medically inappropriate catheters.



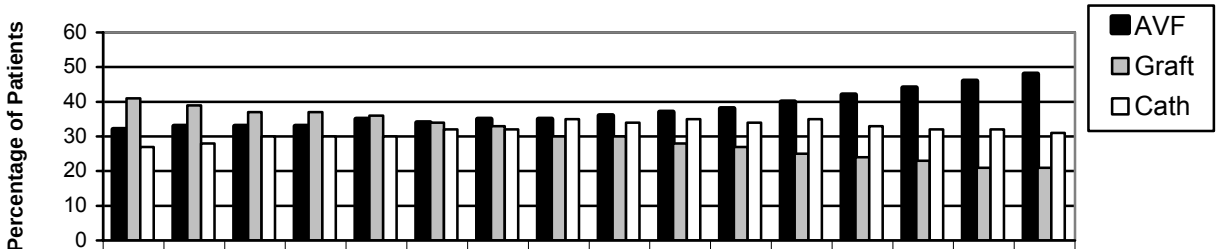
The graph above depicts the results of the 5 hospital-based facility visits conducted in 2007. As is evident, the catheter rate decreased post-site visits. Site1's baseline catheter rate was 44.8% and in December decreased to 32.6%; site 2 decreased the catheter rate from 51.1% to 45.9%; site 3 baseline rate was 31.1% and in December (9 months post-site visit) decreased by 11.1%; site 4 had a baseline catheter rate of 62.7% and in December the catheter rate decreased by 15.8%; site 5 decreased the catheter rate from a baseline 34.1% to 18.3% in the first 6 months.

Fistula First Initiative

From June 1999 to December 2007, TARC's prevalent fistula rate increased from 31% to 48%, catheter rates continued to decline from 32.4% to 30.6%.

TARC plans to exceed the 4% CMS annual fistula goal and as of December 2007 data TARC increased fistula use by 3.4% over baseline data. TARC's Board of Trustees challenged the facilities to decrease the catheter use by 3% annually. As of December 2007, TARC decreased catheter use by 2.1% and plans to meet the challenge by June 2008.

Vascular Access Type in Use in Network 3 by % of Patients, 2000-2007



	2/00	4/00	2/01	4/01	2/02	4/02	2/03	4/03	2/04	4/04	2/05	4/05	2/06	4/06	2/07	4/07
AVF	32	33	33	33	35	34	35	35	36	37	38	40	42	44	46	48
Graft	41	39	37	37	36	34	33	30	30	28	27	25	24	23	21	21
Cath	27	28	30	30	30	32	32	35	34	35	34	35	33	32	32	31

Quarter/Year

Source: CMS dashboard

Fistula Data by Type of Facility

Type of Facility	Baseline 3-07	12-07	% Improvement
Large Dialysis Organization	44.4%	47.4%	3.0%
Independent	45.2%	49.1%	3.9%
Hospital Based	42.2%	47.3%	5.1%

Catheter Data by Type of Facility

Type of Facility	Baseline 3-07	12-07	% Improvement
Large Dialysis Organization	32.8%	30.5%	2.3%
Independent	32.7%	30.7%	2.0%
Hospital Based	33.9%	31.2%	2.7%

Fistula Data by Corporate Provider

Provider	Baseline 3-07	12-07	% Improvement
DaVita	45.9%	46.6%	0.7%
Dialysis Clinic Inc.	53.3%	55.8%	2.5%
Fresenius New Jersey	48.3%	53.1%	4.8%
Renal Care Group	41.9%	46.4%	4.4%
Fresenius Puerto Rico	41.7%	44.1%	2.4%
Atlantis PR	37.6%	39.9%	2.3%

Catheter Data by Corporate Provider

Provider	Baseline 3-07	12-07	% Improvement
DaVita	29.2%	30.6%	1.4%
Dialysis Clinic Inc.	32.7%	31.6%	1.1%

Fresenius New Jersey	31.8%	27.3%	4.6%
Renal Care Group	32.1%	28.6%	3.5%
Fresenius Puerto Rico	36.2%	34.5%	1.7%
Atlantis PR	35.7%	34.6%	1.7%

Area-specific Data

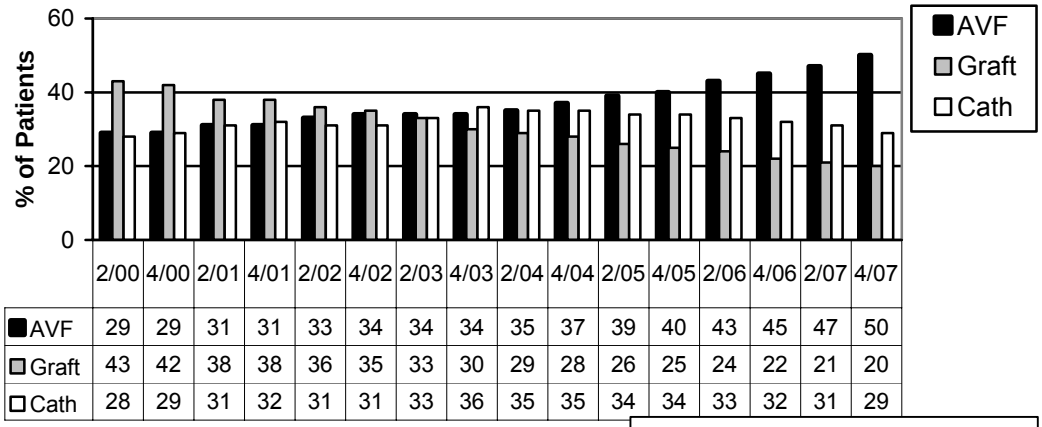
New Jersey

A key reason why there has been an increase in the overall rate of fistula use is that hemodialysis patients have had more functioning fistulas placed. New Jersey has several champion vascular access teams that include the dialysis unit medical director as team leader, a skilled vascular surgeon, dedicated dialysis unit staff and a supportive interventional radiologist. All team members play an important role in improving patient outcomes.

The fistula rate increased from 27% to 49.6% between June 1999 and December 2007. Although it is not displayed in the graph below, the percentage of patients with a "catheter only," which excludes patients with maturing permanent vascular access, decreased from 22.4% to 20.2% - an improvement of 2.2%.

The prevalent catheter rate increased from 28% to 36% from June 1999 to December 2003 and decreased to 29.4% by December 2007. The net decrease accounts for both catheters-alone in use as well as those that had a maturing fistula not yet in use.

Vascular Access Type in Use in New Jersey by Percent of Patients, 2000-2007



	2/00	4/00	2/01	4/01	2/02	4/02	2/03	4/03	2/04	4/04	2/05	4/05	2/06	4/06	2/07	4/07
AVF	29	29	31	31	33	34	34	34	35	37	39	40	43	45	47	50
Graft	43	42	38	38	36	35	33	30	29	28	26	25	24	22	21	20
Cath	28	29	31	32	31	31	33	36	35	35	34	34	33	32	31	29

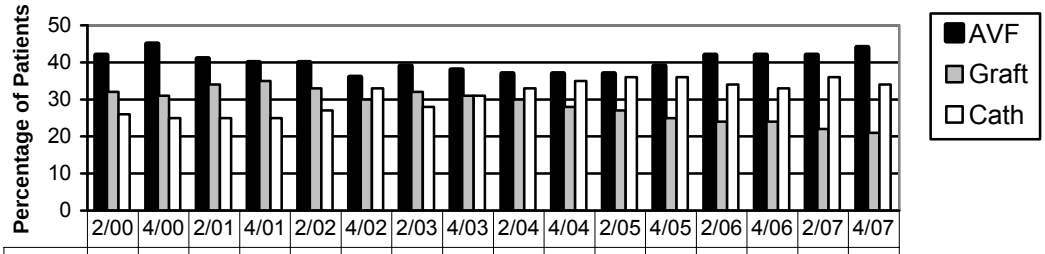
Quarter/Year

Source: CMS dashboard

Puerto Rico

Regional variation was observed in the distribution of access types in use. Historically, the majority of hemodialysis patients in Puerto Rico had arteriovenous fistulas and, although the majority of these patients still have fistulas, there has been a general increased use of catheters in recent years. The prevalent rate of patients using fistulas decreased from 44% to 36% from June 1999 to December 2002 and increased to 44% by December 2007. The catheter rate increased from 24% to 36% by December 2005 and decreased to 34.3% by December 2007.

Vascular Access Type in Use in Puerto Rico by Percent of Patients, 2000-2007



	2/00	4/00	2/01	4/01	2/02	4/02	2/03	4/03	2/04	4/04	2/05	4/05	2/06	4/06	2/07	4/07
AVF	42	45	41	40	40	36	39	38	37	37	37	39	42	42	42	44
Graft	32	31	34	35	33	30	32	31	30	28	27	25	24	24	22	21
Cath	26	25	25	25	27	33	28	31	33	35	36	36	34	33	36	34

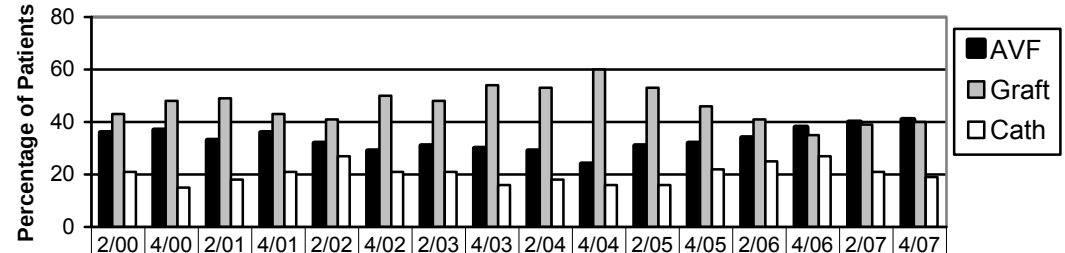
Quarter/Year

Source: CMS dashboard

Virgin Islands

The trend in the Virgin Islands showed an increase in the use of fistulas and resurgence of graft use. Rates fluctuated more widely here because the number of patients was much lower than in other areas. The prevalent fistula rate was highest in 2007 at 41.2%. The catheter rate increased from 21% to 27% from June 1999 to December 2006 and decreased to 18.6% in December 2007.

Vascular Access Type in Use in US Virgin Islands by % of Patients, 2000-2007



	2/00	4/00	2/01	4/01	2/02	4/02	2/03	4/03	2/04	4/04	2/05	4/05	2/06	4/06	2/07	4/07
AVF	36	37	33	36	32	29	31	30	29	24	31	32	34	38	40	41
Graft	43	48	49	43	41	50	48	54	53	60	53	46	41	35	39	40
Cath	21	15	18	21	27	21	21	16	18	16	16	22	25	27	21	19

Quarter/Year

Source: CMS dashboard

2007 ESRD Clinical Performance Measures Project

Annually, in order to identify and track opportunities for improvement in dialysis facilities, the clinical performance measures project collects data in a national set of measures for a random sample of dialysis patients in clinical areas that include dialysis adequacy, anemia management, nutrition, bone management and vascular access.

The sample included hemodialysis patients, peritoneal dialysis patients and pediatric patients. Veteran's administration hospitals provided data for 100% of their population while all other facilities extracted data for a ≤5% scientifically selected sample of patients.

The 2007 iteration of this project was year 14 of this project conducted in more than 2,000 dialysis facilities nationwide. CMS characterized the project as a 'snap-shot' description of peritoneal and in-center hemodialysis patients.

Through this data collection effort, TARC had access to data from an additional source for the same collection period. Clinical performance measures data (5% sample) were reviewed with lab data collection data, which included 100% of the patient population. Large dialysis organizations' laboratory data were provided to TARC electronically through CMS. Other facilities submitted data to TARC on forms, spreadsheets or on compact disk.

The Medical Review Board and Board of Trustees discussed the report and selected information was shared with facilities at the annual Council meeting.

Facility-specific statistics provided through the lab data collection effort were analyzed to assist in anemia management and an evaluation of treatment adequacy as well as compared to preliminary clinical performance measures data.

Number of Clinical Performance Measures Participants, 2007

Area	No. Dialysis Facilities	No. Hemo Dialysis patients	No. Hemo Pediatric Patients	No. Perit. Dialysis Patients	Total No. forms
New Jersey	118	342	12	34	388
Puerto Rico	36	145	7	25	177
US VI	3	6	0	0	6
Network	157	493	19	59	571

On May 18, 512 hemodialysis forms and 59 peritoneal dialysis forms were sent to dialysis facilities for completion. All forms were received and data entry completed by July 27. The veterans' administration facilities received and completed forms by November 27 for their entire patient population of 82 hemodialysis and 5 peritoneal dialysis patients.

A total of 571 forms were submitted for the ≤5% sample study not including the veterans administration facilities or the reliability forms. Data from 22 of the 571 forms were re-abstracted as part of the reliability testing for the project. Reliability forms from 13 hemodialysis and 9 peritoneal dialysis patients were received and data entry was completed by September 5.

Facilities were encouraged to compare national information from the *Clinical Performance Measures Project Annual Report* with local data and to examine their own patient-care practices and processes. TARC's Medical Review Board and Board of Trustees used the information to identify progress over time and to compare the results from New Jersey, Puerto Rico, and the US Virgin Islands to other areas of the country.

Annually, the clinical performance measures report is distributed to each facility to provide comparative clinical data that can be reviewed against facility performance. If results were less than the national average or less than the threshold established by the Medical Review Board, facility caregivers were to develop internal improvement efforts in the area. Overall, the goal of the project was that, collectively, providers would achieve the following intermediate outcomes for prevalent adult, in-center hemodialysis patients:

- Dialysis adequacy: Urea reduction ratios ≤65% (or 1.2 Kt/V)
- Anemia management: Hemoglobin values 11–12 gm/dL

Dialysis Adequacy

The dialysis adequacy goal stated that 80% of prevalent adult hemodialysis patients would have a urea reduction ratio ≥65%. CPM 2007 data showed that the goal was met and exceeded. The United States as a whole attained 88% of patients with adequacy ≤65% and TARC reached a similar level of achievement. The chart below shows data from the lab data collection and the 2007 CPM data collection.

Percent of Hemodialysis Patients with URRs ≥65%
for available periods in 2002-2006

Goal: 80 % of patients will have a URR of ≥ 65%

Area	2003 CPM	2004 CPM	2004 Lab	2005 CPM	2005 Lab	2006 CPM	2006 Lab
New Jersey			89.2		88.8		89.4
Puerto Rico			89.3		88.9		89.9
US Virgin Islands			80.9		85.4		77.6
Network	**84%**	**86%**	**89.1%**	**88%**	**88.8%**	**89%**	**89.4%**

Source 2003-2006 CPM data, Lab Data Collection

Anemia Management

It has been acknowledged that anemia management has more influencing factors than does treatment adequacy. Some of the influencing factors are outside the control of the nephrology health care team and patient. TARC continued to encourage facilities to monitor anemia status closely, refer patients early when co-morbidity is suspected as causing or influencing the anemia and continue efforts to achieve the goal. Preliminary CPM data represents network results and cannot be extrapolated to the facility level because the sample size power is insufficient at that level.

In the United States, 84% of adult in-center hemodialysis patients had mean hemoglobin values of ≥11 gm/dL; TARC's percentage was 83%, which is slightly below the national average.

Iron administration is a necessary adjunct to erythropoietin therapy. National iron-management data showed that 80% of patients had a mean TSAT of ≥20% and 95% of patients had ferritin levels ≥100ng/mL. TARC had 78% of patients with a mean TSAT of ≥20% and 95% of patients with ferritin values ≥100ng/mL.

TARC's percentage of patients with TSAT ≥20% was slightly lower than the national rate despite having a slightly higher than national average administration of intravenous iron. TARC had addressed iron management with facilities during the annual meeting in a presentation by Dr. Steven Fishbane, who has studied the subject extensively. Nationally, 70% of patients received intravenous iron and in TARC's area, 71% of patients received intravenous iron.

The anemia management goal was 80% of the hemodialysis patients with a hemoglobin value of ≥11 gm/dL. The chart below shows data from the CPM data collection in 2007. This goal was met.

Percent of Hemodialysis Patients with Hemoglobin Values ≥11 gm/dL for available periods in 2002-2006

Goal: 80% of patients will have a hemoglobin ≥ 11 gm/dL

Area	2003 CPM	2004 CPM	2004 Lab Data	2005 CPM	2005 Lab Data	2006 CPM
New Jersey			84.0		83.5	
Puerto Rico			78.5		77.6	
Virgin Islands			63.8		70.8	
Network	**79**	**82**	**82.3**	**84**	**81.8**	**81**

Source 2003-2006 CPM data, Lab Data Collection

Albumin Management

The final clinical indicator concerns nutrition. Nutritional status, measured by albumin levels, of hemodialysis patients was assessed. There are 2 commonly used albumin measurement methods, which have slightly different results - bromcresol green (BCG) and bromcresol purple (BCP).

TARC's percentage of prevalent patients with mean serum albumin level of ≥ 4.0/3.7 gm/dL (BCG / BCP) was 33%/75% for prevalent patients and mean serum albumin level of ≥ 3.5/3.2 gm/dL (BCG / BCP). The national percentages were 37% and 82% respectively.

Percent of Hemodialysis Patients with Albumin Values >4.0 gm/dL for available periods in 2002-2006

Prevalent patients with an albumin of 4.0/3.7gm/dL or 3.5/3.2 gm/dL (BCG / BCP lab method)

Albumin Results	2003 CPM	2004 CPM	2005 CPM	2006 CPM
≥ 4.0/3.7 gm/dL	**33**	**33**	**31**	**33**
≥ 3.5/3.2 gm/dL	**78**	**77**	**79**	**81**

Source 2003-2006 CPM data

Vascular Access Reporting

The Centers for Medicare & Medicaid Services (CMS) required data collection for three clinical performance measures derived from the original and revised K/DOQI *Guidelines for Vascular Access*. The goal for prevalent fistula use was set at 66% by June 2009.

According to the 2007 CPM report, the percentage of incident and prevalent patients with fistulas was 42% and 46% nationally; TARC had 38% and 44% respectively. By increasing fistula use, the desired secondary effect is usually a reduction in catheter use.

The second goal related to vascular access was to decrease catheter use. The Medical Review Board and the Board of Trustees challenged facilities to decrease catheter use by 3% annually. K/DOQI recommends no more than 10% of patients should have primary vascular access via catheter.

December 2007 vascular access data reported 30.5% with catheter access, a decrease of 2.1% from baseline March 2007. The 2007 CPM data reported that 29% of prevalent patients in the United States had a catheter; TARC had 34% catheter rate. TARC continued to target facilities with high catheter use and encouraged them to decrease catheter use, provided education and resources to assist in this process, and monitored progress.

The data supplied in the graphs below were obtained from two sources. The first source was the *Fistula First* data, a required submission to TARC from all facilities with monthly aggregate access totals. The second source was the CPM data, which is a random patient sample of only 5%. The discrepancies noted below derive from the different populations included in each data collection set as well as sample size.

Percent of prevalent hemodialysis patients with a fistula access for available periods in 2003-2007

Goal: 66% or more prevalent hemodialysis patients will have a fistula for access

Area	2003 CPM	2004 CPM	2005 CPM	12/05 FF	12/06 FF	2006 CPM	12/07 FF
New Jersey				39.96	45.06		49.58
Puerto Rico				38.59	42.07		44.03
Virgin Islands				32.24	37.50		41.24
Network	**36**	**35**	**34**	**39.51**	**44.16**	**39**	**48.01**

Source: CPM / Fistula First database

Percent of prevalent hemodialysis patients with a catheter access for available periods in 2003-2007

Goal: Decrease catheter usage by 3% annually

Area	2003 CPM	2004 CPM	2005 CPM	12/05 FF	12/06 FF	2006 CPM	12/07 FF
New Jersey				34.15	32.26		29.29
Puerto Rico				36.13	33.29		34.34
Virgin Islands				21.71	27.17		18.56
Network	**32**	**37**	**34**	**34.52**	**32.47**	**35**	**30.46**

Source: CPM / Fistula First database

2007 ESRD Clinical Performance Measures Project-Peritoneal Dialysis Adequacy

The peritoneal dialyses clinical performance measures were designed to assist providers improve the care delivered by highlighting opportunities for improvement. The patient sample had sufficient power to produce only network-wide and national statistically valid results.

Clinical information reported to TARC for the 4Q 2005 and 1Q 2006 period included hemoglobin levels, serum albumin values, blood pressure measurements and calculated dose of delivered dialysis. Data were abstracted from 59 peritoneal dialysis patients' medical records in area facilities; nationwide, 1,409 adult peritoneal dialysis patients >18 years were examined.

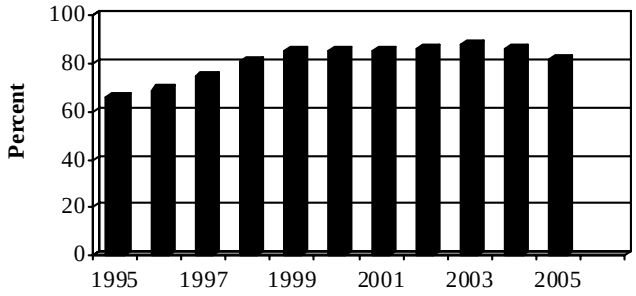
In anemia management, 81% of the sampled peritoneal dialysis patients had mean hemoglobin values of ≥11gm/dL, and 85% of the patients had mean transferrin saturation ≥20%. Sixty-two percent of peritoneal patients had a mean serum albumin level of 3.5 gm/dL with the BCG method or 3.2 gm/dL with the BCP method. Nineteen percent of the sample had a mean serum albumin value of at least 4.0 gm/dL (BCG) or 3.7 (BCP).

Year	CAPD patients with Kt/V 2.0 (%)	CCPD patients with Kt/V 2.1 (%)		Year	CAPD patients with Kt/V 2.1 (%)	CCPD patients with Kt/V 2.1 (%)
2006	72%	59%		2002	68%	70%
2005	73%	59%		2001	68%	62%
2004	70%	65%		2000	65%	60%
2003	71%	66%		1999	56%	52%

CPM data showed that 80% of the sampled adult peritoneal dialysis patients had both a weekly Kt/V urea and a weekly creatinine clearance measurement reported at least once during the six-month period. It must be noted that this finding did not demonstrate that adequacy had been achieved in 80% of peritoneal patients, only that some measurement was taken to quantify the dose delivered.

Findings included 71% of CAPD patients had a mean ≥2.0 Kt/V adequacy measurement which met NKF-KDOQI guidelines. Fifty-seven percent of the cycler patients had a mean weekly 2.1 Kt/V and 48% had mean adequacy values that met the recommended guidelines during the 2005 study period.

Percent Of Adult Peritoneal Dialysis Patients who had treatment adequacy measured, US, 1995-2005



Source: HIP/CPM

K/ DOQI guidelines for PD adequacy include:
Kt/V urea ≥ 2.0; creatinine clearance ≥ 60L/week/1.73m² for CAPD patients
Kt/V urea ≥ 2.1; creatinine clearance ≥ 63L/week/1.73m² for CCPD with day dwell patients
Kt/V urea ≥ 2.2; creatinine clearance ≥ 66L/week/1.73m² for Cycler PD patients

National Pediatric Population CPM results

All pediatric patients <18 years who were identified as receiving in-center hemodialysis on December 31, 2005, were included in the study. TARC's total number of pediatric patients was 19 of the national 803 records abstracted.

The findings were as follows:

- 88% of the pediatric in-center patients had a mean delivered calculated, single session Kt/V ≥1.2 using the Daugirdas II formula;
- 31% were dialyzed using a fistula, 8% with a graft, 61% with a chronic catheter;
- 47% of the catheter patients had continuously dialyzed with a catheter for ≥90 days; and
- 58% of patients with a fistula or graft were routinely monitored for the presence of stenosis.

In anemia management, 68% of patients had mean hemoglobin value of ≥11 gm/dL. Nutritionally, 80% of the patients had a mean serum albumin ≥3.5/3.2 gm/dL, 44% had a mean serum albumin ≥ 4.0/3.7 gm/dL (BCG/BCP) during the three-month study.

Effectiveness

Progress towards meeting CMS/TARC Goals

Preliminary 2007 CPM data (Oct-Dec 2006) were received on November 26, 2007. The following table is a comparative analysis of TARC data to national averages.

2003- 2007 TARC and National CPM Comparative Data (%)

Measure	Goal	CPM Year					U.S.
		2003	2004	2005	2006	2007	
Hgb ≥11.0 g/dL	80	79	82	84	81	83	84
URR ≥65%	80	84	86	88	88	89	88
Alb ≥4.0/3.7 g/dL	35	33	33	31	33	33	37
TSAT ≥20%	80	79	80	74	78	78	80
Ferritin ≥100ng/mL	80	90	91	95	95	95	95
% Prevalent fistula pts	66	36	35	34	39	44	46
% Incident fistula pts.	50	24	38	43	48	38	41
Prev patients with catheter ≥90 days	<10	24	29	31	29	26	22
% pts. with AVG and stenosis monitoring	100	46	73	57	55	73	69
% pts adjusted calcium 8.4-10.2 mg/dL					81	86	85
% pts with mean phosphorus 3.5-5.5 mg/dL					52	51	53

The chart above shows the effectiveness of the TARC's interventions, which included:

- The percentage of patients with a hemoglobin value ≥11gm/dL exceeded the 80% goal;
- TARC exceeded the 80% dialysis adequacy goal at 89%;
- Thirty-three percent had an albumin level of 4.0 gm/dL. TARC provided through a state grant funding for nutritional supplements to improve this indicator;
- Seventy-eight percent had a TSAT ≥20%;
- Ninety-five percent had a ferritin ≥100;
- CMS established the prevalent fistula rate 66% goal; 2006 CPM data showed that TARC had a prevalent fistula rate of 44%. December 2007 vascular access data showed that TARC's fistula rate was 48%.
- The Medical Review Board and the Board of Trustees challenged dialysis facilities to decrease the catheter rate by 3% annually. TARC aggressively worked toward attaining this goal and decreased the catheter rate by 2%;
- K/DOQI recommends no more than 10% of hemodialysis patients should have a catheter access and catheters used as a bridge to a permanent vascular access should only remain in place for ≤90 days. TARC made progress and decreased the catheters ≥90 days by 3%.
- TARC increased the awareness of vascular access monitoring through education and increased the percentage of stenosis monitoring by 18%.
- Eighty-six percent had an adjusted calcium in target range;
- Fifty-one percent had a mean phosphorus level between 3.5-5.5.

Clinical Performance Assistance Provided

TARC recognized that different facilities might identify different root causes and pathways for a lack of success to achieve successful outcomes. TARC implemented several strategies to

improve the fistula rate, decrease the catheter rate, improve the percentage of patients in target range for anemia management and decrease the number of non-tunneled catheters and subclavian catheters used. TARC provided many tools and resources to achieve the fistula placement goal for existing and new patients.

Fistula and Catheter Use

TARC reviewed prior efforts to reduce catheter access use and developed new strategies to address needed improvement. TARC identified dialysis facilities that had >30% catheter rate. Catheter rates, in these facilities, ranged from 70% to 31%. TARC staff met with the medical director, attending nephrologists, vascular surgeon and nursing leadership to identify barriers and develop a comprehensive plan of action to improve outcomes.

Anemia Management

In 2006, 25 dialysis facilities failed to meet the goal (80% of patients Hgb≥11 gm/dL) and submitted a quality improvement plan (QIP). These facilities remained on the QIP through first quarter 2007. Facility monthly data were evaluated and those still not meeting the goal were contacted and technical assistance provided.

Due to the controversy surrounding ESA dosing the Boards modified the criteria for TARC intervention but not goal attainment. This meant that the goal would remain unchanged (≥80% Hgb ≥ 11gm/dL) but intervention would occur when ≥80% had a Hgb ≥10gm/dL. TARC reviewed the data and 8 facilities remained on an improvement plan.

Five of the 8 facilities demonstrated sustained improvement for 6 months and at the year-end 3e facilities showed improvement but were not able to demonstrate sustainability. TARC will continue to provide technical assistance until sustained improvement has been achieved for 6 months.

Non-tunneled and Subclavian Catheters

Vascular access with a catheter is required in a small number of cases and is not the preferred method if other alternatives are available. New cases may require short-term use until a permanent access with a fistula or graft is mature enough to use. Long-term use of catheters is discouraged because of the high infection rate; cuffed catheters and catheters placed in the internal jugular are recommended.

K/DOQI guidelines for vascular access have become the standard of care for the renal community and they recommend:

- *Tunneled cuffed venous catheters are the method of choice for temporary access of longer than 3 weeks' duration.*
- *The preferred insertion site for tunneled cuffed venous dialysis catheters is the right internal jugular vein.*
- *Subclavian access should be used only when jugular options are not available.*
- *The subclavian insertion site should not be used in a patient who may need permanent vascular access.*

In July 2006, a cluster of 8 facilities in the northern section of the Island were observed to have non-tunneled catheters in 26% (384) of the patients with catheters (n=1,461). Eighty-one percent (313) of the non-tunneled catheters were placed in the subclavian vein, which is a practice not usually seen in this patient population. Other observations included:

- 81% (313 patients) of the non-tunneled catheters were placed in the subclavian vein.
- 54% (208 patients) had non-tunneled catheters in the subclavian vein for >90 days

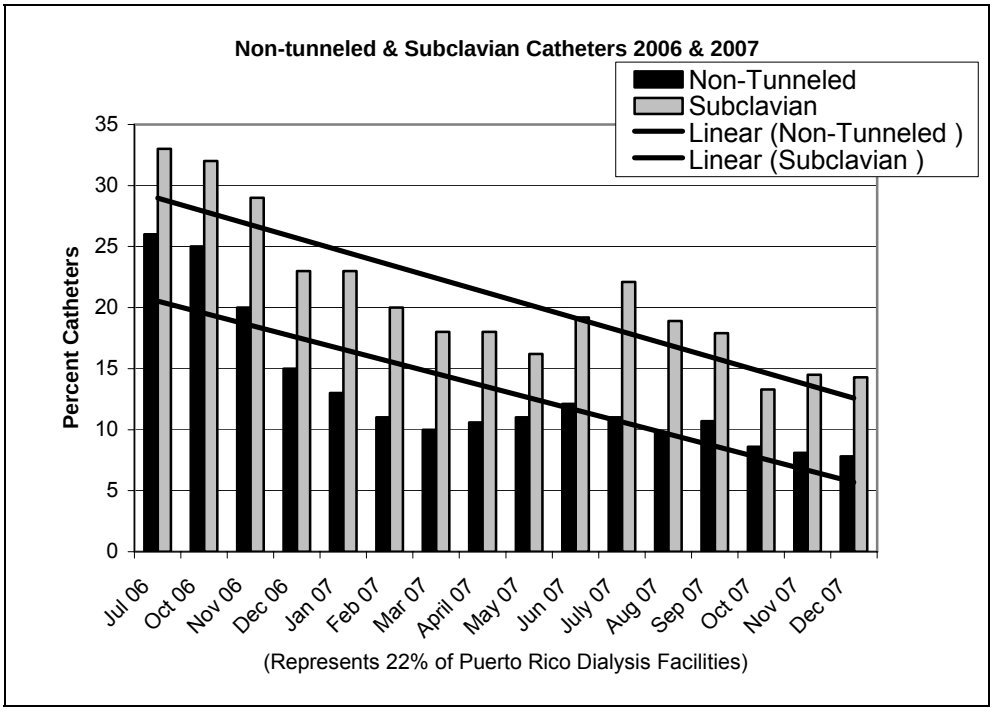
- Of the tunneled catheters (167) 66% were placed in the subclavian vein

TARC obtained in August 2006 a small sample of comparative New Jersey data and found that only 14 patients or 1% of the 1,246 catheter population had non-tunneled catheters in use as primary vascular access which confirmed the need to alter practice patterns among a certain group of facilities.

These 8 facilities have been on an improvement plan since 2006. In 2007 TARC continued to provide technical assistance, performed site visits at 29% of the facilities in Puerto Rico, conducted meetings with 3 local fiscal intermediaries, a representative from the office of the secretary of health, and met with hospital administration at one of the largest providers of vascular access on the island.

The following topics were discussed during TARC's visit to Puerto Rico in November 2007.

- Halt the medically inappropriate placement of subclavian and non-tunneled catheters
- Improve cooperation of the vascular access surgeons
- Provide nursing staff education
- Consider incentives for AVF placement
- Address payment issues
- Encourage passage of the GFR legislation
- Collect vascular access outcome data
- Increase utilization of outpatient vein center
- Clarify issues related to pre-authorization for vascular access
- Decrease catheter placement at all hospitals



Monthly data were collected and facilities asked to re-examine each catheter to verify type and placement. In 2007 non-tunneled catheters decreased 8.7% (23% to 14.3%) and subclavian catheters decreased 5.2% (13% to 7.8%). TARC will continue oversight until the non-tunneled and subclavian catheters for vascular access are used according to the K/DOQI guidelines.

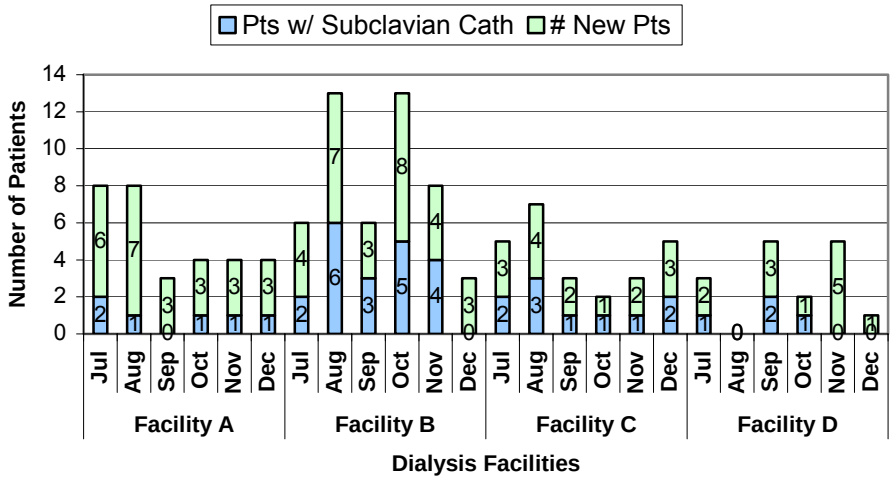
This problem was compounded by the fact that several smaller hospitals lack current technology to insert tunneled internal jugular catheters. Patients frequently had subclavian catheters inserted at the bedside in the emergency department in order to provide emergent dialysis.

In July 2007 the Boards recommended TARC staff monitor incident patients with subclavian catheters used as the primary access for the first outpatient treatment. Four of the 8 facilities continued to place subclavian catheters and were targeted for additional technical assistance. Incident patient information was obtained from the Medical Evidence Report (CMS form 2728). TARC staff contacted facility managers, encouraged the removal of catheters and, if necessary, asked for medical justification for continued use of the subclavian vein access. Patient lists were reviewed and revised monthly to track AVF placements, the development and maturation process, and the date the AVFs were utilized and catheters removed.

The graph below shows the total number of incident patients admitted to each facility and the number of incident patients starting dialysis with a subclavian catheter by facility.

TARC has seen a reduction in the number of subclavian catheters; facility B decreased from >80% of the patients admitted with a subclavian to 0 in December. The 4 facilities will remain under review until sustained improvement will have been observed.

2007 Monthly Total No. Incident Dialysis Patients / Incident Patients with Subclavian Catheter



Vascular access data were collected and analyzed monthly from the targeted facilities. The facilities were provided with rapid cycle feedback reports that were sent to the medical director, administrator and quality improvement contact.

Technical and Collaborative Assistance Provided

The dialysis community discovered they could no longer continue to practice in an isolated area of medical care. Collaborative assistance is being sought from new sources, not only by the renal

community and networks, but also by all healthcare providers. TARC recognized this need and continued to develop programs to increase the knowledge and skills of the renal community. Beneficiary education, as well as staff, physician, and community education continues to be a major role of networks.

TARC provided technical assistance, guidance and appropriate referrals for facilities and consumers. One of the key areas of need identified during site visits was the inability of facilities to lower the barriers that prevented improved outcomes. TARC provided tools and resources, shared experiences of other centers and suggested alternate courses of action to move beyond the barriers.

Area managers, on the annual meeting evaluation, claimed they did not have the time or staff to search the Internet for valuable information available. During site visits, meetings and mailings, TARC provided copies of *Fistula First* change concepts, data analyses, disaster preparedness, anemia management data and other valuable tools and resources.

All of these efforts were directed toward the ultimate goal of providing an environment of care that is not only safe but will produce optimum outcomes for all beneficiaries.

Educational Materials

An integral part of TARC's goal attainment is through consumer education. TARC continued to provide educational materials through newsletters and brochures directly mailed to each dialysis facility. Engaging patients and promoting active involvement with the renal team was considered essential and remained a priority.

TARC distributed to all dialysis facilities educational resources developed by the Fistula First Breakthrough Initiative, other networks, CMS, ANNA, homeland security, the National Kidney Foundation and the Centers for Disease Control. Topics included: *Home Dialysis: Your Life, Your Choice* DVD, *Cannulation of the AVF* DVD, End-of-Life Decision-Making and the Role of the Nephrology Nurse, *Care of Your Fistula after Surgery, Overcoming Roadblocks to Catheter Reduction, Emergency Supply List,* patient emergency cards, articles, booklets and posters entitled, Dialysis Facility Compare, and the *CMS Guide-Emergency Preparedness for Dialysis Patients and Facilities.*

Patients who participate in their healthcare decisions have many positive benefits. TARC knows each consumer should be afforded the opportunity to become educated about their disease and treatment options so they may participate in their healthcare decisions. A degree of control and empowerment results in a greater sense of well-being and positive outcomes. Consumers educated about their rights and responsibilities take greater ownership of their care and treatment.

Consumers educated in the grievance procedure know they are not helpless when their care presents a troublesome situation. Consumers educated about quality indicators are able to track treatments and know what the measures mean. All of these facts help to make consumers know that they are part of a health care team that strives to achieve the optimum level of health for each patient. The continuum of care for consumers spans a wide range of providers. TARC, through the provision of educational materials, helped to clarify some of the confusing elements found in renal replacement therapy.

A collaborative effort between TARC and the interdisciplinary teams at facilities selected for focused oversight proved successful. All groups continue to be monitored by TARC; the effort

improved access rates, anemia management and non-tunneled and subclavian catheter rates at the facility level.

Consumer Impact

Delivering safe and effective care provides significant benefits to consumers through better management of the co-morbidities that affect consumers. Identifying models for appropriate clinical management provides consumers with a better quality of life, reduced hospitalization and fewer debilitating conditions.

Morbidity and mortality data showed that patients with a fistula access have improved quality of life, reduction of infections, and hospitalizations. TARC contributed to improvement in the quality of care at facilities noted for poor performance and outcomes with the dissemination of knowledge and resources necessary to improve the level of care delivered to patients.

Consumers benefited from their providers becoming informed about and responding to network-specific goals, which aimed for quality renal replacement services. Existing or potential providers used TARC data to plan expansion programs and/or new facilities, assisted consumers by making treatment available in more locations or on additional shifts. Since the ultimate purpose of both the network and facilities is to serve renal consumers, all renal-related educational materials enhance patient care delivery.

B. Improve the independence, quality of life, and rehabilitation† (to the extent possible) of individuals with ESRD through transplantation, use of self-care modalities, as medically appropriate, through the end of life

The following statements approved by the Boards guided TARC's implementation efforts:

A Encourage the participation of patients, providers of services and ESRD facilities in vocational rehabilitation programs.

B Evaluate procedures used by facilities and providers to assess the appropriateness of patient treatment type.

1. Facilities will post in prominent place posters describing treatment modalities provided by TARC.
2. Facilities will provide treatment schedules that allow patients to work or refer to another facility with this ability.
3. Encourage the use of the treatment settings most compatible with the successful rehabilitation of the patient.
4. Facilities will assign specific staff with the responsibility for home designee. transplant designee and vascular access coordinator functions.
5. Facilities will post in prominent place TARC's patient rights and responsibilities statement and distribute annually paper copies provided by TARC.

Supportive Activities

† **Rehabilitation** is defined as *restoring an individual to the maximum level of independence and quality of life that an individual can achieve.*

The *Consumer Rights and Responsibilities* flyer was distributed to all facilities in English and Spanish. Facilities were asked to display the material in a prominent place such as the waiting room and to distribute paper copies to all patients.

In addition to paper copies, TARC *Consumer Rights and Responsibilities* and the *Consumer Grievance Procedure* were posted on the TARC web site in English and Spanish. When a new facility is approved as an ESRD provider by CMS, a package of resource materials is sent. Copies of the *Consumer Rights and Responsibilities* and *Grievance Procedure* are included.

Vocational Rehabilitation

Individuals with chronic kidney disease can live long, productive lives even though kidney failure is not a curable disease. Rehabilitating the patient with end-stage renal disease is admittedly difficult in certain situations. Improving outcomes of kidney disease usually requires that patients learn to manage their illness, report their symptoms accurately and advocate on their own behalf. TARC encouraged patients to become more informed partners in their own care.

Rehabilitation involves more than working to improve the clinical and functional status of dialysis patients; it is a comprehensive approach to care with the goal of helping patients resume productive activities and independent living. The TARC web site provided links to the Life Options web site and other resources to assist patients achieve maximum rehabilitation potential.

The Life Options Rehabilitation Program contains on its Web site a program that was developed to help people live long and well with kidney disease by identifying and addressing the challenges with the goal of improving longevity and quality of life. Life Options developed rehabilitation and training resources for facility in-service programs. TARC promoted the utilization of this site.

The list of vocational rehabilitation offices in New Jersey, Puerto Rico and the Virgin Islands was sent to each facility and placed on the web site.

Many dialysis facilities maintained activities with an active team approach to promote a vocational rehabilitation program by:

- Using a centrally-located bulletin board that featured stories or topics regarding rehabilitation;
- Assessing consumers' physical status, mental health and general well-being on a regular basis;
- Assessing patient, family and staff attitudes toward rehabilitation;
- Screening for employment status or potential;
- Assessing job skills and suitability for vocational rehabilitation;
- Providing information about end-stage renal disease to employers as requested;
- Making information available about the benefits of working;
- Informing consumers annually about treatment modalities to accommodate work and life interests; and
- Utilizing the redesigned Life Options web site (www.lifeoptions.org), which offers downloadable materials that can be reproduced.

Consumer Education

Consumers can be motivated to learn more about kidney disease and its treatment so that they will become more involved in self-advocacy, self-management and self-care. Helping consumers to set goals, share success stories and support independence are examples of encouragement activities that can ultimately improve quality of life on dialysis. Consumers need to participate in decisions about their own care. In order to do this, they must first understand the disease and its treatment.

Educating consumers is the key to developing this understanding. Educational goals must be geared to the needs and readiness of the consumer to achieve positive outcomes. Learning style and any barriers to learning, e.g., vision, hearing or language problems, must be addressed. Learning about kidney disease and all the treatment options can help consumers maintain a sense of control despite the challenges. It is critical to involve family members in educational efforts. Increased personal control, often gained through patient and family education, has been linked to improved adherence to treatment regimens and better quality of life.

Patient teaching about medications, diet, exercise, compliance with treatment schedules, and maintaining or restarting employment or school attendance were all favored as means to enhance rehabilitation. TARC encouraged patient care planning that would address attainment of the highest quality of life possible for each patient.

Summary of educational and other materials provided to facilities and/or consumers

Whenever possible, TARC provided educational material, technical assistance and guidance or made referrals to appropriate resources to assist facilities and consumers improve the quality of care and life for consumers. TARC made efforts to be sensitive to local renal community needs and familiarized others with its role, which includes coordinating activities and participating with the larger renal community. TARC received requests for information and assistance by letter, fax, phone call, the web site and e-mail.

TARC held 3 educational programs in addition to the transplant designee programs sponsored by the Saint Barnabas Health Care system. TARC's *Annual Council Meeting* was held in New Jersey on October 24. The meeting addressed infection control and was reported earlier in this document. TARC held 2 physician meetings, *Hemodialysis Vascular Access Colloquium* on November 7 and 14 with Lawrence Spergel, MD as the keynote speaker. The meetings were well attended. A total of 46 program evaluations were completed. Using the Likert Scale, 91% of the evaluators *agreed* or *strongly agreed* that the program objectives were met.

TARC staff received numerous telephone calls from both stage 5 and earlier stage chronic kidney disease consumers with questions about Medicare coverage rules and regulations. Some information was provided directly, other consumers were referred to their nephrology social workers and TARC Web site while others were referred to CMS or other responsible agencies.

Materials were distributed to facility medical directors, head nurses, administrators and quality improvement coordinators during facility visits, mailings or e-mail; several were given as handouts at TARC meetings. In addition to mailings, staff responded to individual requests for data and information throughout the year.

Home Dialysis

Home dialysis as a selected modality continued to decline in the number of patients who chose this setting despite the increasing caseload and nursing shortage.

TARC Percentage of Home Patients by year

Home Dialysis Patients (%)				
2007	6		2001	9
2006	7		2000	10
2005	7		1999	12
2004	7		1998	14
2003	8		1997	16
2002	9		1996	18

Source: SIMS database

Home hemodialysis has not been a popular modality for many years. However, in 2007, there were 44 patients receiving home hemodialysis compared to 33 in 2006. Nationally, home dialysis is gaining momentum and an increase in this form of therapy may be realized in future years.

Thirteen providers in New Jersey treated 42 home hemodialysis patients. Two facilities provided home hemodialysis services in Puerto Rico. No facilities offered home hemodialysis in the Virgin Islands.

TARC recognized three variables that affected the number of home dialysis patients: a lack of patient education in home therapies, a shortage of nephrologists comfortable with prescribing peritoneal dialysis and a shortage of qualified nurses available to provide education and training for home dialysis modalities.

During educational meetings and facility visits, TARC staff reminded facility staff to consider patients for home dialysis and refer patients accordingly.

For the past several years TARC sponsored the home designee program which has had little impact on the promotion of home dialysis therapies. TARC redesigned its approach to the home dialysis improvement and decided to focus future efforts on social workers; an awareness meeting is scheduled for May 1, 2008.

TARC believes that home dialysis is beneficial for many consumers and continued to develop programs to assist the consumer in making an educated modality decision. Patients were encouraged to pursue home dialysis as an option.

Kidney Transplantation

All consumers must receive information about treatment modality options prior to initiation of renal replacement therapy and at regular intervals following initiation of therapy. While some consumers may have had ample time to learn about treatment modalities before starting treatment, others have had little time between diagnosis and initiation of treatment. All consumers must know that the option to be evaluated for a modality change is available at any time.

Long waiting lists for organs are problematic both in network 3 and throughout the country. TARC's six transplant facilities had a total of 3,129 people on their kidney transplant waiting list on December 31, 2007,▲ which is a slight decrease from 3,195 people on the waiting list in 2006. The list included patients from outside TARC's boundaries as well because patients are not limited to local centers but may register at any accredited center.

▲ Source: SIMS database

Many factors affected the actual number of kidney transplants performed: availability of transplant surgeons, operating room schedules, intensive care facilities, specialized nurses and other ancillary staff. The major factor was the number of organs available. Historically, most people on transplant lists have had to wait for cadaveric kidneys.

Interstate transplant referral patterns have been operative for many years. Dialysis consumers sought transplant services not only at one of the six local programs but also at those in neighboring or distant states. For example, some New Jersey dialysis consumers received cadaveric organs or transplant work-ups in New York, Maryland, and Pennsylvania. A number of Puerto Rico consumers received kidney transplants in Texas and Florida.

The vast majority (86%) of the Medicare-approved and veterans administration dialysis programs in the network at year's end had a minimum of one patient who received a kidney transplant. The range in number of dialysis consumers who received a transplant from those dialysis facilities ranged from 1 to 26 consumers.

Transplant designees served as the initial link between the consumer and the ultimate goal of transplantation. Their responsibilities include: educating the dialysis patients about transplantation, reviewing cases for medical suitability, reporting referrals to the transplant surgeons and documentation of transplant discussions in the medical record. Dialysis providers, by pursuing this activity, sought to make the option of a transplant work-up available to medically-suitable consumers. Unfortunately, during 2007, the number of organs available and suitable for use was still lower than those needed or desired by TARC's dialysis patients.

Immunizations

TARC distributed to dialysis facilities information to inform their patients about the flu, hepatitis and pneumonia immunizations. This information included *the MMWR Prevention and Control of Influenza Recommendations of the Advisory Committee on Immunization Practices*, the *CMS 2007-2008 Influenza Season Resources for Health Care Professionals*, and the recommended immunization schedule for chronic kidney failure and ESRD patients. TARC's website for patient and professional use contains vital information on immunization.

Volunteerism

TARC together with dialysis facilities encouraged patients to volunteer at their local food kitchen, American Red Cross and to join the Patient Advisory Committee, all of which would help improve their quality of life and also help others. Psychologically, efforts to help others despite one's own disability often result in unanticipated benefits and greater well-being.

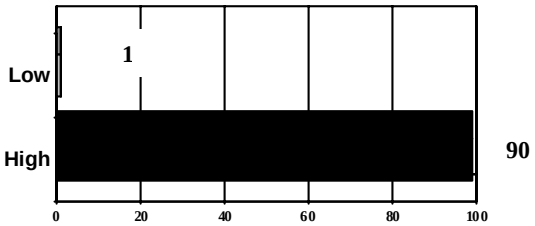
Effectiveness

TARC had a total of 639 transplants, 539 in-center patients, 100 home dialysis patients, over 400 transplant and home dialysis designees providing treatment, modality education. Home dialysis was chosen by 6.1% of the entire patient caseload. TARC saw a 33% increase in the number of home hemodialysis patients, while the number of peritoneal dialysis patients decreased by 4.2%. A *Treatment Options* poster was distributed to 100% of TARC's facilities. Ninety-nine percent of facilities site-visited had a vascular access coordinator.

During 2007, 43 site visits were made, which was 29% of all TARC facilities. Treatment option posters, *Consumer Rights and Responsibilities* and *Consumer Grievance Procedures* were posted in clear view at 100% of the facilities visited. TARC had an increase in consumer contacts of 13%.

In an effort to evaluate the effectiveness of TARC's site visits, which are labor intensive and time consuming, TARC developed an evaluation tool using a Likert scale of 1- 5 (low - high). Summary scores ranging from 12-15 indicated the evaluator considered the site visit to have been "highly effective." Scores <11 indicated the site visit could have been more informative. Ninety-one responses were received and 99% of the evaluators rated the visits as highly effective.

Site Visit Effectiveness



TARC continued to encourage rehabilitation and individualized care planning. Vocational rehabilitation is an ongoing process that needs repeated attention to continue its development. Material was distributed to facilities for use with consumers; other resources were made available both through mailings and on the Web site.

Dialysis facilities in New Jersey reported 3,036 patients between the ages of 18 to 54. Sixty-two patients received services from a vocational rehabilitation program and 1,116 were employed (full or part time); 93 patients attended school (full or part time).

In Puerto Rico, there were 1,273 patients between the ages of 18 and 54 years. Fifty-seven patients received services from a vocational rehabilitation program, 237 patients were employed (full or part time) and 28 patients attended school (full or part time).

Of the 63 Virgin Islands dialysis patients in the same age range, 1 patient received services from a vocational rehabilitation program, 32 patients were employed (full or part time) and 2 patients attended school (full or part time).

TARC had a total of 4,372 patients in the 18-54 age group; 120 patients received services from a vocational rehabilitation program. Those employed numbered 1,385 and 123 patients attended school (full or part time). TARC had 37% of patients who received services from a vocational rehabilitation program, were employed (full or part time), and/or attended school (full or part time), this represents in increase of 2% since 2006.

Consumer Impact

Lifestyle changes are inevitable for stage 5 chronic kidney disease consumers but, to the extent possible, these should be minimized. Material was distributed to facilities for use with consumers, and other resources were made available through several mailings and on the Web site.

Consumers must be afforded the opportunity to become educated about their disease and treatment options so they may actively participate in their healthcare decisions. All efforts were made to provide consumers with the knowledge to choose the desired modality. Treatment option posters were distributed to 100% of network facilities. Consumer rights, responsibilities and grievance procedures were provided to facilities to encourage early problem resolution. End-of-life material was made available on the web site.

TARC encouraged consumers to take an active role to improve mental health and quality of life through self-management and rehabilitation, education, exercise and employment. TARC continued to encourage rehabilitation and individualized care planning.

C. Improve patient perception of care and experience of care and resolve patient complaints and grievances

a. Implement procedures for evaluating and resolving patient grievances.

1. Each facility will post in prominent place TARC's grievance policy and distribute annually paper copies provided by TARC.
2. Each facility will fully document all involuntary discharges and notify TARC of each occurrence.

Supportive Activities

The consumer grievance flyer was distributed to all facilities in English and Spanish. Facilities were asked to display the material in a prominent place such as the waiting room, and distribute paper copies to all patients. In addition to paper copies, TARC *Consumer Grievance Procedure* was posted on the web site in English and Spanish. When a new facility is approved by CMS as an ESRD provider, a package of materials is sent which contains the *Consumer Grievance Procedure*.

A patient education brochure titled *I Am A Kidney Patient What Can I Do If I Have a Complaint* describes in basic terms the complaint process and how to contact TARC. The brochure was translated into Spanish and distributed to all facilities in English and Spanish. Additionally, TARC promoted an increase in beneficiary awareness of TARC functions and responsibilities through patient education programs, the Patient Advisory Committee newsletter, *Kidneys R Us* and the *What is TARC* poster.

Patient Advisory Committee

The Patient Advisory Committee consisted of patients from dialysis facilities in TARC's area and represented all modalities. Members have a genuine concern for quality of care issues. The committee served as a link between patients and TARC, encouraged patients to be involved in their healthcare, share skills, knowledge and experience, attend meetings and conference calls.

The committee supported TARC's mission to improve the quality of care provided to patients and represented the entire patient population. The committee provided consumer advice to the Medical Review Board and the Board of Trustees. The committee was involved in creating the patient newsletter, *Kidneys R Us,* and assisted with the development and promotion of educational materials and resources for patients.

A copy of the *Kidneys R Us* newsletter was distributed to all dialysis facilities for every dialysis patient in January, May and August 2007. The newsletters were also translated into Spanish and distributed to all the facilities. The content included: the patient advisory committee and how to join, the Ahmet Ahmet Rehabilitation Award and the 2007patient recipient, information about TARC and the patient's toll free number, a patient's view of starting dialysis, thirst quenching tips, patient education meetings, disaster preparedness, four things you can do to prevent infections, knowing the right questions to ask your MD, good reasons to consider an arteriovenous fistula (AVF) and a PAC member profile.

The PAC committee collaborated with the NJ Renal Coalition regarding patient education programs and handouts for the meetings held on May 22 and October 11, 2007.

Evaluate and Resolve Patient Grievances

TARC may receive a written or oral complaint or grievance from a stage 5 chronic renal failure consumer, consumer representative, family member, friend, or others concerning either dialysis or transplant providers.

Referrals of ESRD consumer complaints or other concerns may be received from professional review organizations, state agencies, Medicare hotline numbers and Medicare intermediaries. When an oral grievance is received, the person taking the grievance will usually ask the consumer to document it in writing. During complaint investigations, consumers may designate representatives to act on their behalf. Immediate investigation is started for a potentially life-threatening issue.

Consumers were encouraged to use facility internal processes prior to referring a grievance to TARC because local problem solving can preclude escalation to a more serious level. When a patient did not wish to use the facility process (it is not mandatory that consumers use the facility grievance process), they contacted TARC for assistance.

TARC's responsibility for complaints/grievances is to review issues raised and determine the required action, i.e., investigation or referral. Attempts were made to resolve complaints or grievances by acting as an investigator, facilitator, referral agent, or coordinator between a patient and the provider.

Quarterly,TARC reviewed and analyzed contact information at internal quality improvement meetings. Data were evaluated for trends, interventions formulated and discussed with the patient committee and Boards if indicated. TARC noted an increase in the number of calls concerning involuntarily discharged patients due to abusive and/or disruptive patient behavior.

TARC staff worked with facility leadership to avoid involuntary discharge and recommended the use of the Dialysis Patient Provider Conflict Resolution tool kit. In 2007, TARC tracked the incidence of involuntary discharge to evaluate the extent of the problem. An educational program will be held for dialysis social workers and nurse managers on conflict resolution management, complaints and grievances and involuntary discharge on May 1, 2008.

Patient Complaints and Grievances Categorized in the Standard Information Management System (SIMS)

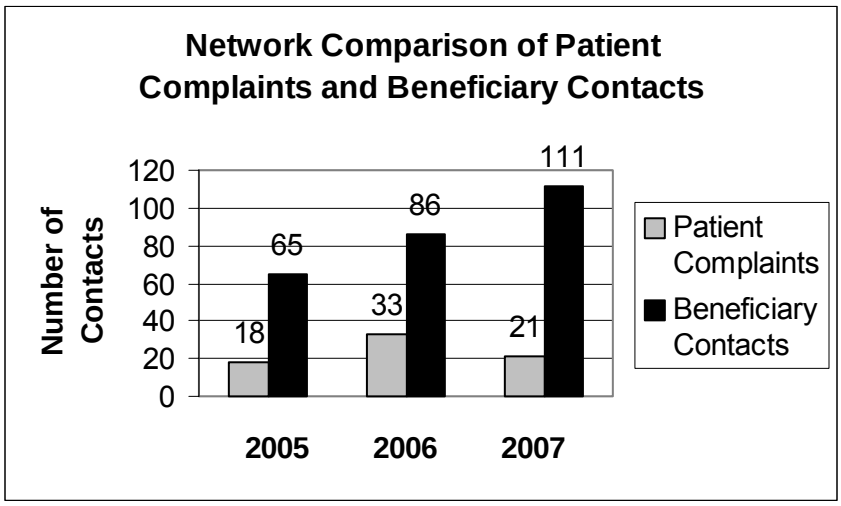
While there were 28 complaints, network staff addressed many more concerns and issues. An aggregate summary of actions follows:

2007	Beneficiary Inquiries	Com-plaints	Data proces-sing	Facility concerns	Facility Inquiries	Other Inquiry	SIMS Issues	Total
Abusive	0	3	0	3	1	0	0	7
Data Request	1	0	8	0	3	7	0	19
Dialysis Facility Compare	0	0	0	0	1	0	0	1
Disruptive	0	0	0	5	2	0	0	7
Information	55	0	7	3	70	39	0	174
Non-Compliant	0	0	0	2	2	0	0	4
Other	2	1	2	2	3	21	0	31

2007	Beneficiary Inquiries	Com-plaints	Data proces-sing	Facility concerns	Facility Inquiries	Other Inquiry	SIMS Issues	Total
Patient Transfer/ Discharge	7	3	12	9	7	15	0	53
Physical Environment	0	0	0	2	1	1	0	4
Professional Ethics	1	1	0	0	0	1	0	3
QI Projects	0	0	4	0	20	3	0	27
Reimbursement /Financial	9	0	0	0	1	3	0	13
Request for Educational Materials	9	0	0	0	12	9	1	31
Request for Forms	0	0	19	0	1	2	0	22
Request for Technical Assistance	5	1	91	1	56	30	1	185
Staff Related	0	4	0	0	1	2	0	7
Transient	1	0	1	0	0	1	0	3
Treatment/ Quality of Care	1	15	0	1	0	1	0	18
Vision	00	0	10	0	0	0	0	18
Total	91	28	162	28	181	135	2	627

A total of 627 contacts were entered in the SIMS database; of those, beneficiaries initiated 14.5%. Almost 71% of the beneficiary calls received were information inquiries and requests for educational materials. Beneficiary complaints resolved included scheduled dialysis treatment times, patient transfers due to dialysis facility closures, cannulation problems, graft clotting problems, transportation problems, blood pressure cuffs, dialysis scale accuracy, heparin dosage, dialysis unit admission policies, fluid weight loss calculation during dialysis, lack of a renal dietitian, lack of staffing, and professionalism of staff members. Information requests, either facility or beneficiary-initiated, accounted for 28% of all contacts.

Beneficiary concerns and inquiries were addressed internally by TARC more than 96% of the time. Referrals for beneficiary concerns were made, when indicated, to other agencies, when appropriate.



Contacts from consumers and facility staff are grouped into certain categories. Grievances are requests for formal investigation, usually related to a quality of care issue, of a serious complaint involving a facility, physician or other provider. Complaints are requests for assistance about, but not limited to, care or treatment issues. Inquiries are requests for information, advice, referral, or educational material that do not require problem resolution. Facility concerns are staff requests for guidance or advice/assistance in handling difficult situations that are patient-related (clinical or behavioral). Facility inquiries are staff requests for information, advice, referral, or educational material.

In 2007, TARC promoted an increase in beneficiary awareness of the network functions and responsibilities. Beneficiaries and their families were provided information through patient education programs, the Patient Advisory Committee Newsletter, and the "*What is TARC"* poster. TARC encouraged open lines of communication through education and information about how to contact TARC as well its toll free telephone number. The patient service coordinator assumed a proactive role in the facilitation and resolution of patient and/or facility situations and organized the Patient Advisory Committee meetings.

Network staff distributed the *What is TARC?* poster in English and Spanish and *I Am A Kidney Patient What Can I Do If I Have A Complaint?* brochure. During site visits, TARC staff ensured proper posting of TARC information; patients were interviewed and asked if they were aware of TARC resources and contact information to evaluate the effectiveness of educational tools. There was a 22.5% increase from 2006 to 2007 in the number of calls from beneficiaries since the distribution of the posters and brochures. The Patient Advisory Committee collaborated with the New Jersey Renal Coalition to present 2 patient education programs in 2007. These programs presented the role and function of TARC and this has contributed to the increase in the number of beneficiary contacts.

Additionally, TARC distributed copies of the grievance procedure to all facilities in New Jersey, Puerto Rico, and the Virgin Islands. Facilities, in turn, made these available to consumers on patient bulletin boards, handouts in waiting rooms and in orientation packets. Facilities met their obligation to distribute the network grievance procedures and address issues of patient concern at the facility level.

No formal grievances were filed.

Web Site

TARC's web site provided a question and answer section for patients. Patients asked directly for information and had questions answered that related to their renal disease or dialysis. The questions were first answered by the quality improvement coordinator, reviewed by the executive director and by a medical review board physician for clarity and accuracy of information provided to consumers. Consumers who had Spanish as their primary language also used the site since the entire content is available in Spanish.

There were a total number of 280 inquiries to the web site. There were 59 questions written in English and 221 in Spanish. Of the total number of questions, some did not pertain to dialysis, transplant or the field of nephrology; those questions were referred to alternate information sources and/or Web sites.

The questions originated from anyone with a renal-related issue, not just consumers within TARC's boundaries; subjects included 9 transplant-related, 21 dialysis-related, 29 related to the category 'other renal.' The issues were diverse and included protein in urine, renal cysts, vascular access including fistulae, grafts and buttonhole technique, acute renal failure, quality of life and termination of dialysis.

The 221 Spanish questions included 19 transplant-related, 36 dialysis-related, 135 had 'no relation to renal' and 31 were 'other renal.' The topics in each area included living-related and non-related donor, renal insufficiency, and diabetes and hypertension.

Within the dialysis area, peritoneal dialysis, medications, congestive heart failure, vascular access aneurysm, creatinine clearance, life expectancy on dialysis and dialysis modalities were examples of issues addressed. The 'other renal' field contained such topics as new diagnosis of kidney disease, polycystic kidney disease, diabetes, hepatitis B blood results, and infections. In the 'no relation to renal' field, the subjects ranged from pregnancy, leukemia, hypertension, hypotension, heart transplantation to blood donation.

The report generated gave an overview of the number of visitors to the web site, by period:

Measure	1Q	2Q	3Q	4Q	Total
Visitors	18,262	14,787	18,874	14,669	66,592
Visits	29,843	25,543	35,239	26,791	117,416
Pages Viewed	149,198	100,925	157,117	149,673	556,913

Consumer Impact

Consumers should be afforded the opportunity to become educated about their disease and treatment options, standards of care, rights and responsibilities as well as those of caregivers so all participate in healthcare decision processes. Appropriate clinical management provides consumers with a better quality of life, reduced hospitalizations and less morbidity. TARC continued to contribute toward these outcomes.

D. Improve collaboration with providers and facilities to ensure achievement of goals A through C through the most efficient and effective means possible, with recognition of the differences among providers and associated possibilities/capabilities.

Establish and Improve Partnerships and Cooperative Activities

CMS encourages networks to establish and enhance partnerships with other health agencies and groups. TARC collaborated with CMS regional offices, state survey agencies, New Jersey and Puerto Rico Departments of Health, other sections of government, quality improvement organizations, the New Jersey Renal Administrators, American Nephrology Nurses Association (ANNA), insurance carriers, and interested agencies to improve the quality of care provided to consumers.

These activities included sharing information with other agencies and referring appropriate quality of care issues. Members of ANNA, insurance carriers and the quality improvement organization actively participated in the chronic kidney disease coalition task forces to improve fistula placement and identify early kidney disease.

Health and safety problems and complaints were referred to the appropriate state agency for investigation and resolution. TARC held telephone conferences with state agency personnel in New Jersey, Puerto Rico and the Quality Improvement Organization (QIO) in Virgin Islands. TARC worked closely with the NJQIO on two educational programs. The first was a Webex for hospital stakeholders on CKD and early fistula placement. The second involved a countywide fistula first improvement project. Collaborative efforts with the PRQIO enabled TARC to meet with three local fiscal intermediaries in Puerto Rico and to meet with the staff of the Secretary of Health to encourage the passage of the estimated glomerular filtration rate (e-GFR) legislation in Puerto Rico. TARC sent the state agencies copies of TARC's annual report and pattern analysis reports.

TARC met its responsibility to partner with other governmental agencies and contractors to enhance the safe and therapeutic delivery of renal services.

Coalition

In March 2005, CMS introduced the *Strategic Partnership for Change* initiative to ESRD networks. The goal of the program was to *…ensure optimum quality of care along the continuum of Chronic Kidney Disease (CKD/ESRD) and End Stage Renal Disease by using coalition and partnership building as strategic tools*. The coalition structure and mission were introduced to the TARC's renal community.

The New Jersey Renal Coalition was formed with two tasks forces - the professional and patient/consumer education groups. Members included nursing administrators, insurance carriers, the New Jersey Department of Health, New Jersey Healthcare Quality Strategies Organization, American Nephrology Nurses Association, American Dietetic Association, New Jersey Hospital Association, New Jersey Nephrology social workers and other interested groups. The task forces met quarterly in person or by conference call. Periodically, the groups met jointly to discuss projects and progress.

The professional task force distributed quarterly vascular access medical director report cards to all dialysis facilities in New Jersey and supported the first coalition CKD primary care physician program for which more than fifteen hundred invitations were mailed to primary care practitioners,

cardiologists, endocrinologists and internists throughout Monmouth and Ocean counties. Guest speakers included Senator Fred Madden, sponsor of New Jersey's GFR legislation, Gerald Appel, MD, Professor of Clinical Medicine, Columbia University, College of Physicians and Surgeons and NY Presbyterian Hospital who presented *New Trends For Early Treatment Of Chronic Kidney Disease And It's Co-Morbidities.* More than 80 physicians, physician assistants, nurse practitioners and nurses attended the meeting.

The patient education task force held two patient education programs in May and October 2007, partnering with the Renal Support Network and the New Jersey Healthcare Quality Strategies organization. A patient guest speaker from the Renal Support Network spoke on *Taking Charge and Adding Life to Your Years* and coalition members presented *Planning Ahead for Vascular* Access. The target audience selected for the initial programs was central and northern New Jersey.

Cooperative Activities

Fistula First

The New Jersey Healthcare Quality Strategies organization collaborated with TARC to develop a WebEx presentation on chronic kidney disease and early fistula placement. On April 25, 2007,Toros Kapoian, MD chairman of TARC's Board of Trustees presented *Becoming a CKD Center of Excellence.* The WebEx was well attended with a total of 108 participants. Sixty-nine percent of the attendees completed the evaluation and 87% acknowledged an increased level of information based on the presentation.

In an effort to promote changes at a system level the *Fistula Gram* newsletter was mailed to all county medical societies, chiefs of medicine and chiefs of surgery at acute-care hospitals as well as all renal facility staff.

Transplantation

TARC participated in planning the transplant designee conferences held in 2 locations in New Jersey. The program was developed in collaboration with the Saint Barnabas Healthcare system and held on March 27 and April 10, 2007. TARC staff shared its annual report with organ procurement organizations serving the various geographical sections of New Jersey, Puerto Rico and the US Virgin Islands.

Emergency/Disaster Preparedness and Response

In 2007, TARC continued to enhance the Patient and Provider Continuity and Contingency Plan, a network-specific plan that outlines TARC's responsibilities related to emergency and disaster preparedness and response.

Contents included information for New Jersey, Puerto Rico and the U.S. Virgin Islands:

- TARC's emergency disaster preparedness and response policy;
- Universal codes for networks; Emergency network staff contacts;
- Facility contacts by state, county and affiliation (large dialysis organization, hospital based or independent);
- Emergency state contacts; NJ/PR/VI utility contacts; NJ/PA generator retail locations;
- List of patients by zip codes and age group; and List of network executive directors.

TARC staff participated in the national Kidney Community Emergency Response Coalition and became a member of the NJ Special Needs Advisory Panel (NJSNAP). TARC worked collaboratively with New Jersey Senator Fred Madden who facilitated the organization of the

ESRD Disaster Preparedness Planning Committee. The committee included multiple divisions of the New Jersey Department of Health and Senior Services, the New Jersey State Police, the office of Homeland Security and Preparedness and other key stakeholders throughout the state. On November 29, 2007, the first statewide ESRD Disaster Preparedness Planning Committee met and established the framework for the inclusion of people with ESRD in the state disaster plan.

Water Treatment

TARC assisted local water companies by alerting facilities when the routine disinfection process changed from chloramines to free chlorine and vice versa and/or if the water was supplied through a different source.

A representative of the water company was included in the ESRD Disaster Preparedness Planning Committee.

Effectiveness

TARC's collaborative activities strengthened relationships with organizations within and outside the renal community. Opening the doors of communication with outside agencies helped increase awareness of the special needs of the dialysis consumer and treatment facilities.

TARC held quarterly conference calls throughout the year with representatives from each state survey agency. Issues discussed included quality improvement activities, complaints and grievances, patient safety, quality of care issues and the Fistula First Initiative. The New Jersey and Puerto Rico state agencies added Fistula First inquiries to the survey process.

TARC increased cooperative efforts with the Healthcare Quality Strategies organization in New Jersey and the Quality Improvement Professional Research Organization of Puerto Rico. All worked together on Fistula First activities.

The CMS Regional Office in New York and the Virgin Islands Medical Institute worked collaboratively with TARC on quality of care and patient safety issues.

TARC also partnered with public utilities to notify dialysis centers in a geographic region of changes to the water treatment process.

TARC staff worked with the Community Education and Clinical Practice task groups of the National Fistula First Breakthrough Initiative, assisted with material preparation and participated in the monthly core group conference calls.

The New Jersey Renal Coalition raised the awareness of those outside the renal community and included many new partners. State agencies, insurance carriers, Healthcare Quality Strategies organization hospital staff, American Nephrology Nurses Association, American Dietetic Association, New Jersey Renal Administrators, all participated in coalition activities.

Consumer Impact

Collaboration and partnerships have become integral to TARC's activities and will play an even more vital role in the future. The heart of the renal care team remains the patient. One of TARC's primary roles is to ensure appropriate care across the continuum of care by building new partnerships. Continuity, collaboration and communication and their influences on the care of the patient population are vital to the program's success.

E. Improve the collection, reliability, timeliness, and use of data to measure processes of care and outcomes; to maintain a patient registry; and to support the goals of the ESRD Network Program.

a. Collect, validate and analyze data for the preparation of reports and assure the maintenance of a national ESRD registry.

b. Submit an annual report to the Secretary.

- Each facility will monitor forms submission and maintain the required timeliness and accuracy rates of 90%.
- Each facility will promptly address data discrepancies identified by TARC.

Supportive Activities

The goal of improving standardization of information management within TARC consists of several measures.

SIMS

SIMS is an integrated system that provides communication and data-exchange links among the networks, facilities, and CMS. Each network has a local database where patient, facility, and facility personnel data are entered and maintained. Through an automated data transfer application, the SIMS database was replicated to the central repository on a nightly basis. Replication was checked daily to assure that the process occurred successfully. The replication process was monitored, performed reliably on a daily basis and was documented on a quarterly basis in TARC's logs.

SIMS has the capability to produce various reports used by facilities to ensure facility-reporting accuracy. In particular, the annual CMS-2744 form was completed, and used to validate patient activity throughout the year. The validated data is patient-specific and provides elements such as age, race, sex, ethnicity, diagnosis and modality/setting of care, as well as patients' county and state of residence. This information was used to reconcile TARC's database.

SIMS was also used for receiving and processing notifications from CMS. Notifications are records in which particular elements, such as patient date of birth, date of death, first name, HIC number, most recent transplant date, most recent transplant failure date, sex, social security number, or surname are found to be different than what is on file with the Social Security Administration. TARC sent these records to the appropriate facility once each month, where the facility verified the data, and returned to the network office the correct information.

All data discrepancies were reviewed for validity and accuracy through notifications and discrepancies were resolved within the SIMS database. This process was run on a monthly basis. Data clean-up activities were also run on a monthly basis; utility logs showed resolved queries and any that needed to be addressed.

To accomplish accurate and timely data reporting, all facilities notified TARC of all patient status changes on a monthly basis. Any changes in the dialysis caseload were noted, including:

- Newly-diagnosed consumers who started a regular course of dialysis;
- Changes in modality during the month (e.g., hemodialysis to CAPD);
- Changes in setting during the month (e.g., facility patient who started home dialysis);
- Transfers into or out of the facility during the month;
- Returns to dialysis after renal transplant grafts failed;

- Restarts to dialysis after temporarily regaining kidney function;
- Patient deaths;
- Discontinuation of dialysis treatment;
- Patients who became lost to follow-up; and
- Patients who regained native kidney function to the extent that dialysis was stopped.

Data Reconciliation

Input forms employed to maintain TARC's patient-specific data system included:

- Monthly Caseload Changes/Census form
- Chronic Renal Disease Medical Evidence Report (CMS-2728)
- ESRD Death Notification form (CMS-2746)

Forms used to check and reconcile data that were submitted as required, included:

- ESRD Facility Survey (CMS-2744)
- Accretions lists from CMS
- Notifications from CMS
- Federal REMIS web site

TARC staff validated and monitored the accuracy and timeliness of data submissions from all dialysis and transplant programs in New Jersey, Puerto Rico and the Virgin Islands. Facility compliance was monitored for each of the federal medical information system forms listed. Semiannually, the data file was run through customized programming. Two aspects of facility feedback were generated for each of the required forms:

- Compliance rate summary report
- Detail of each form submitted

The compliance rate summary report presented calculations of the total number of forms transmitted, the number of forms submitted that were within the 30 or 45 day goal, the number of forms with errors and the percent compliance by each facility. The detail report generated patient-specific information on each form.

Forms compliance reports were distributed to facility administrators with the request that they positively recognize those employees who achieved the reporting goal of submitting forms within 30 or 45 days of events. Alternately, if the compliance reports reflected forms that were overdue and outstanding, administrators were expected to follow-up with their employees to correct factors that affected non-compliance.

CMS Notifications

CMS notifications are requests for patient database validity information. Each month notifications were sent to those facilities where discrepancies were noted by CMS. Facilities then reviewed the element in question and either reported the value as correct or provided to TARC with the corrected data element. The corrected/validated information was entered in the SIMS database, which ensured accurate data in the national database and REMIS.

Chronic Renal Disease Medical Evidence Report (CMS-2728)

The Chronic Renal Disease Medical Evidence Report form (CMS-2728) is the initial reporting form for all persons with end-stage renal failure who began a regular course of dialysis or had a renal transplant as a first form of therapy. The form was completed and submitted to TARC by facilities and veterans' administration hospitals according to federal regulations. Submission is expected within 45 days of the start of renal replacement therapy whether or not the patient applied at that time for financial coverage under the federal Medicare program.

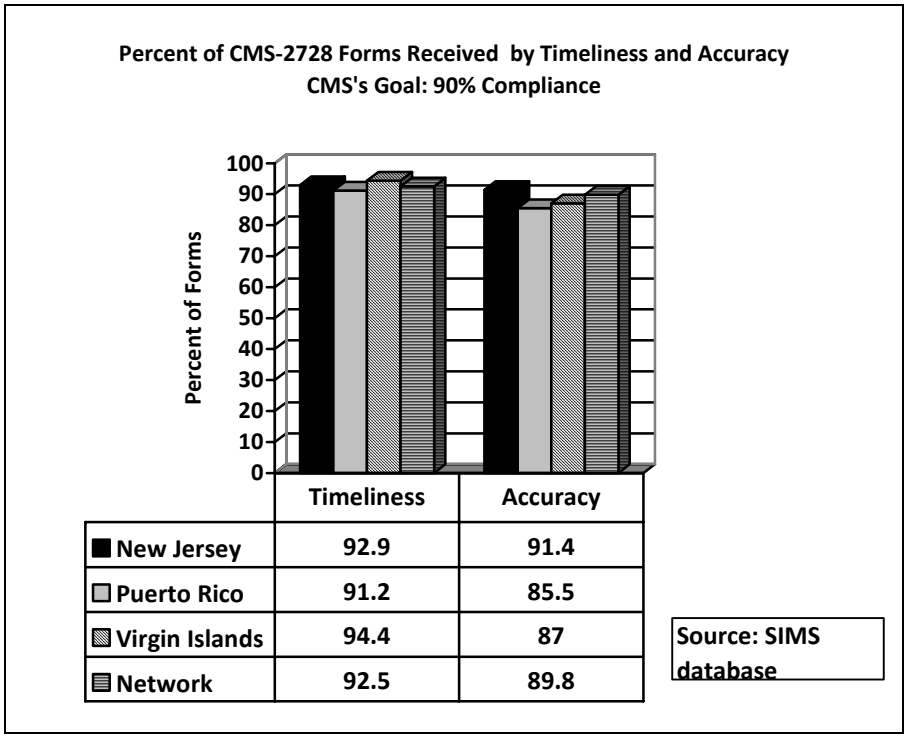
TARC staff entered data from the forms into computer software supported by the federal government. If data required on the form were missing or incompatible with CMS software, the form was rejected by the software and returned to the facility for correction.

TARC's dialysis facilities submitted 5,191 initial forms during the year; of these 4,801 (92.5%) were on time and 4,660 (89.8%) were accurate.

New Jersey facilities submitted 3,756 forms, of which 3,432 (91.4%) were completed accurately and 3,491 (92.9%) met CMS's timeliness criterion.

Facilities in Puerto Rico submitted 1,381 forms of which 1,259 (91.2%) were on time and 1,181 (85.5%) were completed accurately.

Fifty-four forms were received from the Virgin Islands of which 51 (94.4%) were on time and 47 (87%) were accurate.



	Timeliness	Accuracy
New Jersey	92.9	91.4
Puerto Rico	91.2	85.5
Virgin Islands	94.4	87
Network	92.5	89.8

Source: SIMS database

ESRD Death Notification form (CMS-2746)

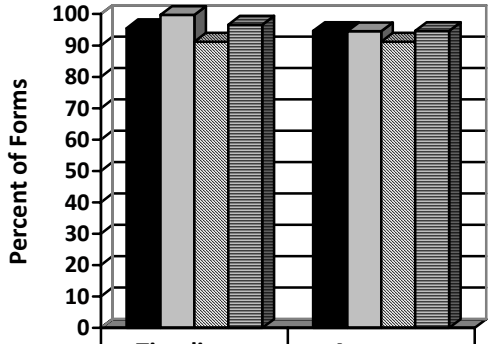
The ESRD Death Notification form is due within 30 days of a patient's expiration. TARC's facilities submitted 3,703 death notification forms during the year, of which 3,578 (96.6%) were on time and 3,502 (94.6%) were accurate.

New Jersey dialysis units submitted 2,616 death notification forms during the year, of which 2,497 (95.5%) were on time and 2,476 (94.6%) were accurate. New Jersey exceeded both the accuracy and timeliness requirements.

Puerto Rico's dialysis programs submitted 1,053 death notification forms of which 1,050 (99.7%) were on time, and 995 forms (94.5%) were completed accurately. Puerto Rico exceeded the goal for accuracy and timeliness.

The 3 Virgin Island facilities submitted 34 death forms of which 31 (91.2%) were received on time and 31 forms (91.2%) were completed accurately. Virgin Islands facilities exceeded the timeliness requirement but fell short in the accuracy requirement.

Percent of CMS-2746 Forms Received by Timeliness and Accuracy CMS's Goal: 90% Compliance



	Timeliness	Accuracy
New Jersey	95.5	94.6
Puerto Rico	99.7	94.5
Virgin Islands	91.2	91.2
Network	96.6	94.6

Source: SIMS database

In addition to receiving, processing, and transmitting data reported on the federal medical information system forms, TARC maintained a patient tracking system (SIMS) that tracked end-stage renal disease consumers through changes in treatment modality and setting. Changes in provider were also tracked. These activities were necessary to support federal quality projects and special studies. Monitoring patient events was also necessary for the reconciliation of the annual federal ESRD Facility Survey, preparation of facility profiles for goal achievement in home dialysis use and referral, and local quality of care improvement efforts.

Data accuracy and forms timeliness was reviewed biannually and documented. Both federal forms were profiled for compliance rate analysis.

UNOS

Renal transplant registrations and follow-ups were resolved through updates and verifications within the SIMS and UNOS databases. Data were received monthly from UNOS and entered into the SIMS database. Discrepancies were reviewed with transplant facilities and accurate reconciliation of patients was obtained through the SIMS report summary.

VISION

CMS requires that patient and physician signatures on 3% of all CMS-2728 (Medical Evidence Reports) forms submitted through VISION be verified annually. TARC received 2,125 CMS-2728 forms through VISION and thus were required to verify 64 forms; 66 forms were randomly requested and received from 33 facilities, all of which were signed by the physician. Patient signatures were verified on 65 forms, and after investigation, it was found that the remaining form was for a patient who had expired before signing the form.

REMIS

The federal REMIS system is an important component of the CROWN system and is based on federal billing records. Data entered into SIMS by TARC staff can be viewed there, as can data sent from sources such as CMS, the Social Security Administration, and UNOS. The data can be used to resolve discrepancies and complete patient event histories.

Network staff used the Alerts tool in REMIS to identify incorrect patient identifiers and maintain a more accurate data set. Out-of-area transfers were verified in this database.

Effectiveness

All tracking databases must have current, accurate information and facility cooperation is essential to this effort.

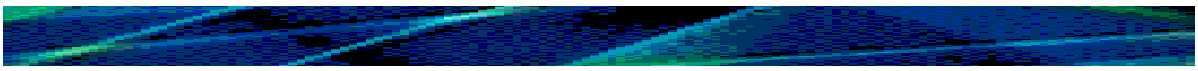
TARC provided facilities with forms compliance comparative data from 2005 to 2007 and held on-site remedial training for the nurse manager and the person responsible for completing the forms for facilities failing to attain an 80% combined compliance rate. TARC required 11 facilities to attend the two-hour program, which was held on October 30th and November 1, 2007. Technical assistance was provided to facilities that requested a review. During site visits, TARC staff discussed the commonly omitted items with the employee responsible for completing forms.

TARC continued to support VISION software by training facility staff in existing facilities when assigned staff changed. No new VISION facilities were trained in 2007.

Consumer Impact

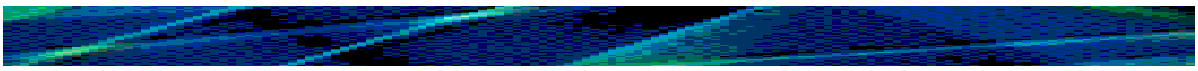
An accurate database is essential for the analysis of clinical indicators. Performance analysis activities utilize current, reliable data to monitor clinical patient outcomes. TARC's efforts to improve data accuracy enhanced data reliability and assured appropriate facility review with improvement plan oversight.

Accurate and timely reporting of patient data is essential for determining the starting date of Medicare coverage. TARC continued to maintain a database high in accuracy and timeliness.



IV. Sanction Recommendations

No facility sanction was recommended to federal officials.



V. Recommendations For Additional Facilities

In all three geographic areas, access to dialysis therapies is within reasonable travel distances from ESRD consumers' homes. No additional New Jersey, Puerto Rico, or Virgin Islands dialysis facilities were recommended.