E. Network Special Projects/Studies

Projects completed during 2009 included the following activities.

2008-2009 Hemodialysis Adequacy QIP - The following activities were designed as components of the quality improvement project to increase the percentage of hemodialysis patients who are adequately dialyzed.

The objective of the hemodialysis adequacy quality improvement project, which was part of the Clinical Performance Measures (CPM) project of the 2008-2009 Quality Improvement Work Plan (QIWP), was to ensure that facilities have a process in place to address adequacy of dialysis through monitoring URR in order to improve adequacy outcomes to at least the December 2007 overall Network performance of 88% of patients with adequate dialysis.

Network staff identified the medical director and head nurse as primary contacts for this QIP. They received instruction on the techniques of CQI for adequacy of dialysis QAPI development and received instruction on the use of the Hemodialysis Adequacy Template.

The facilities completed a Facility Barriers to Adequate Dialysis Questionnaire and submitted it to the Network. Network QI staff reviewed the results of the questionnaire to determine facility specific barriers and work with the facilities to develop action plans to address facility specific barriers. They received model policies and algorithms to address adequacy protocols from Network QI staff using those of dialysis facilities with high percentages of patients with URR ≥65 percent.

The facilities developed an action plan using the tools provided, including facility adequacy policies/procedures and submitted data and completed the “Needs Assessment Report” monthly via the Hemodialysis Adequacy Template data collection tool

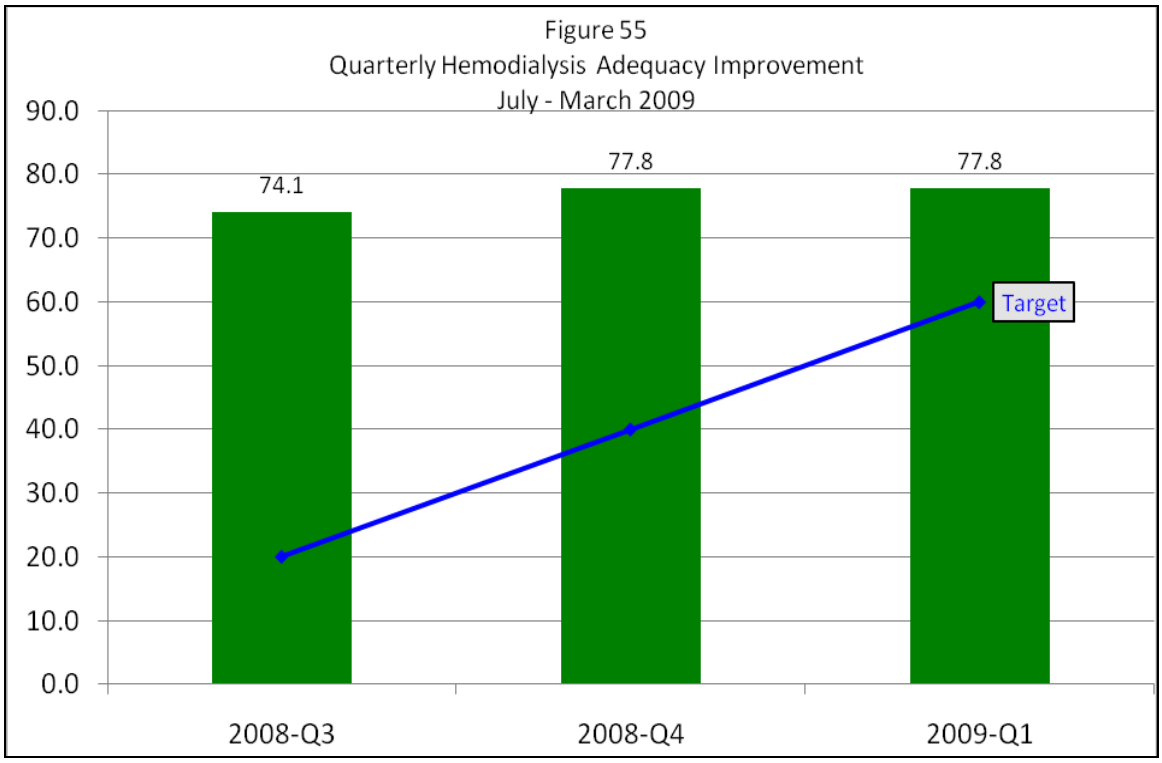
Targeted facilities were assigned a quarterly adequacy goal based on the target of 88%, minus their baseline rate and then divided by four. Facilities worked with Network staff to review facility-level and patient-level data monthly to track progress toward goal.

Goals and timeline for the 2008-2009 Hemodialysis Adequacy QIP:

- 20% of targeted facilities will improve to 88% of patients with adequate dialysis every quarter (60% by March 2009).
- 60% of the targeted facilities will meet or exceed the Network average of 88% of patients with adequate dialysis by March 2009.

Results: The Hemodialysis Adequacy QIP was successful with more than 20% of the targeted facilities improving each quarter and with more than 60% of the targeted facilities improving adequacy by March 2009.

Figure 55 displays the results of this project toward the project goal of 60% of the targeted facilities will meet or exceed the Network average of 88% patients with adequate dialysis at the end of the project, March 2009.



2008-2009 Anemia Management QIP - The following activities were designed as components of the quality improvement project to increase the percentage of patients

in the target zone (10-12 gm/dL) for hemoglobin.

All dialysis facilities in Network 9/10 were included in this QIP as part of the Network Specific Quality Improvement project of the 2008-2009 Quality Improvement Work Plan (QIWP).

Dialysis facilities received five resources:

1. FDA Statement on ESAs along with revised Network 9/10 goal for Anemia Management

2. Facility specific anemia data report based on 2007 Elab data with regional comparatives

3. The Hemoglobin Target Calculator (described in Section___) and instructions for use

4. MRB Recommendations to Medical Directors on achieving hemoglobin targets
5. Notice that ESA dosing algorithms from facilities that have a mean of 11 gm/dL and an appropriate percentage of patients within the 10 to12 gm/dL target was posted to the Network Web site

The MRB is recommended to all medical directors, physicians and nurse managers that:

1. Facilities track the monthly mean hemoglobin to ensure that this average is moving to the target (11gm/dl) recommended by the calculator.

2. Failure of the mean hemoglobin to fall below 11.5 gm/dL should prompt a review of the facility's anemia management protocol.

3. Facilities should compare the observed percentage of patients in each of the three monitoring ranges to the expected percentage identified by the calculator and make changes to the facility’s anemia management protocol as necessary.

Network staff provided anemia management educational material quarterly to keep facilities focused on the QIP and provided guidance and technical assistance to facility staff who request clarification/additional information.

Goals and timeline for the 2008-2009 Anemia Management QIP:

- The goal for Network 9 is to increase the percentage of patients with hemoglobin 10-12gm/dL to 52.2% by March 31, 2009. T

- The goal for Network 10 is to increase the percentage of patients with hemoglobin 10-12gm/dL to 50.3% by March 31, 2009. dL

Results: Both Network 9 and Network 10 were successful in improving hemoglobin between 10-12gm/dL. Network 9 improved to 58.6% of patients in the target range and Network 10 improved to 58% of patients in the target range using December 2008 data.

A new anemia project was developed for 2009-2010 targeting specific facilities and is described within "2009 – 2010 Quality Improvement Work Plan" below.

2009-2010 Quality Improvement Work Plan. During 2009, a Quality Improvement Work Plan (QIWP) was developed with the oversight of the MRB and the Board of Trustees. The QIWP described proposed quality improvement projects for the remainder of 2009 through the end of the contract year in 2010. The purpose of the QIWP was to describe quality improvement projects (QIP) designed to attain Network goals in these areas:

1. Fistula First
2. Anemia Management
3. Phosphorus Management
4. Hemodialysis Adequacy

For each QIP, the following topic areas were defined:

- Project Description
- Background/Justification
- Root Cause Analysis (RCA)
- Barriers Identified from RCA
- Goal for Change
- Numerator/Denominator
- Measurement & Frequency
- Threshold for Action
- Population Inclusion/Exclusion Criteria
- Project Design & Methodology
- Interventions
- Effectiveness & Sustainability
- Contacts
- References

2009-2010 Fistula First QIP - The following activities were designed as components of the quality improvement project to attain Fistula First goals and is part of the 2009-2010 Quality Improvement Work Plan (QIWP) for the Fistula First initiative.

Staff and MRB members conducted a root cause analysis in May 2009 to determine why Networks 9 and 10 failed to achieve a four percentage point and 3.9 percentage point increase, respectively, in prevalent fistula rates during the project period, respectively. The RCA included the analysis of:

- Fistula First dashboard data
- A vascular access coordinator (VAC) questionnaire
- Phone interviews with facility staff.

The root cause analysis identified three primary barriers in facility systems to the improvement of prevalent fistula rates.

1. High catheter rates due to
   - Incident catheter only
   - Large catheter only >90 day population
   - Poor fistula utilization

2. Patient refusal due to
   - Poor staff/patient communication skills
   - Patient lack of knowledge
   - Facility culture

3. Lack of communication between facilities and surgeons and hospitals

The Medical Review Board concluded that the seven-step project design outlined below is a successful intervention strategy for improving prevalent fistula rates and that larger numbers of facilities should be included to better effect Network-wide improvement. Additionally, a more aggressive approach to data feedback in the non-intervention facilities is needed to improve fistula rates in large populations.

This project incorporated a seven-step project model in three separate interventions: Changing Patient Culture, Decreasing Catheters and Community Partnerships.

The seven steps included:

1. Statistical analysis to identify facilities in need of intervention; facilities with outcomes that were at or below 50% prevalent fistulae.

2. Conducting root cause analysis with targeted facilities to discover barriers to improvement at the facility level.

3. Requiring action plans that align with facility QAPI projects addressing barriers from each facility targeted for intervention.

4. Providing monthly conference calls for QIP participants and learning sessions for targeted facilities on topics identified through the RCA.

5.

6. Collecting facility specific data through the fistula first dashboard and providing participating facilities with data feedback reports monthly.

7. Identifying benchmark facilities (defined as those facilities with either a fistula rate at goal or increasing by at least one percentage point per quarter) and sharing tools and resources with participating facilities.

8. Analysis of facility specific data monthly to determine which facilities are successfully achieving QIP goals and which facilities are in need of additional intervention.

These interventions combined with an aggressive approach to data feedback in the non-intervention facilities was used as the project design for this QIP. The following interventions have been developed:

Facility-Specific Targeted Interventions:

Facility medical directors, nurse managers, and VACs received an introductory letter outlining their poor performance and an overview of the project. Facility staff was asked to attend a “kickoff” WebEx describing the three intervention projects.

Facility staff was asked to complete a RCA to identify barriers to improving fistula rates in their facility. The results of the RCA were used to place facilities in one of the following interventions.

Three intervention projects have been developed to address the Network 9/10 barriers to facility systems improving prevalent fistula rates. Facilities participated in the project that best met their needs based on the completion of a facility-specific RCA.

Decreasing Catheters

(Network 9 n= 51 & Network 10 n= 28)

Facilities completed a root cause analysis identifying the reasons for a high catheter rate:

a. High percentage of new patients starting with catheter only

b. High percentage of catheter only >90 days

c. High percentage of catheters with maturing AVF (AVF utilization/maintenance)

d. Or other reason that is identified

The facilities were advised to initiate a process change that will address the barriers to decreased catheters/increased fistula in their facility. Network staff will provide specific tools and resources to assist in process change and plan development.

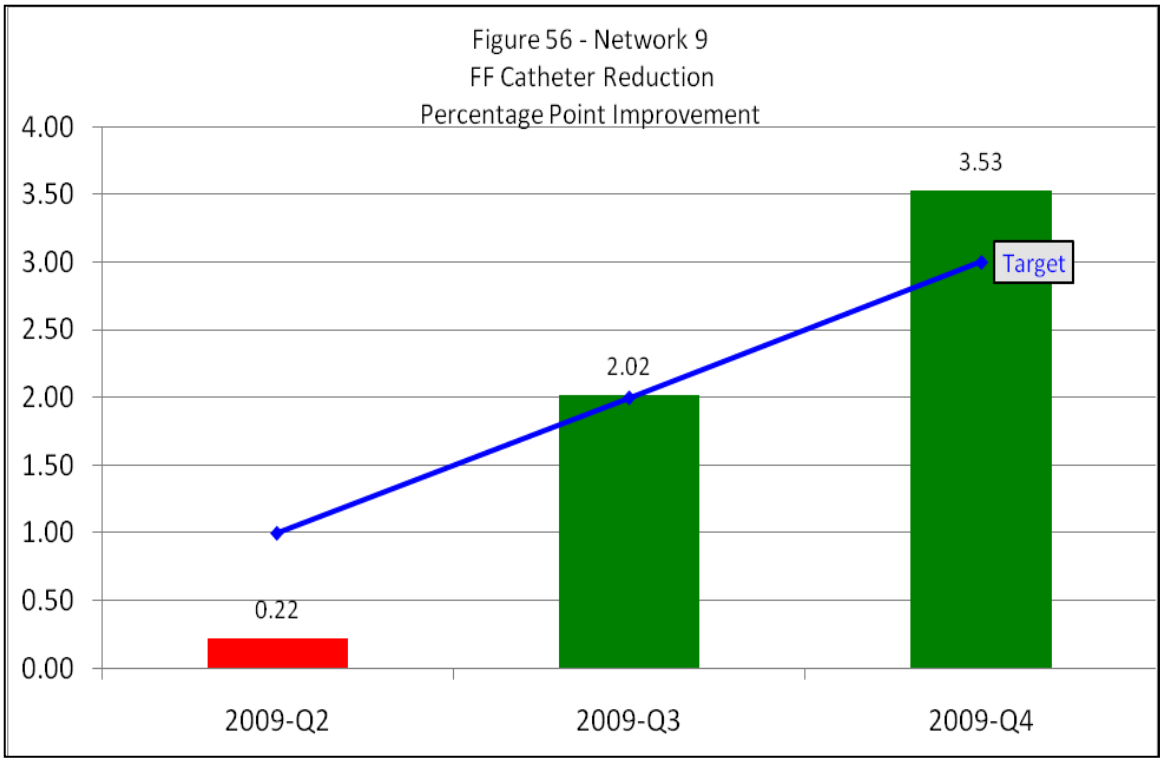
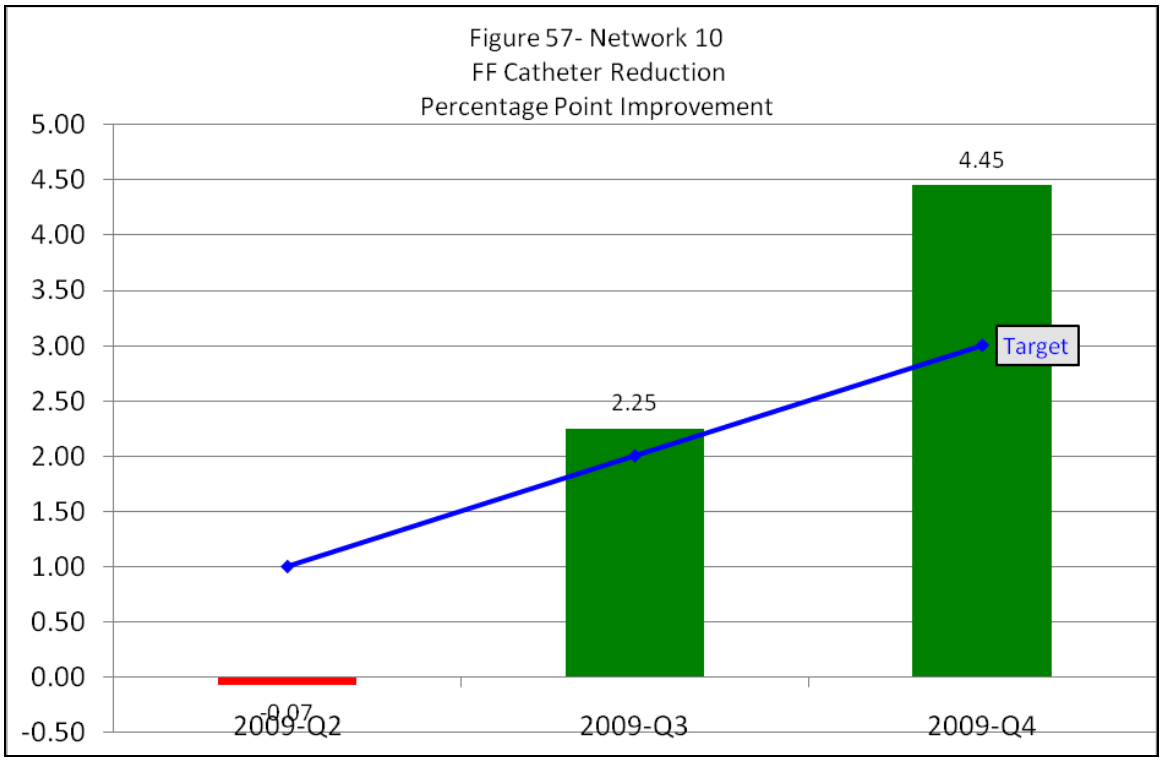


Figure 56 and Figure 57 display the results of the Decreasing Catheters project in the Fistula First project at the end of the year, December 2009 for Network 9 and Network 10.



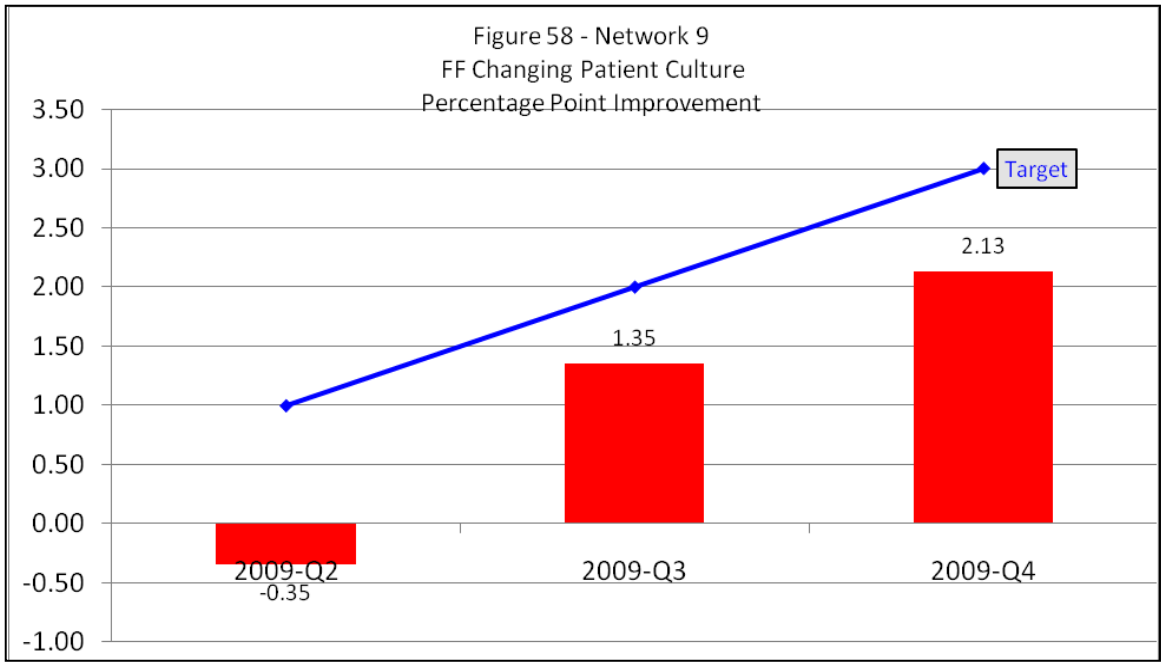
Changing Patient Culture
(Network 9 n= 16 &
Network 10 n= 12)

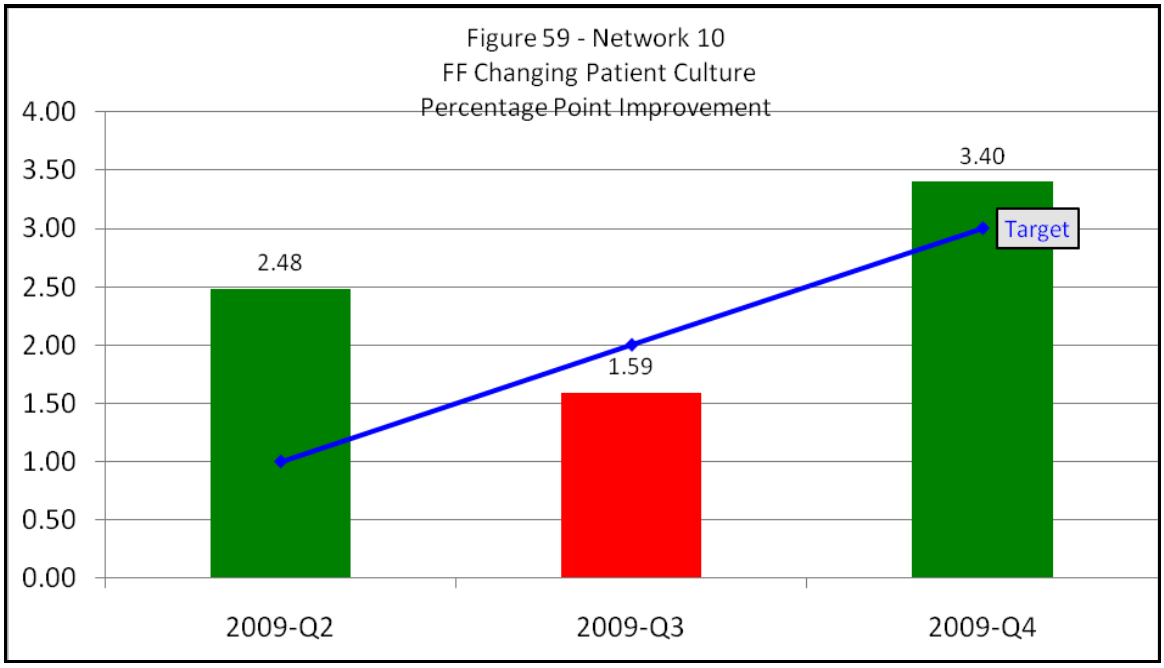
The Network developed and provided two products for use by the participating facilities:

a. "Helping Patients Make Healthy Fistula Choices" is a program designed to educate staff on techniques to help identify a patient's readiness to have a fistula placed or used and techniques in listening and empathy. Utilizing this teaching module will assist staff in discussing best care options with the patients. It will also identify patient fears and patient barriers to fistula placement and usage in order to assist staff in addressing those issues.

b. The Fistula Coaching Program is designed to promote the best vascular access choice among patients through peer-to-peer education, communication, planning and problem solving. The program is provided through a trained, facility-based, patient volunteer program. Utilizing this teaching module will identify a patient champion that will be able to have a dialogue with the patient opposed to a fistula to help that patient make a best care decision.

Figure 58 and Figure 59 display the results of the Changing Patient Culture project in the Fistula First project at the end of the year, December 2009 for Network 9 and Network 10.





Community Partnerships
(Network 9 n= 18 &
Network 10 n= 12)

Facilities will complete a root cause analysis identifying the external ESRD stakeholder(s) who are hindering fistula rate improvements which could include:

a. Vascular surgeon(s)
b. Nephrology office staff
c. Primary care physician
d. Hospital discharge planner
e. Acute dialysis staff
f. Other identified stakeholder

The facilities developed plans to build a mutually rewarding relationship with their identified stakeholders. Network staff suggested techniques to begin the partnering process and provided specific tools and resources to assist in the project.

Each project will be conducted over a seven month period with monthly activities that included:

- Intervention-specific conference calls for participant networking and technical assistance from Network staff
- Evaluation of facilities' monthly prevalent fistula rate increase (goal 0.33 percentage point) and reports to facilities
- Evaluation of project progress through the assessment of the facility vascular access management QAPI minutes

Additionally, each intervention will include the following educational activities:

- Month 2 -Facilities attend QAPI and Vascular Access Management I WebEx
- Month 3 - Facilities attend "Networking for Solutions" Learning Session
- Month 5 - Facilities attend QAPI and Vascular Access Management II WebEx

Figure 60 and Figure 61 display the results of the Community Partnerships project in the Fistula First project at the end of the year, December 2009 for Network 9 and Network 10.

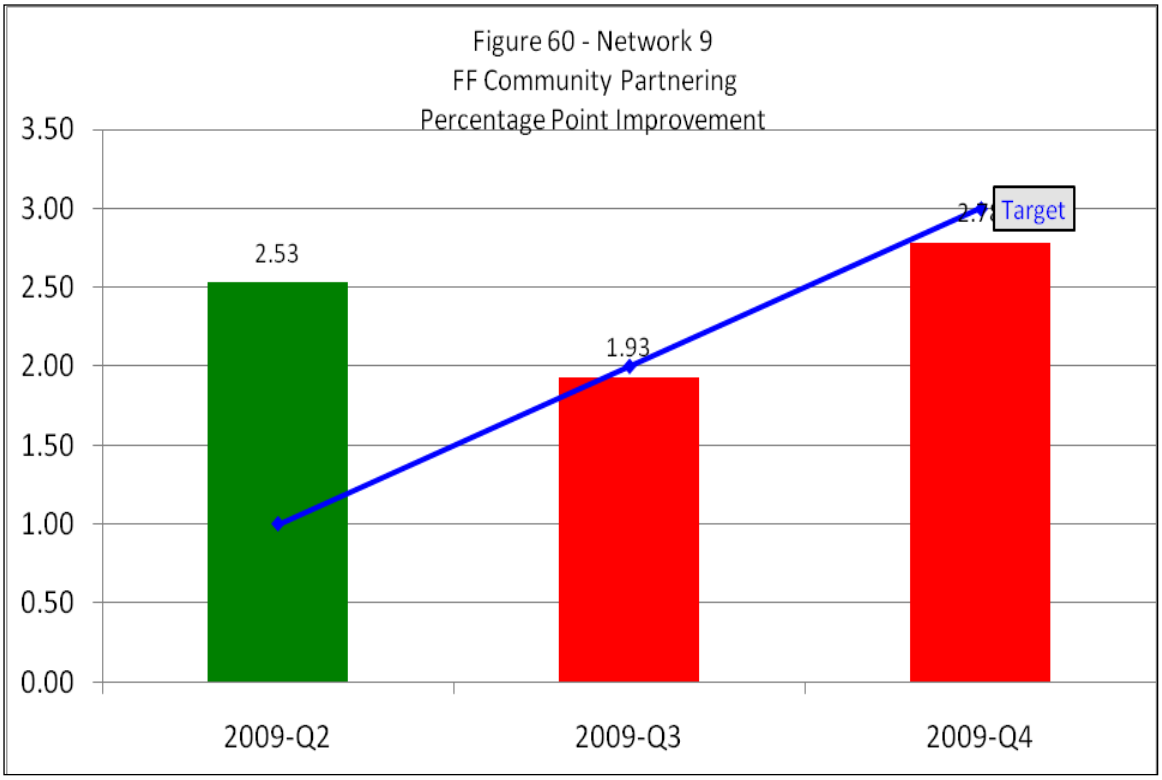


Figure 60 - Network 9
FF Community Partnering
Percentage Point Improvement
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
2.53
1.93
Target
2009-Q2
2009-Q3
2009-Q4

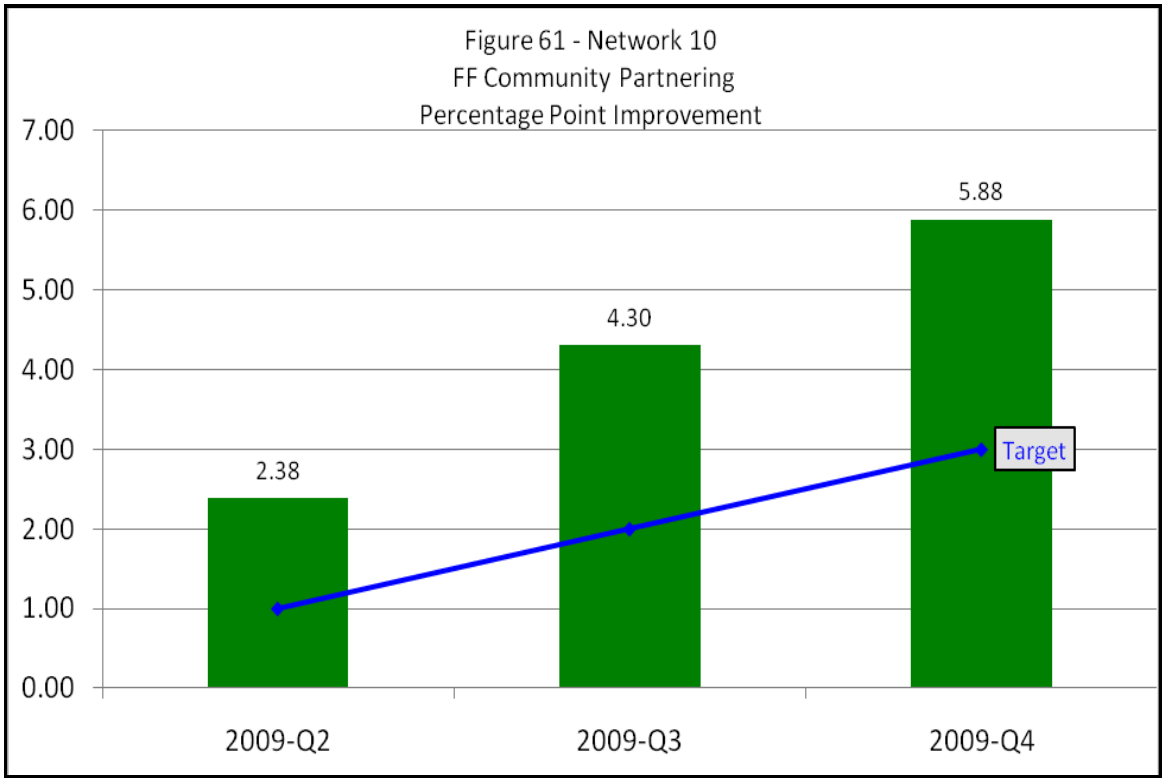


Figure 61 - Network 10
FF Community Partnering
Percentage Point Improvement
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
2.38
4.30
5.88
Target
2009-Q2
2009-Q3
2009-Q4

Network Wide Intervention:
Each facility medical director and vascular access coordinator in Networks 9 and 10 received:

1. A monthly outcomes feedback report which included:
   - Outcome expectation
   - Actual outcome
   - Poor outcome message calling for vascular access team review, or a congratulatory positive outcome message

2. Bi-monthly electronic newsletter which included:
   - Information on tools for changing facility processes
   - Important aspects of a successful QAPI program

3. Notification/invitation to educational programs:
   - Two QAPI WebEx conferences presenting best practice QAPI programs
   - One Fistula First Learning Session providing tools and resources on
   - Changing patient culture
   - Decreasing catheters
   - Partnering outside of the facility
   - Networking with peers

Performance Improvement Plan

Because CMS imposed a performance improvement plan (PIP) for failure to achieve 2009 vascular access goals, the MRB worked during the second quarter to strengthen quality improvement projects for improving fistula rates. Poor performers originally classified as a "comparison group" and not in a specific QIP were targeted for stronger intervention through RCA. A fourth QIP was added to the QIWP based on RCA.

Root Cause Analysis (RCA) Group
(Network 9 n= 61 &
Network 10 n= 18)

The newly targeted facilities were given an RCA tool designed to analyze their vascular access data and determine the cause of poor vascular access outcomes in their facility. They submitted the completed RCA tools to the Network for review and comment during November and December 2009. These facilities participated in the same interventions as the participants of the three original QIPs:

- Intervention-specific conference calls for participant networking and technical assistance from Network staff

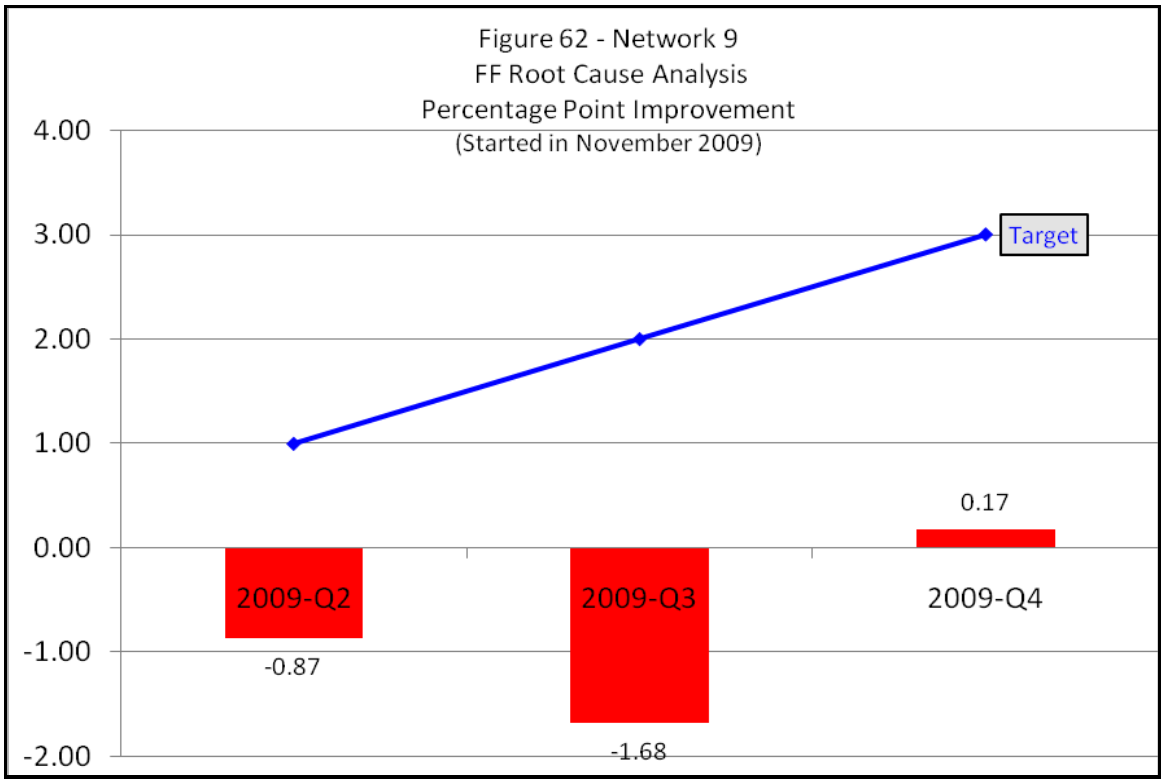
- Evaluation of facilities' monthly prevalent fistula rate increase (goal 0.33 percentage point) and reports to facilities

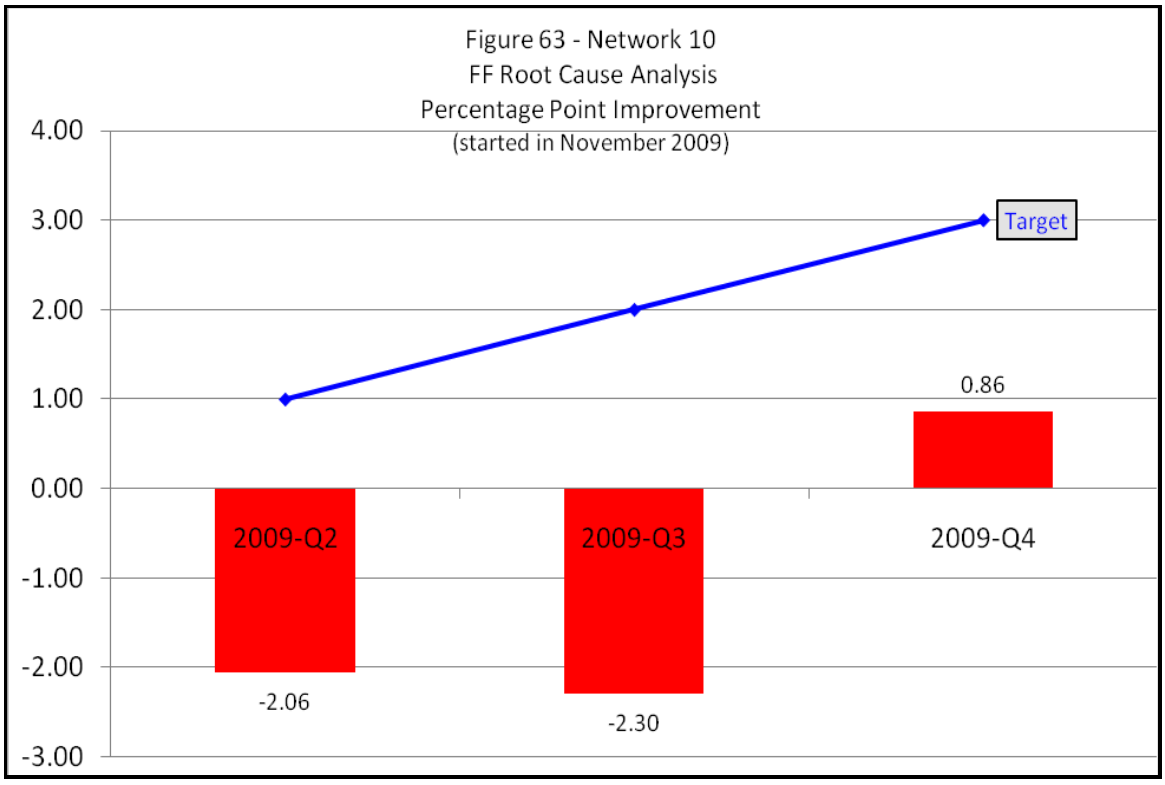
- Evaluation of project progress through the assessment of the facility vascular access management QAPI minutes

This intervention also included the following educational activities:

- Facilities attend "Networking for Solutions" Learning Session
- Facilities attend QAPI and Vascular Access Management II WebEx

Figure 62 and Figure 63 display the results of the RCA project in the Fistula First project at the end of the year, December 2009 for Network 9 and Network 10.





The addition of the RCA facilities has increased QIP participation numbers. Participating facilities increased in October 2009 to 216 or approximately 38% of all the facilities in Network 9/10.

Goals and timeline for the Fistula First QIP were:

- Network 9: to increase the percentage of prevalent patients with a fistula by one percentage point each quarter for an increase of at least 3.7 percentage points to reach 51.5% by March 2010.

- Network 10: to increase the percentage of prevalent patients with a fistula by one percentage point each quarter for an increase of at least 3.7 percentage points to reach 53.0% by March 2010.

Anemia Management QIP - The following activities were designed as components of the quality improvement project to increase the percentage of patients in the target zone (10-12 gm/dL) for hemoglobin.

Nine dialysis facilities in Network 9 and nine facilities in Network 10 were included in this QIP as part of the CPM project of the 2009-2010 Quality Improvement Work Plan (QIWP).

This QIP addressed the problem of a continuing low percentage of patients within the hemoglobin target range of 10-12 gm/dL as defined in the erythropoietin product literature, KDOQI guidelines, and recommendations by CMS. This project addresses the lack of understanding within facilities of the differences between individual hemoglobin variability and population variability.

In order to achieve the maximum percentage of patients within the newly identified target range of 10-12 gm/dL facilities need to achieve mean hemoglobin of 11.0 gm/dL. In order to maximize the percentage of patients within the target, facilities need to avoid a situation where they will over correct for hemoglobin values outside the target range by too frequently altering the ESA dose in the mistaken belief that they can eliminate all patients either above 12.0 or below 10.0 gm/dL. Networks 9 and 10 determined the 95% confidence interval (CI) around the percentage of patients within the target range so that facilities could judge how well they were performing in comparison to the Network adjusting for facility size. Based on the analysis of ≥ 22,000 individual hemoglobin measurements in December 2003, for the average dialysis facility, 55.9% of patients can be expected to fall within the target range in any one month period. This value is based on facilities achieving mean hemoglobin of 11.0 gm/dL.

In May 2009 staff and MRB members conducted a root cause analysis. Based on information provided in the RCA and the expertise of MRB members, five barriers were identified to reaching goal:

1. Lack of awareness and understanding of the new FDA hemoglobin target range of 10-12 gm/dL

2. Failure to adapt ESA and iron dosing algorithms to new hemoglobin target range

3. Lack of awareness that based on the underlying distribution of the hemoglobin concentration in the population (all patients in the Network), one can reasonably expect to see specific percentages outside the target range and that this is dependent on facility size.

4. Impact of stops and holds of ESA doses vs. dosage reductions on variability within facilities

5. Contribution of hospitalizations to increased variability resulting in an increased

proportion of patients outside the target range

The project targeted nine facilities in Network 9 and nine facilities in Network 10. The project included the following steps:

1. Notify facilities that have been identified for inclusion in the project.

2. Provide educational materials and resources to describe the need for change in anemia management

3. Conduct a facility RCA to identify barriers to increasing the percent of patients in the hemoglobin target zone.

4. Provide tools for tracking and analyzing data

5. Share best practice models that use policies/procedures/processes of high performing facilities as benchmarks for participating facilities

6. Provide one on one technical support

The intervention included all of the following:

1. Facilities will be notified that they have been identified for inclusion in the project.

2. With the help of Network staff facility staff will conduct an RCA to identify barriers to increasing the percent of patients in the hemoglobin target zone.

3.

Interventions designed to address each barrier include:

a. The medical director and anemia management nurse at each participating facility received four resources:

- FDA Statement on ESAs along with revised Network 9/10 goal for Anemia Management
- Facility specific anemia data report based on 2008 Elab data with regional comparatives
- The Table of Expected Hemoglobin Rates and instructions for use
- MRB Recommendations to Medical Directors on achieving hemoglobin targets

b. The anemia management nurse received an excel spreadsheet that can be used to track monthly hemoglobin, ESA dose, TSAT, ferritin, iron dose, and hospitalizations. This spreadsheet allows the intervention facilities to calculate monthly average

hemoglobin and the variability of this hemoglobin, percentage of patients within the target range as well as the percentage of patients both above 12 gm/dL and below 10 gm/dL.

The medical director and anemia nurse were asked to determine if the percentages that they observed were similar to what they should expect using the Table of Expected Hemoglobin Rates.

The anemia management nurse was asked to provide facility anemia management protocols to the Network (ESA and iron dosing algorithms).

The MRB evaluated the facility ESA dosing algorithm using a tool written in Matlab. (This tool tests the robustness of the ESA algorithm by dosing 80 simulated patients.)

Additionally, using this Matlab tool provides a determination of what hemoglobin the facility should target using their ESA algorithm. This provides a comparison of the results of this process to ESA algorithms from facilities that are performing well.

c. The MRB evaluated the results of Matlab simulation for each facility along with their protocols for ESA and iron dosing in order to make recommendation for improvement.

d. Anemia management nurses provide QAPI minutes to the Network quarterly for review of activities/changes related to anemia management process.

e. The Network provides one on one technical support for changes to anemia management protocol.

Goals and timeline for the Anemia Management QIP were:

- To increase the percentage of patients in targeted facilities with hemoglobin 10-12 gm/dL to at least the Network 9/10 mean by March 31, 2010.
- Network 9 - at least five out of the nine intervention facilities will increase the percentage of patients with hemoglobin 10-12 gm/dL to at least 57.5% by March 31, 2010.
- Network 10 - at least five out of the nine intervention facilities will increase the percentage of patients with hemoglobin 10-12 gm/dL to at least 55.9% by March 31, 2010.

Figure 64 and Figure 65 displays the results of the Anemia Management project at the end of the year, December 2009 for Network 9 and Network 10.

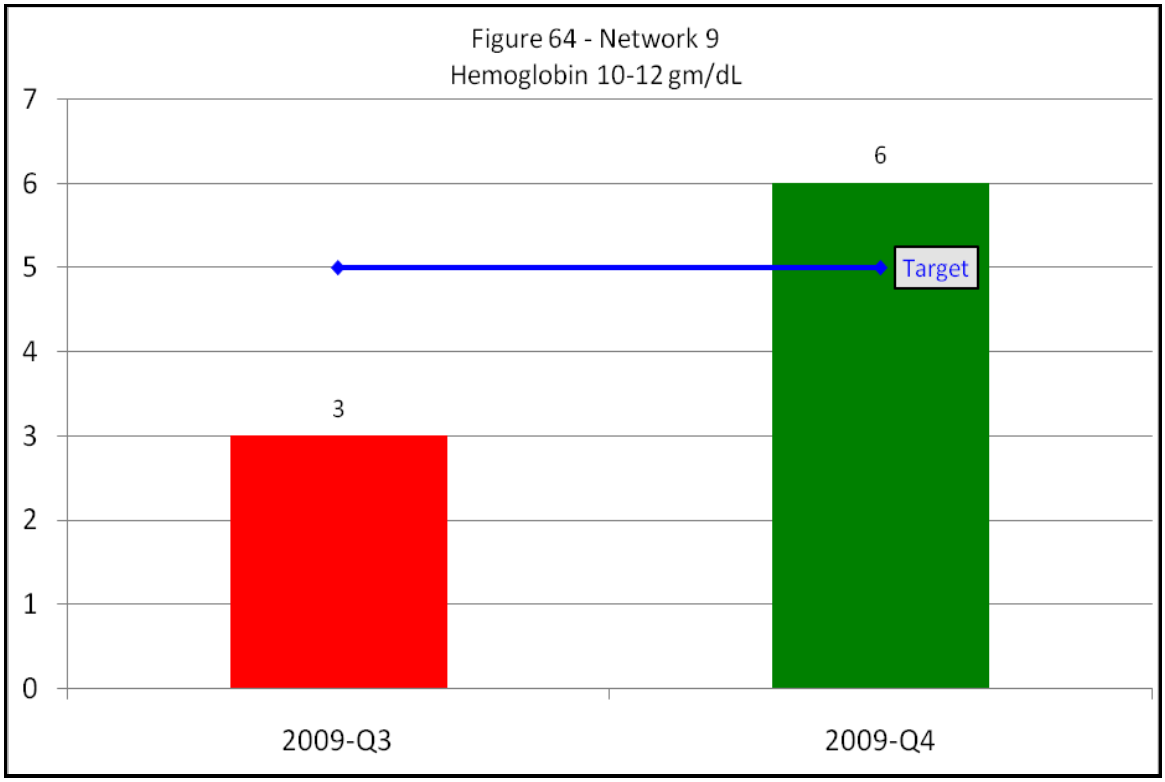


Figure 64 - Network 9
Hemoglobin 10-12 gm/dL
7
6
5
4
3
2
1
0
6
Target
3
2009-Q3
2009-Q4

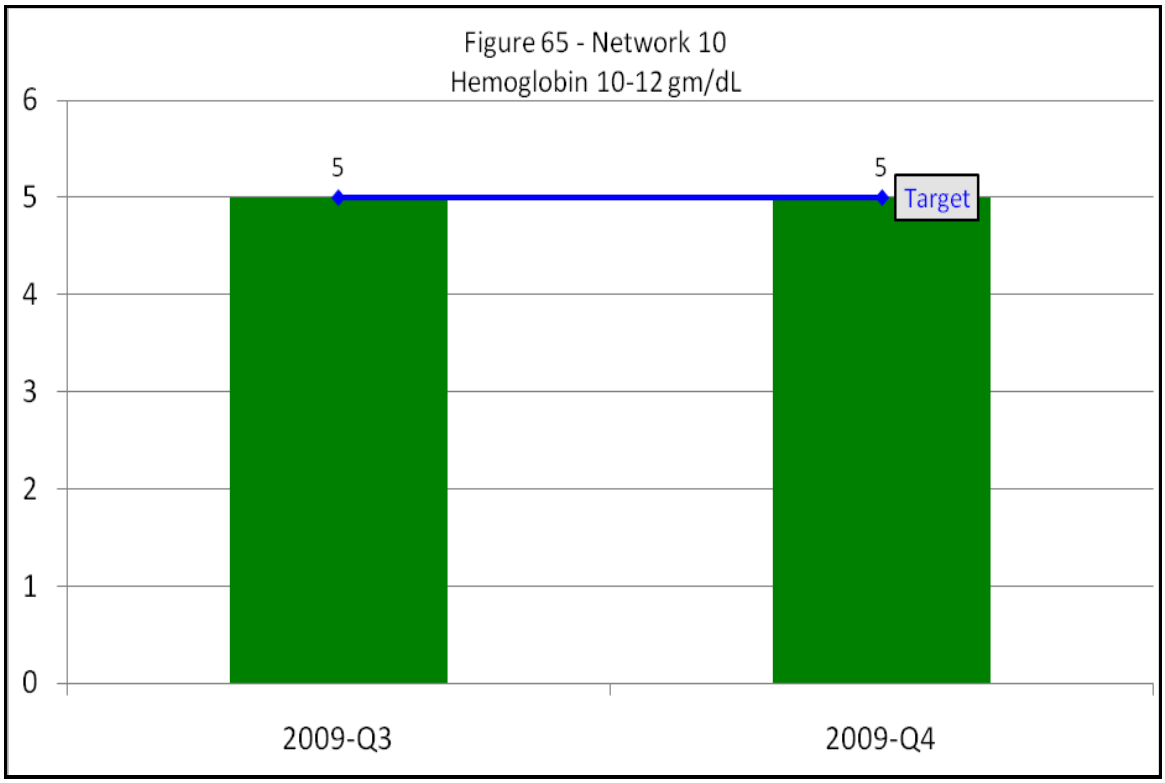


Figure 65 - Network 10
Hemoglobin 10-12 gm/dL
6
5
4
3
2
1
0
5
5
Target
2009-Q3
2009-Q4

Phosphorus Management QIP - The following activities were designed as components of the quality improvement project to increase the percentage of patients in the target zone (3.5 – 5.5 gm/dL) for phosphorus.

Sixteen dialysis facilities in Network 9 and 13 facilities in Network 10 were included in this QIP as part of the Network Specific project of the 2009-2010 Quality Improvement Work Plan (QIWP).

Phosphorus control is defined as serum phosphorus between 3.5 and 5.5 mg/dL. High serum phosphorus levels are associated with increased morbidity and mortality. Hyperphosphatemia also is involved in causing atherosclerotic heart disease, secondary hyperparathyroidism, and bone disease in renal patients.

A quality improvement project was developed aimed at increasing the serum phosphorus percentage in the 3.5 – 5.5 mg/dL range in dialysis patients using an educational program to reduce dietary intake of phosphate additives. The results of testing the proposed educational program were reported by Sullivan et al. in JAMA in February 2009 (JAMA. 2009;301(6):629-635).

The amount of phosphorus in the American diet has increased considerably, primarily from phosphorus-containing additives in convenience and ready to eat foods. Education regarding high phosphorus foods is a key component of hyperphosphatemia management, but the use of “hidden” phosphorus additives may make it difficult for patients and dietitians to estimate phosphorus content of foods. It has been suggested that hyperphosphatemia is a nutritional barrier to preventing renal bone disease and cardiovascular mortality and that an intervention focusing on phosphate containing food additives has great potential.

In May 2009, the MRB conducted a root cause analysis.

Based on the experience and discussion of the MRB membership, reasons for increased phosphorus were identified:

- Most of the public at large as well as dialysis patients are unaware of phosphorus additives in fast and processed foods.
- There is an increase in eating fast foods due to convenience and economics.
- Phosphorus is unseen and tasteless so patients are unaware of its presence in foods.
- Due to increased phosphorus intake patients can be prescribed

many binders which can be cost prohibitive.

- Dietitians have a larger number of patients to follow and educate with no specific tools or resources to assist in the education.

The following barriers to controlled phosphorus were identified:

1) Patients are not aware of phosphorus additives in foods

2) There is a high reliance on fast foods and convenience food items

3) Insufficient RD time to adequately educate patients with inadequate educational materials available

4) Phosphate binder non-adherence due to large doses and inability to afford binders

The design and methodology of this QIP is modeled after a project design reported in JAMA 2009;301(6):629-635. This project translates the method of a successful research intervention as described in the literature (JAMA) into clinical practice. It also provides the dietitian with educational tools to assist the patient with making appropriate and healthy food choices.

Facilities received the following for their own use:

- A report detailing the percentage of patients with phosphorus greater than 5.5 mg/dL based on the 2008 4^{th} quarter lab data.

Facilities received the following materials for dietitians to provide to patients:

- label reading instructions

- pocket magnifier to assist in reading fine print on nutrition labels

- list of phosphate additives to avoid

- lists of fast foods to avoid and recommended alternative fast foods

In the course of two educational sessions, dietitians instructed patients on how to read nutrition facts panels and ingredient lists to determine if foods contain phosphate additives. Dietitians determined which fast food restaurants are used by each patient and provided lists of additive-containing and additive-free (and appropriate for renal diet) foods at the restaurant. Patients were advised and encouraged to select phosphorus additive-free menu items at supermarkets and restaurants.

All participating facilities took part in the following interventions:

1. Dietitians were trained in the project methodology via an in-person training session held in a central location within the Network 9/10 region.

2. Dietitians provided the Network with a list of patient names and patient serum phosphorus levels for the current month as baseline.

3. The following interventions took place during the six month project period:

a. Patients received education materials describing:

- phosphorus additives and their effect on the phosphorus content of foods;
- a listing of common phosphorus additives;
- a pocket magnifier;
- fast food restaurant-specific handouts listing additive-containing foods to avoid and additive-free foods that are reasonable to include in the renal diet.

The educational materials and educational sessions with the dietitian informed the patients of the hidden phosphorus additives. Patients were educated on how to use the tools provided to identify the hidden phosphorus additives in fast foods and grocery stores in order to make more appropriate food choices.

b. Patients were instructed to use the materials when shopping or eating out to avoid phosphorous additives. Using the educational materials provided, dietitians instructed patients on the following:

- The phosphorus content of foods (naturally occurring and phosphorus-based food additives)
- How to read labels to identify presence of phosphorus-based food additives
- The phosphorus content and additives in fast food menu items
- How to limit foods containing naturally occurring phosphates, avoid foods containing phosphorus-based food additives, and alter fast food purchases (if applicable)

c. Providing the QIP educational materials to the RD gave them the resources to efficiently educate the patient on phosphorus additives. Conference calls were held with the participating facility dietitians to troubleshoot and answer questions and provide an update of new research or data on the topic of phosphorus-based

additives. These calls were used to promote ongoing motivation and enthusiasm for the project.

d. By educating the patient on hidden phosphorus additives, and giving patients tools to identify those additives, serum phosphorus levels should decrease and in turn the large doses of phosphate binders would be decreased alleviating the affordability factor.

4. During months one and three participating facilities sent to the Network patient-specific barriers to phosphorus control (i.e., nursing home/institutional resident, unable to purchase phosphorus binders, patient refused education, patient unable to be educated); date patient educated; dietitian-assessed level of patient interest rated using Likert scale (highly interested, moderately interested, slightly interested, not at all interested) by the last day of the month.

5. Each month all facilities sent the Network patient identified serum phosphorus levels by the 15th of the following month. Facility dietitians were expected to work with Network staff to review facility-level and patient-level data monthly to track progress toward goal.

6. Every other month conference calls were held with the participating facility dietitians to troubleshoot and answer questions and provide an update of new research or data on the topic of phosphorus-based additives. These calls were used to promote ongoing motivation and enthusiasm for the project.

Throughout the duration of the project, facility dietitians reinforced with patients the information contained in educational materials, address shopping and eating habits, and answer questions.

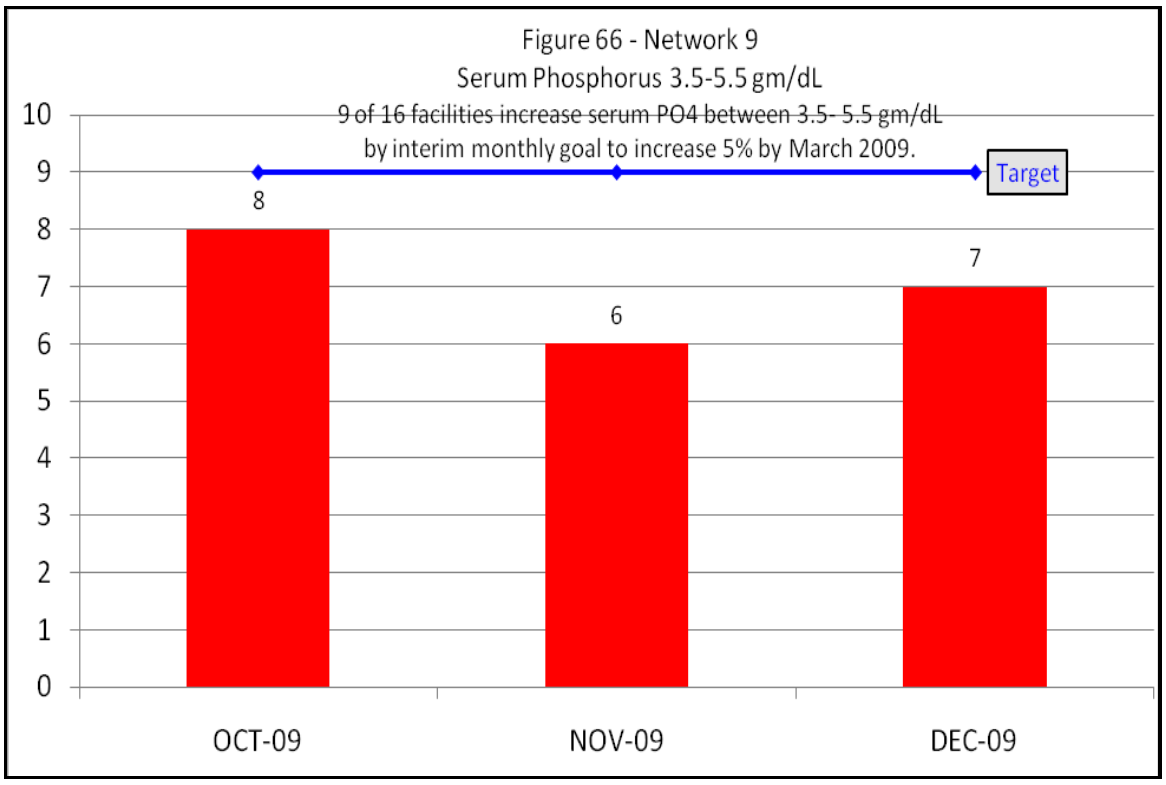
The Network staff assisted the dietitians in changing techniques and/or developing other actions to improve phosphorus control.

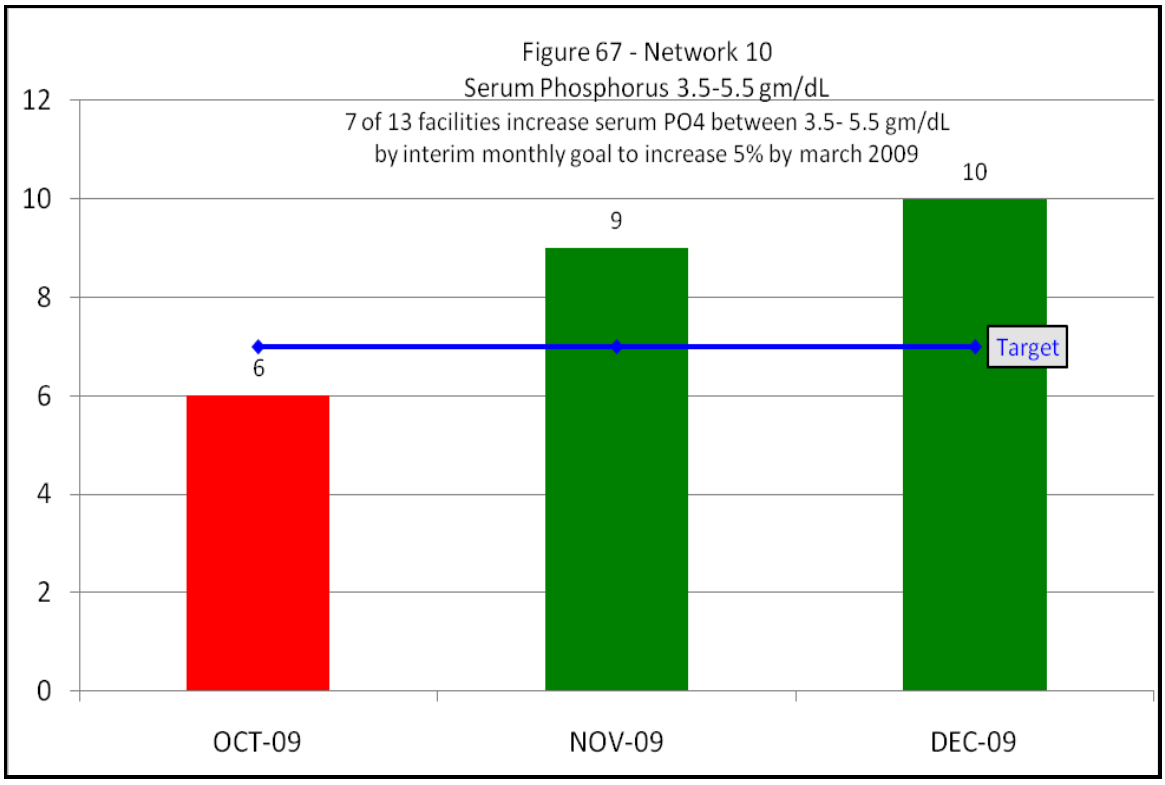
Goals and timeline for the Phosphorus Management QIP were:

- To increase the percentage of patients within participating facilities with serum phosphorus between 3.5 and 5.5 mg/dL by at least five percent by March 2010.
- Network 9 (Ohio) - At least nine of 16 participating facilities will increase the percentage of patients with serum phosphorus between 3.5-5.5 mg/dL by at least five percent by March 2010.
- Network 10 (Illinois) - At least seven of 13 participating facilities

will increase the percentage of patients with serum phosphorus between 3.5-5.5 mg/dL by at least five percent by March 2010.

Figure 66 and Figure 67 display the results of the Phosphorus Management project at the end of the year, December 2009 for Network 9 and Network 10.





Hemodialysis Adequacy QIP: The following activities were designed as components of the quality improvement project to increase the percentage of patients with Kt/V ≥1.2. There were twelve dialysis facilities in Network 9/10 (Network 9 = 10 and Network 10 = 2) that were included in this QIP as part of the Facility Specific project of the 2009-2010 Quality Improvement Work Plan (QIWP).

Hemodialysis adequacy is defined as Kt/V ≥1.2. In the 4th quarter 2008, 92% of patients in Network 9/10 had a three month reported mean Kt/V ≥1.2. Ten dialysis facilities in Network 9 and two dialysis facilities in Network 10 had dialysis adequacy rates below the MRB threshold of two standard deviations below the Network mean (83.6% Kt/V) raising concerns of inappropriate patient care.

In May 2009, staff and MRB members conducted a root cause analysis. The root cause analysis identified two barriers prevalent in the 12 underperforming facilities:

- Lack of a quality assessment and performance improvement (QAPI) process to track facility adequacy rates in Kt/V.
- Lack of policies and algorithms to monitor and adjust processes of care to improve the percentage of patients with Kt/V ≥1.2.

Telephone conversations with nurse managers at targeted facilities confirmed the lack of a structured QAPI program, lack of data collection and analysis initiatives, and lack of structured policies, processes, and/or algorithms to improve adequacy. The facilities could not make improvements in adequacy because they did not regularly review this measure.

The project design for this QIP included:

1. Providing quality improvement tools to facilities in the QIP for tracking and analyzing data
2. Collecting data from facilities monthly and reported facility specific data to facilities quarterly
3. Creating best practice models that compare process measures of high performing facilities with that of QIP participants
4. Providing one on one technical support from Network staff as needed
5. Collecting facility action plans
6. Conducting calls with facility medical director & staff, Network staff and MRB physicians

Head nurses and medical directors of participating facilities were expected to work with Network staff to review facility-level and patient-level data monthly to track progress toward goal. Facilities were asked to submit adequacy QAPI plans/minutes quarterly.

Specific intervention activities included:

- The medical director and head nurse were directed to the Hemodialysis Adequacy Template on the Network's Web site.
- They were asked to complete a Facility Barriers to Adequate Dialysis Questionnaire and submit to the Network. Network QI staff reviewed the results of the questionnaire to determine facility specific barriers and work with the facilities to develop action plans to address facility specific barriers.
- Medical directors and head nurses were asked to develop an action plan using the tools provided, including facility adequacy policies/procedures to be included in dialysis adequacy QAPI project.
- Nurse Managers received technical assistance as needed from Network staff assisting in identifying barriers, developing action plans, and completing dialysis adequacy QAPI minutes.

- Medical directors and head nurses received tools to address adequacy protocols and patient adherence issues.

Goals and timeline for the Hemodialysis Adequacy QIP were:

- 20% of the twelve targeted facilities in Network 9/10 will improve to 92% of patients with adequate dialysis every quarter (60% by March 2010).
- 60% of the twelve targeted facilities in Network 9/10 will meet or exceed the Network average of 92% of patients with adequate dialysis by March 2010.

Figure 68 displays the results of the Hemodialysis Adequacy project at year-end 2009. Both quarters exceeded the above stated goal with 50% and 58.3% respectively of the twelve targeted facilities in Network 9/10 improving to 92% of patients with adequate dialysis.