



Quality
Insights
Renal Network 4

2014 End Stage Renal Disease (ESRD) Network 4 Annual Report

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Executive Summary

In 2013, Quality Insights Renal Network was awarded the End Stage Renal Disease (ESRD) Network 4 contract, resulting in the founding of Quality Insights Renal Network (QIRN) 4. Since that award, the QIRN 4 staff has worked exhaustively to improve the lives of ESRD patients in Pennsylvania and Delaware.

The Networks' responsibilities are to achieve contractual requirements while striving to meet CMS' Three-Part Aim, which is to achieve: Better Care, Better Health, and Reduced Costs. Throughout 2014, QIRN4 successfully met CMS' Three-Part Aim by: engaging Network area patients, families and caregivers in Network 4 activities and listening to their voices; engaging Network -area patients in their dialysis; engaging Network area facilities to participate in quality improvement and quality monitoring activities; designing quality improvement projects that ultimately improve the care ESRD patients receive; collecting and analyzing data to drive quality improvement; providing technical assistance to patients who have ESRD; providing technical assistance to Network area ESRD providers and kidney transplant centers; and addressing patient grievances.

Some notable achievements in 2014:

- Increased Network 4 dialysis facilities' "Patient Representatives" by 745%, from 11 Patient Representatives in January of 2014 to 93 Patient Representatives in December of 2014;
- Worked alongside the Network 4 Patient and Learning Action Network (PLAN) to design and successfully carry out one Quality Improvement Activity and two Education Campaigns;
- Successfully reduced the long-term use of central venous dialysis catheters (catheters use for dialysis 90 or more days) while increasing the use of arteriovenous fistulas (AVF) for dialysis treatments in Network-area dialysis facilities;
- Effectively engaged 20% of Network-area facilities to improve infection prevention practices;
- Partnered with the Philadelphia Department of Health to assist dialysis facilities in Philadelphia Pennsylvania in improving infection prevention processes;
- Substantially improved the overall kidney transplant referral rates among patients with ESRD at selected dialysis facilities by 65%, while reducing an identified age disparity between patients younger than age 65 and patients age 65 and older by 595%.
- Assisted Network area patients and facilities to assure access to care for ESRD patients;
- Worked collaboratively with the Pennsylvania and Delaware Departments of Health to share issues and/or findings related to quality, access and coordination of care;

- Increased distribution of the QIRN 4 e-newsletter to twice a month. This publication informs Network area facilities of important CMS announcements, provides information on emergency preparedness and product recalls, shares best practices, highlights success stories and points the reader to current trends in the care of patients with ESRD;
- Updated our QIRN 4 website with a fresh new patient-friendly appearance based on solicited patient feedback;
- Successfully held a Network Council Annual Meeting in Hershey, Pennsylvania, on April 20, 2014.

As we reflect on our 2014 activities, the staff at QIRN 4 are inspired by the quality improvement achievements of our Network-area providers and other stakeholders. We look forward to continuing our partnerships and our progress in 2015. Looking ahead, we anticipate exploring new and innovative quality improvement opportunities with providers, patients, caregivers and other stakeholders. We will remain motivated and vigilant in helping Network-area providers to safely deliver high quality care while meeting the National Quality Standards (see <http://www.ahrq.gov/workingforquality/nqs/principles.htm>) and CMS' three AIMs for the ESRD Network Program which are Better Care, Better Health, and Lower Costs.

Introduction

CMS' End Stage Renal Disease Network Organization Program

The End Stage Renal Disease Network Organization Program (ESRD Network Program) is a national quality improvement program funded by the Centers for Medicare & Medicaid Services (CMS). CMS is a federal agency, part of the U.S. Department of Health and Human Services (HHS).

CMS defines end stage renal disease (ESRD) as permanent kidney failure in an individual who requires dialysis or kidney transplantation to sustain life.

Under contract with CMS, 18 ESRD Network Organizations, or ESRD Networks, carry out a range of activities to improve the quality of care for individuals with ESRD. The 18 ESRD Networks serve the 50 states, the District of Columbia, Puerto Rico, the Virgin Islands, American Samoa, Guam, and the Northern Mariana Islands.

Medicare Coverage for Individuals with ESRD

Medicare coverage was extended to most ESRD patients in the U.S. under the Social Security Act Amendments of 1972 (Public Law 92-603). Individuals with irreversible kidney failure are eligible for Medicare if they need regular dialysis or have had a kidney transplant and they meet (or their spouse or parent meets) certain work history requirements under the Social Security program, the railroad retirement system, or federal employment.

History of CMS' ESRD Network Organization Program

Following passage of the 1972 Amendments to the Social Security Act, in response to the need for effective coordination of ESRD care, hospitals and other health care facilities were organized into networks to enhance the delivery of services to people with ESRD.

In 1978, Public Law 95-292 modified the Social Security Act to allow for the coordination of dialysis and kidney transplant services by linking dialysis facilities, kidney transplant centers, hospitals, patients, physicians, nurses, social workers, and dietitians into Network Coordinating Councils, one for each of 32 administrative areas.

In 1988, CMS consolidated the 32 jurisdictions into 18 geographic areas and awarded contracts to 18 ESRD Network Organizations, now commonly known as ESRD Networks. The ESRD Networks, under the terms of their contracts with CMS, are responsible for: supporting use of the most appropriate treatment modalities to maximize quality of care and quality of life;

encouraging treatment providers to support patients' vocational rehabilitation and employment; collecting, validating, and analyzing patient registry data; identifying providers that do not contribute to the achievement of Network goals; and conducting onsite reviews of ESRD providers as necessary.

Network 4's Role in Improving the Quality of ESRD Care

Corporate Affiliations

Quality Insights Renal Network 4 (QIRN 4) is part of the West Virginia Medical Institute (WVMI) family of health care improvement companies. WVMI holds CMS contracts for the Quality Improvement Network Organizations (QINs) for the states of PA, NJ, DE, LA and WV and three End Stage Renal Disease (ESRD) Networks: the Mid-Atlantic Renal Coalition (MARC), Quality Insights Renal Network 3 (QIRN 3), and Quality Insights Renal Network 4 (QIRN 4).

By pooling common administrative services such as information technology (IT), human resources (HR), communications, and data/analytic and financial services, WVMI provides QIRN4 efficient centralized support while fielding highly-engaged and collaborative local staff that have developed trusted relationships with Network area health care provider communities and consumer organizations. QIRN 4 has used this infrastructure and approach to support its outward-facing, high-performing staff.

Geographic Description

QIRN4 is responsible for two neighboring states, Pennsylvania and Delaware, which are located in the Northeast United States. The states, although in close proximity, vary in size, population, concentration of ESRD providers as well as geographic characteristics.

Pennsylvania is made up of 67 counties that cover 44,827 square miles and as of December 31, 2014, a total of 17,132 patients were receiving dialysis services in the state of Pennsylvania. Those patients who were treated at an in-center hemodialysis center did so at either one of 278 Medicare-approved dialysis centers, a Medicare-approved Veterans Administration Medical Center (VAMC), or a non-Medicare-approved VAMC unit. Also to be noted, as of December 31, 2014, Pennsylvania was home to 8,019 kidney transplant patients who were being monitored by one of 17 Medicare-approved kidney transplant centers or a United Network for Organ Sharing (UNOS) approved kidney transplant center.

Delaware, the other state in Network 4's service area, is made up of three counties, spans 1,954 square miles and is the fourth smallest state in the country. Delaware's location provides patients with easy access to several of the major metropolitan areas of the Northeast, including Washington, D.C., Philadelphia, and Baltimore. As of December 31, 2014, a total of 1,590

patients were receiving dialysis services in the state of Delaware. Those who were treated at an in-center hemodialysis center did so at one of 25 Medicare-approved dialysis centers or at one non-Medicare-approved Veterans Affairs Medical Center (VAMC) unit. This state was also home to 2,773 kidney transplant patients who were followed at one of two kidney transplant centers.

The Network 4 area is home to 10,892 kidney transplant patients who receive health care at one of 20 kidney transplant units and also home to 19,103 chronic dialysis patients who receive dialysis services at one of 304 dialysis units (See Table A). Dialysis facilities in these states provide in-center care on a variety of days including weekends at various times throughout each day. 17% of the facilities in the Network 4 area offer evening dialysis treatments to their patients starting after 5:00 pm (See Table B).

Together, Pennsylvania and Delaware is made up of numerous densely populated urban areas with large suburban surroundings, as well as vast minimally populated areas of mountains and countryside.

Table A. Dialysis Facilities and Kidney Transplant Centers in Network 4's Service Area, as of December 31, 2014

Category	Number
Number of Dialysis Facilities in Network 4's Service Area*	304
Number of Kidney Transplant Centers in Network 4's Service Area*	20

Source of data: End Stage Renal Disease National Coordinating Center (ESRD NCC) report to ESRD Forum.

**Counts of dialysis facilities and kidney transplant centers may include a small number of facilities that closed during the calendar year but did not have a closing date recorded in the Consolidated Renal Operations Web-enabled Network (CROWNWeb) software as of December 31, 2014.*

Table B. Number of Dialysis Facilities in Network 4's Service Area and Number and Percent of Dialysis Facilities Offering Dialysis Shifts Starting after 5 PM, as of December 31, 2014

Category	Number	Percent
Number of Dialysis Facilities in Network 4's Service Area*	304	
Dialysis Facilities in Network 4's Service Area Offering Dialysis Shifts Starting after 5 PM*	52	17%

Source of data for number of dialysis facilities: End Stage Renal Disease National Coordinating Center (ESRD NCC) report to ESRD Forum.

Source of data for dialysis facilities offering dialysis shifts starting after 5 PM: NCC Gap Report "Shifts After 5 PM."

**Counts of dialysis facilities may include a small number of facilities that closed during the calendar year but did not have a closing date recorded in CROWNWeb as of December 31, 2014.*

QIRN 4's Role in Quality Improvement Activities

QIRN 4 support is critical to achieving bold CMS goals for health care transformation for the patient with ESRD. The role of QIRN 4 in leading transformation is evidenced by:

- Serving as convener, organizer, motivator, and change agent;
- Leveraging technology to provide outreach and education;
- Serving as partner in quality improvement with patients, practitioners, health care providers, other health care organizations, and other stakeholders;
- Securing commitments to create collaborative relationships;
- Achieving and measuring changes at the patient level through real time data collection, analysis and monitoring for improvement;
- Disseminating and spreading best practices including those relating to clinical care, quality improvement techniques, and data collection through information and data exchange;
- Providing emergency preparedness education and guidance for emergency situations as needed.

QIRN 4 fostered relationships with Medicare patients by:

- Ensuring representation of Medicare patients in shared decision making related to ESRD care in order to promote person-centeredness and family engagement;
- Protecting Medicare patients' access to and quality of dialysis care, especially among vulnerable populations.

QIRN 4 cultivated relationships with ESRD facilities by:

- Identifying opportunities for quality improvement at the individual facility level and providing technical assistance. Assists facilities in promoting all modalities of care, including home modalities and kidney transplantation, as appropriate, and assist facilities to promote patient independence and improve clinical outcomes;
- Facilitating processes to promote care coordination between different care settings ;
- Ensuring accurate, complete, consistent, and timely data collection, analysis, and reporting by facilities in accordance with national standards and the ESRD Quality Incentive Payment (QIP) program.

QIRN 4 actively participated in coordination and sharing across all 18 ESRD Networks as evidenced by:

- Using standardized procedures to collect quality improvement data and address grievances to promote consistency across Networks;

- Collaborating to share information such as patient migration across Network service areas to promote care coordination;
- Coordinating with regional Quality Improvement Organizations (QIOs) and other recognized subject matter experts in the quality improvement field;
- Sharing information to promote care coordination for ESRD patients;
- Sharing best practices to improve quality of care for ESRD patients, including involvement in national Learning and Action Networks (LANs).

QIRN 4 acted on behalf of CMS by:

- Conveying information from CMS to facilities on Department of Health and Human Services (HHS) and CMS goals, strategies, policies, and procedures including the ESRD QIP;
- Maintaining integrity of information and tone of messaging consistent with CMS expectation for entities acting on behalf of the agency;
- Interpreting and conveying to CMS or its designee information relevant to the ESRD health care system to assist with monitoring and evaluation of policy and program impacts including the effects of the ESRD QIP.

Network Goals

As required by Sections 1881(c)(2)(B) and 1881(c)(2)(H) of the Social Security Act, QIRN 4's Medical Review Board established and approved the 2014 Network Goals. These goals aligned with the HHS Quality Strategy, NQS, the CMS' Three-Part Aim, and other CMS priorities designed to result in improvements in the care of individuals with ESRD. In early 2014, all Network area facilities received a copy of the approved Network 4 Goals. After acknowledging acceptance of these goals, all Network-area facilities actively worked toward achieving the following goals:

AIM 1

To meet AIM 1: Better Care for the Individual through Beneficiary and Family Centered Care, all facilities in Network 4's service area will:

- Increase patient and family engagement at the facility level by:
 - Increasing beneficiary participation in plan of care meetings;
 - Ensuring facility Quality Assessment and Performance Improvement (QAPI) program includes and measures patient and family participation in facility decision making related to ESRD care.
- Promote patient-appropriate access to in-center dialysis care at the facility level by:
 - Decreasing Involuntary Discharges (IVDs) and Involuntary Transfers (IVTs);

- Assisting other health care providers in the placement of patients at risk for IVD or IVT.
- Maintain expected levels of clinical performance to meet or exceed the or Network performance standards for the clinical indicators. Identify opportunities for improvement through data analysis and the development of a comprehensive improvement plan to meet or exceed CMS and Network goals for patient vascular access by:
 - Increasing AVF-in-use rates in prevalent patients;
 - Increasing AVF-in-use rates in incident patients;
 - Reducing long-term use (90 days or longer of dialysis catheters in prevalent patients.
- Report Dialysis Events to the National Healthcare Safety Network (NHSN) every month.
- Participate in the (CDC) Healthcare-Associated Infection (HAI) trainings and/or quality improvement activities as requested by QIRN 4.

AIM 2

To meet AIM 2: Better Health for the ESRD Population, all facilities in Network 4's service area will:

- Improve kidney transplant coordination at the facility level by increasing kidney transplant referral rates for all patients regardless of age;
- Increase the percentage of patients vaccinated for influenza, pneumonia and hepatitis B;
- Increase the percentage of staff vaccinated for Influenza;
- Increase the utilization of home dialysis therapies.

AIM 3

To meet AIM 3: Reducing Costs of ESRD Care by Improving Care, all facilities in Network 4's service area will:

- Perform successfully on 2016 ESRD QIP measures.
- Facilities will display certificates containing their performance scores prominently in the facility:
 - This certificate serves to notify patients about the facility's performance on the ESRD QIP and how CMS used quality measures to evaluate the quality of care at the facility.
- Input/enter data accurately into CROWNWeb to meet CMS and Network timelines.
 - Dialysis facilities must submit the following forms electronically in CROWNWeb:
 - CMS-2728 (Medicare Entitlement and/or Patient Registration): CMS-2746 (Death Notification).
 - CMS-2744 (ESRD Annual Facility Survey): Assure that the facility's unit personnel data are up-to-date and accurately identify the facility

administrator, medical director, nurse manager, social worker, dietitian, nephrologists, etc.

- Process and address items on the facility “Action List” in CROWNWeb (i.e., Notifications/Accretions) regularly.

At the conclusion of 2014, all Network-area facilities demonstrated success in working toward and meeting the approved 2014 Network 4 goals.

Profile of Patients in Network 4's Service Area

The ESRD Network Program collects data on incident (new) ESRD patients, prevalent (currently treated) dialysis patients, and kidney transplant recipients and stores them in a database known as CROWNWeb. CROWNWeb identifies patients' clinical characteristics, including primary cause of ESRD, treatment modality, and vascular access type. Table C below summarizes the clinical characteristics of the ESRD patient population in Network 4's service area for calendar year 2014. A more in-depth representation of this information can be found in 2014 Network 4 Data Tables (List of Network-Area Data Tables).

Table C. 2014 Clinical Characteristics of the ESRD Population in the Network 4 Area

Category	Number	Percent
Incident (New) ESRD Patients		
Number of Incident ESRD Patients, Calendar Year 2014	5,251	
Primary Cause of ESRD among Incident ESRD Patients		
Diabetes	2,177	11%
Glomerulonephritis	340	2%
Secondary Glomerulonephritis/Vasculitis	110	1%
Interstitial Nephritis/Pyelonephritis	147	1%
Hypertension/Large Vessel Disease	1370	7%
Cystic/Hereditary/Congenital Diseases	149	1%
Neoplasms/Tumors	158	1%
Miscellaneous Conditions	455	2%
Not Specified	345	2%
Prevalent Dialysis Patients		
Number of Prevalent Dialysis Patients as of December 31, 2014	19,103	
Treatment Modality of Prevalent Dialysis Patients as of December 31, 2014		
In-Center Hemodialysis or Peritoneal Dialysis	16,988	89%
In-Home Hemodialysis or Peritoneal Dialysis	2,077	12%
Vascular Access Type at Latest Treatment among Prevalent In-Center and In-Home Hemodialysis Patients as of December 31, 2014*		
Arteriovenous Fistula in Use	12,090	63%
Arteriovenous Graft in Use	3,288	17%
Catheter in Use for 90 Days or Longer	1,983	11%
Renal Transplants		
Number of Renal Transplants, Calendar Year 2014	967	
Transplant from Deceased Donor	699	72%
Transplant from Living Related Donor	131	14%
Transplant from Living Unrelated Donor	137	14%
Donor Information Not Available	0	0%
Mortality		
Number of Deaths of ESRD Patients, Calendar Year 2014	3,571	

Source of data (except vascular access data): CROWNWeb Annual Report tables. Source of vascular access data: End Stage Renal Disease National Coordinating Center (ESRD NCC) Fistula First Catheter Last (FFCL) Dashboard.

*Vascular access information reported in this table is based on facility-level data submitted to CMS. CMS has identified issues with data transmission and the application of vascular access data definitions and is correcting these errors by working directly with stakeholders and through the Networks.

Improving Care for ESRD Patients

Network 4 works closely with ESRD patients, patients' family members, caregivers and friends, nephrologists, dialysis facilities and other healthcare organizations, ESRD advocacy organizations, and other ESRD stakeholders to improve the care for ESRD patients in the states of Pennsylvania and Delaware.

Under contract with CMS, QIRN 4 is responsible for identifying opportunities for quality improvement and developing interventions to improve the care for ESRD patients in the Network 4 service area; identifying opportunities for improvement at the facility level and providing technical assistance to facilities as needed; promoting the use of best practices in clinical care for ESRD patients; encouraging use of all modalities of ESRD treatment, including home modalities and kidney transplantation, as appropriate, to promote patient independence and improve clinical outcomes; promoting the coordination of care across treatment settings; and ensuring accurate and timely data collection, analysis, and reporting by facilities in accordance with national standards.

Vascular Access

Background

Hemodialysis requires repeated vascular access to large blood vessels capable of effectively removing wastes from the blood. The three forms of vascular access are AVF, arteriovenous graft (AVG), or a central venous catheter. A patient's vasculature and other medical and physical conditions are used to determine access type. AVFs are considered the gold standard, although they are not appropriate for every hemodialysis patient. An AVF is a surgical connection between a vein and an artery, usually in the forearm. The AVF causes the vein to grow thicker, allowing for adequate blood flow to support hemodialysis and the repeated needle insertions required for hemodialysis. AVFs reportedly offer less chance of infection or clotting and attain greater efficiency than other forms of vascular access. If properly maintained, an AVF can remain an effective means of hemodialysis access for many years. An AVG is created using a synthetic tube implanted under the skin to connect an artery and a vein. A graft is an acceptable alternative when AVF placement is not deemed possible or appropriate. A central venous catheter, when used for vascular access in dialysis, is a flexible tubular device that is surgically inserted into a large vein in the neck with the tip of the catheter resting in the heart. These catheters are designed to remain in place for up to 90 days. The use of these catheters should be viewed as a "bridge" to either an AVF or AVG while these permanent

accesses are maturing or healing or as a permanent access in patients who have exhausted all other options or whose clinical condition precludes the placement of an AVF or AVG.

To encourage best practices and use of the gold standard AVF, CMS established an AVF-in-use rate of 68% as a national goal for the vascular access used to perform dialysis. In addition, CMS set a target maximum goal of less than 10% for the percentage of patients who receive dialysis via dialysis catheters in place for 90 days or longer. CMS has recognized that attaining a 68% AVF-in-use rate and a less than 10% long-term catheter-in-use rate (catheter in use for 90 days or more) requires time and effort, thus CMS established incremental improvement goals for Networks that had not achieved the CMS national goals. In 2014, the Network 4 incremental goal for AVFs in use was 62.7% or higher and the goal for catheters in use for 90 days or longer was 13.93% or less.

The Networks' Statement of Work calls for each Network to encourage and support facilities in increasing the use of AVFs and decreasing the long-term use of catheters, and ultimately achieve CMS' AVF and catheter goals. In an effort to accomplish this, QIRN 4 developed and implemented a vascular access quality improvement activity (QIA) for selected Network-area dialysis facilities.

2014 Vascular Access Quality Improvement Activity (QIA) Overview

QIRN 4's 2014 Vascular Access QIA project was launched in January 2014 and concluded at the end of the third quarter of 2014. QIRN 4 targeted its 2014 vascular access QIA at facilities whose AVF and LTC rates represented the greatest opportunity for improvement. To identify these facilities, QIRN 4 analyzed CROWNWeb vascular access clinical data to distinguish the 2014 Network 4 Focus Facilities with the lowest AVF-in-use and highest long-term catheter-in-use rates. Once selected, the Vascular Access QIA Focus Facilities received one-on-one coaching and mentoring, which allowed QIRN 4 to perform small tests of change, identify best practices and spread success to the whole Network-area ESRD community.

Using the Network incremental improvement goal calculation formula set by CMS, QIRN 4 calculated specific incremental AVF and catheter goals for each Vascular Access QIA Focus Facility. Each Vascular Access QIA Focus Facility then received its incremental goals along with an interactive monthly reporting tool.

2014 Vascular Access QIA Focus Facility Interventions

The interactive monthly reporting tool identified the Vascular Access QIA Focus Facilities' specific AVF and catheter improvement goals and provided an area for the facility to enter its

monthly vascular access rates and monitor for facility-specific improvement progress in real time. This approach gave immediate feedback to the Vascular Access QIA Focus Facilities so they could assess their performance and stay on track to meet their 2014 performance goals.

Monthly, each Vascular Access QIA Focus Facilities faxed a copy of its completed monthly reporting form to the Network 4 office and participated in a monthly phone call with the QIRN 4 quality improvement team. During this call, the Vascular Access QIA Focus Facilities received feedback and coaching and, if indicated, participated in small tests based on challenges and identified barriers). In response to recurrent barriers reported by the Vascular Access QIA Focus Facilities, QIRN 4 organized and held two hands-on “cannulation camps” to address the barrier, “Failed Access” due to cannulation attempts. During these sessions, vascular access techniques were demonstrated and best practices were shared.

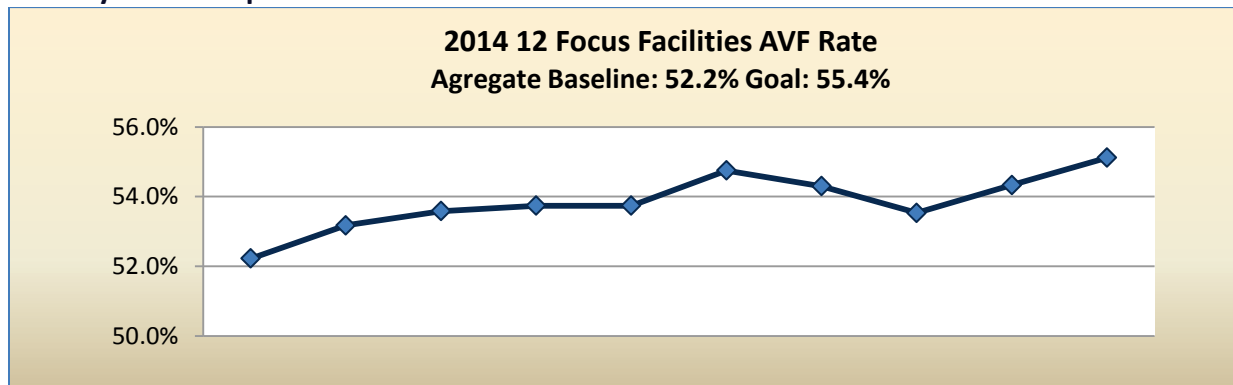
The interventions QIRN 4 utilized with the Vascular Access QIA Focus Facilities included:

- Worked one-on-one with Focus Facilities by means of either site visits and/or phone calls for individual coaching and mentoring;
- Monitored Focus Facility completion of monthly interactive report form;
- Monitored Focus Facility data submission into CROWNWeb;
- Provided real time monthly feedback to the Focus Facilities via facility-specific performance run charts;
- Provided evidence-based vascular access educational resources to the Focus Facilities.

2014 Vascular Access QIA Focus Facility Outcomes

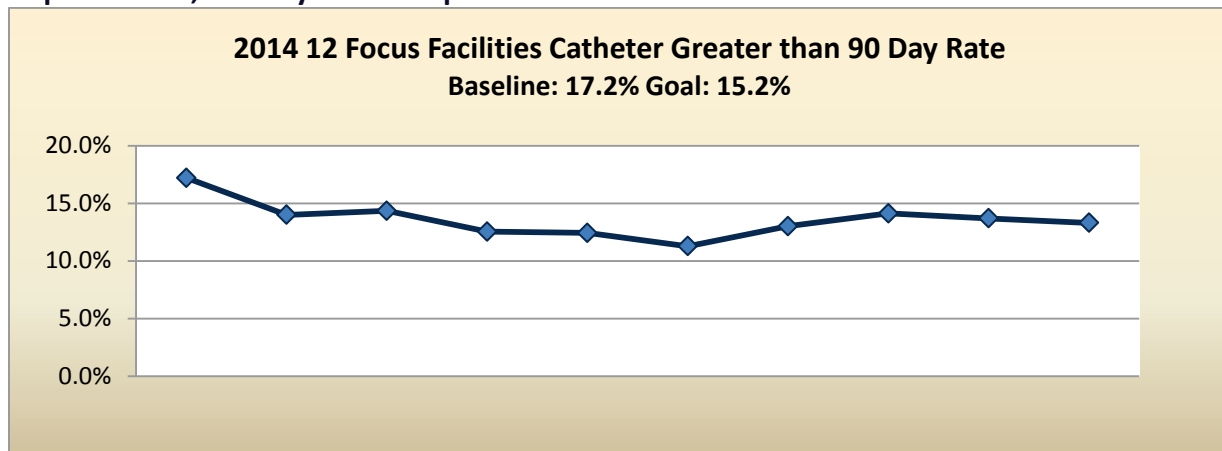
The 2014 Vascular Access QIA Focus Facilities improvement results are shown in Figure 1 and Figure 2 below. In January 2014, the 12 Vascular Access QIA Focus Facilities had an aggregate AVF baseline rate of 52.2% for patients who receive dialysis via an AVF and ended with a AVF rate of 55.1% in September 2014, demonstrating a 5.56% increase in the use AVF as a the vascular access used in the Vascular Access QIA Focus Facilities hemodialysis patients. This achievement was just 0.3 percentage point shy of reaching the aggregated Vascular Access QIA Focus Facility incremental goal of AVFs in use among 55.4% of hemodialysis patients (see Figure 1).

Figure 1. Network 4 Vascular Access QIA Focus Facilities AVF Improvement, January 2014 – September 2014



The aggregated long-term catheter use baseline rate for the 12 Vascular Access QIA Focus Facilities in January 2014 was 17.2% and the project ended with a long-term catheter use rate of 13.3% in September 2014, demonstrating a 22.67% improvement, meeting the aggregate Focus Facility goal of 15.2% (see Figure 2).

Figure 2. Network 4 Vascular Access QIA Focus Facilities Catheter in Use for 90 Days or Longer Improvement, January 2014 – September 2014



2014 Overall Vascular Access Results for All Facilities in Network 4's Service Area

QIRN 4 monitored the overall Network 4 AVF-in-use and long-term catheter use rates throughout 2014. In its Network-wide interventions aimed at improving vascular access, the Network:

- Supported all Network-area facilities in timely and accurately submission of CROWNWeb clinical data, which includes vascular access data submission, by monitoring those facilities that did not report vascular access data and giving feedback to them via email and phone calls;

- Utilized the QIRN 4 website and bi-monthly e-newsletters as vehicles to spread evidence-based vascular access information, educational tools and resources to all Network-area facilities;
- Drew upon the resources available through the ESRD National Coordinating Center (NCC) and the Fistula First Catheter Last initiative and shared with all Network-area facilities;
- Supported the patient engagement model of care through collaboration with our Patient Engagement Learning and Action Network (LAN) as it developed quality improvement initiatives;
- Provided hands-on “cannulation” camp learning opportunities;
- Sought out and spread best practices through collaboration with other Networks, providers, and other stakeholders;
- Provided a summary of the 2014 Focus Facilities’ experiences and QIA results at the QIRN 4 2014 fourth quarter Network Council Meeting.

These interventions, along with the tremendous efforts of the Focus Facilities, demonstrated a Network wide improvement for the use of AVF by 3.09% and reduced the use of catheters greater than 90 days by 6.15%.

Key Partners

To assist the Network-area facilities in driving improvement at the facility level for AVF rates and reduced the use of catheters more than 90 days, QIRN 4 engaged key partners and stakeholders including CMS, the NCC, other ESRD Networks, the QIRN 4 Board of Directors, the QIRN 4 Medical Review Board (MRB), the QIRN 4 Patient Advisory Committee (PAC), all Network–area dialysis facilities and facility staff (including nurses, technicians, and social workers), large dialysis organizations (LDOs), small dialysis organizations (SDOs), nephrologists, surgeons, interventional radiologists, and patients.

Patient Safety

Patient Safety: Overview of Patient Safety Goals

In 2014, QIRN 4 focused on ensuring accurate facility processes for reporting Dialysis Facility Event data to NHSN, leading to more reliable actionable data and ultimately the reduction of HAIs. In tandem with the collaboration of key partners and stakeholders (see Key Partners below), the interventions QIRN 4 used in efforts to achieve these goals were: recruiting and enrolling Network facilities in NHSN; monthly NHSN monitoring and data validation activities; bi-annual interviews of facilities; the implementation of a CMS-designed HAI quality improvement activity aimed at the reduction of bloodstream infections (BSIs); and the use of CDC infection prevention tools and CDC protocols by a selected group of Network-area facilities called the HAI Focus Facilities.

Patient Safety: Support for the National Healthcare Safety Network (NHSN)

Network-area facility enrollment in NHSN is vital to the goal of HAI rate reduction because a driving force in continuous quality improvement is reliable and actionable data. After enrollment in NHSN, Network-area facilities grant QIRN 4 viewing rights of their data which allows QIRN4 to view facility data and subsequently perform data validation, identify gaps in data and opportunities for improvement and support facilities in designing and executing quality improvements in the care of ESRD patients. QIRN 4 was successful in increasing the percentage of NHSN enrollment of eligible facilities in its service area from 98.3% in 2013 to 99.2% in 2014; representing a 0.9% increase in the number of enrolled facilities. In addition to driving continuous improvement, data entered into NHSN was utilized to satisfy the NHSN reporting requirement for the 2014 calendar year (CY) ESRD QIP. It is the role of QIRN 4 to support all enrolled facilities in meeting criteria for the 2014 CY ESRD QIP. Aggressive outreach and strong communication with facilities resulted in 100% of Network 4 area facilities successfully meeting the NHSN reporting requirements.

Patient Safety: 2014 Interventions; NHSN Monitoring

Interventions used by QIRN 4 to achieve increased NHSN enrollment and reporting achievements in 2014 were as follows. The Network:

- Assisted Network-area facilities in obtaining administrator rights and enrolling in NHSN by providing online resources and telephone support;
- Provided NHSN educational resources to all Network–area facilities;
- Completed monthly monitoring of Network-area facility NHSN data to assure accurate facility data submission to the NHSN;

- Completed monthly review of Network-area facility data to identify entry defects and coach those facilities to mitigate the root cause of the defects;
- Performed a bi-annual review and interviews with 10 Network-area facilities with the lowest BSI rates and 10 Network-area facilities with the highest BSI rates to contrast and compare infection prevention practices based on NHSN data;
- Provided ongoing announcements and “NHSN user tips” in the QIRN 4 bi-monthly e-newsletter;
- Posted links to all NHSN education tools as well as the NHSN online data collection tool on the QIRN 4 website;
- Provided one-to-one NHSN support to Network -area facilities as needed;
- Sponsored an educational webinar that was presented by the Philadelphia DOH and focused on NHSN Dialysis Event reporting and an often time-confusing “21-day reporting rule.”

Patient Safety: Healthcare-Associated Infection Learning and Action Network (LAN)

In 2014, the QIRN 4 HAI QIA was supported by the Network 4 HAI LAN (Appendix D). This LAN provides a forum for ongoing collaboration among community partners representing a broad range of organizations and professions. Regularly scheduled LAN meetings provide an opportunity for members to share knowledge, skills, and resources to address identified quality of care issues through collaborative problem solving. Two new members were added to the HAI LAN in 2014, a Pennsylvania Quality Improvement Organization (QIO) representative and a patient representative. Both were valuable assets because they were able to add their unique perspectives and expertise to an already robust committee. The committee demonstrated its support of the HAI QIA by:

- Conducting HAI LAN meetings throughout the duration of the HAI QIA to discuss the project and to brainstorm on effective ways to promote the CDC resources and to provide expert guidance to the QIRN 4 quality improvement staff;
- Reviewing and commenting on the evidence-based CDC BSI prevention audit tools, concluding that these tools would be easy for facilities to use, and supporting their use as part of the Network 4 HAI QIA;
- Reviewing identified barriers to accurate and consistent implementation of the CDC BSI prevention protocols and identified strategies to mitigate these barriers.

Patient Safety: Healthcare-Associated Infection Quality Improvement Activity (HAI QIA)

Under the direction of the HAI LAN, QIRN4 engaged a selected group of Network-area facilities (HAI Focus Facilities) to participate in the 2014 HAI QIA. This project was aimed at implementing the use of CDC BSI prevention protocols for hand hygiene, dialysis catheter

connection/disconnection and AVF/AVG cannulation prior to dialysis therapy. The HAI Focus Facilities were educated on the CDC BSI prevention protocols and performed direct observation of their caregivers during patient care to identify how effective the caregivers were in implementing the CDC protocols. The minimum numbers of caregiver observations performed each month (May through December) were 30 for hand hygiene, 10 for catheter connection/disconnection and 10 for AVF/AVG cannulation. Network 4 successfully achieved consistent monthly reporting of the CDC BSI prevention observations in excess of 93% of HAI Focus Facilities in 2014. In addition, this HAI QIA served to improve the HAI Focus Facilities' awareness of a culture of safety and the value of evidence-based practice aimed at reducing BSIs

Patient Safety: Reducing Rates of Healthcare-Acquired Infections

In efforts to reduce the Network-area rates of HAI in 2014, QIRN 4 successfully completed the HAI QIA with 20% of facilities in Network 4's service area using CDC BSI prevention tools as described above; provided educational interventions for the reduction of BSI rates to all Network-area facilities via the QIRN 4 e-newsletters/website postings; Discussed HAI prevention strategies at Network Council meetings; provided education to all Network-area facilities on the CDC definitions for HAI's; and provided feedback and support to all Network-area facilities who required assistance in completing CDC's NHSN data reporting.

An analysis of the CDC- NHSN data starting in January of 2012 and ending in December of 2014 demonstrated a 16.1% reduction in BSI rates for Network-area facilities (table D).

Table D. Facility-Reported NHSN BSI Rates, January 2012- December 2014

Calendar Year	Number of Bloodstream Infections (Numerator)	Patient Months (Denominator)	Bloodstream Infections/ 100 Patient Months	Number of Access-Related Bloodstream Infections	Access Related Bloodstream Infections/ 100 Patient Months
2012	474	57,506	0.824	357	0.621
2013	1,504	186,543	0.806	1,117	0.599
2014	1,405	191,455	0.734	998	0.521

Patient Safety: Summary

Network 4 successfully achieved all of the 2014 contractual HAI responsibilities. The Network:

- **Obtained group NHSN administrator rights from each facility.** The number of Network facilities enrolled in NHSN was 279 as of December 2014. (99.2% of Network-area

facilities).

- **Educated Network 4 facilities on the framework of NHSN enrollment.** Network staff provided both group and individual support and education to 100% of newly opened facilities during and after the enrollment process. The Network reported monthly activity to the COR.
- **Successfully performed monthly NHSN data checks using a CDC-created checklist and followed up with facilities to correct data errors.** 100% of QIA Focus Facilities were contacted via telephone each month for data validation and correction of data entries. Network staff provided one-on-one education when a knowledge deficit regarding accurate collection of data was identified.
- **Completed bi-annual review of highest 10 and lowest 10 facilities based on NHSN BSI rates.** The Network identified gaps in data collection related to blood culture and presented an educational webinar, developed Network-specific Dialysis Facility Event education and began collaboration with facilities that stated they had protocols in place to collect blood culture results, with the goal of identifying and sharing best practices.
- **Successfully completed a COR-approved QIA to with 20% of facilities within Network 4's service area using CDC BSI prevention tools.** Educational interventions for the reduction of BSI rates were provided to all HAI Focus Facilities (i.e. webinars, one-on-one coaching opportunities, and QIRN 4 e-newsletters/website postings) as well as data validation with timely feedback to 100% of Focus Facilities

Key Partners

Key partners and stakeholders that joined QIRN 4 in the effort to reduce the BSI rate in Network 4's service area included CMS, the NCC, the CDC, the Pennsylvania QIO, the Philadelphia Department of Health, other ESRD Networks, the QIRN 4 Board of Directors (BOD), the QIRN 4 Medical Review Board (MRB), the QIRN 4 Patient Advisory Committee (PAC), the Network 4 HAI LAN, all Network-area dialysis facilities and facility staff (including nurses, technicians, and social workers), LDOs, SDOs, and patients.

Support for the ESRD Quality Incentive Program (ESRD QIP)

QIRN 4 continues to develop partnerships and collaborate with the ESRD providers in Pennsylvania and Delaware to improve patient care through implementation of best practices. In doing so, the staff at QIRN 4 has provided education and technical assistance to facilities so that they may have adequate information to meet the Network/CMS benchmarks for quality care and data management and be successful at obtaining and utilizing ESRD QIP Performance Score Reports (PSRs) and Dialysis Facility Reports (DFRs)/Dialysis Facility Compare. This well

received assistance in 2014 included, but was not limited, to the following activities. The Network:

- Successfully provided Master Account Holders (MAHs) with their passwords, as well as responded to questions from those facilities that experienced difficulty logging on to the diaysis.org website;
- Provided facilities with the timeline for the DFRs and ESRD QIP PSRs as well as kept facilities updated on deadlines for the DFR posting for 2014;
- Effectively distributed timely CROWNWeb information regarding a ESRD QIP town hall meeting;
- Provided timely identification and coaching for facilities with missing clinical data in CROWNWeb that, if left unpopulated, could have adversely affected the facilities' ESRD QIP performance;
- Sent out alert reminders to all facilities to communicate CROWNWeb Clinical Closure months;
- Provided detailed information regarding the changes in the PY 2015 ESRD QIP that would assist the facilities in determining their eligibility for the reporting measures;
- Prepared facilities for new quality measures to be included in the ESRD QIP for payment year 2017; Advised facilities to ensure NHSN data is accurate and that the correct CCN is reflected on facility reports developed by the CDC; the facility's correct CCN must be used when enrolling, training, and submitting NHSN Dialysis Event data to the CDC to ensure that their reported data is attributed to the correct facility for purposes of ESRD QIP scoring;
- Provided the link to all ESRD QIP Final Rule information published and released in 2014;
- Shared information received from the CDC regarding deadlines for NHSN enrollment in order to avoid ESRD QIP scoring penalties for the 2014 calendar year (the link to the CDC website was also re-distributed);
- Provided an educational handout to patients on the ESRD QIP;
- Shared all ESRD QIP information with facilities in the QIRN 4 e-newsletter.

Provider Education

QIRN 4 believes educational outreach and open communication are two cornerstones for improving knowledge and growth, achieving process improvement, and providing a foundation for improving patient safety. We are committed to ensuring the distribution of relevant educational information to the Network 4 community. Recognizing the complexities and dynamic nature of health care today, QIRN 4 staff are constantly evaluating the best method for distributing educational materials and important information without increasing ESRD facility burden. With the increasing ease of electronic communication comes the potential for communication/information overload. To achieve effective distribution of educational materials

and important information in 2014, QIRN 4 staff utilized contemporary communication concepts that address the fact that there are differences in the way adults learn and perceive the world. An understanding of these differences helped guide the methods QIRN 4 chose for providing communication and education. Prior to sending out any communication or educational material to members of the Network 4 community, QIRN 4 identified potential barriers such as time and energy, information overload, education materials not available in the patients primary language, health literacy, timing of previous communications and competing priorities to determine the best way to “push” out information to its intended audiences. QIRN 4 staff tried to anticipate how the intended audiences would “pull” the information and consume it. Then, to meet various learning styles, QIRN 4 employed various options for distribution of information and educational materials including direct mail, phone calls, on-site visits with one-on-one sessions, website postings, webinars, flyers, e-newsletters and emails. Finally, once a communication method had been identified, the intended information was required to have the following attributes: the information must be relevant, authentic, transparent, timely and 508-compliant. QIRN 4 also carefully considered the valued feedback it received from providers when considering future means of communication and education. Listed below are some of the methods QIRN 4 chose to communicate with the Network 4 community in 2014.

Network 4 Webinars

QIRN 4 held webinar training sessions for its 2014 QIAs at the start of each project to ensure participating Focus Facilities understood the project guidelines and expectations. After the webinar sessions, QIRN 4 sent the presentation to the participating Focus Facilities and posted the presentation on its website for easy access. In addition, during Network Council meetings, QIRN 4 provided additional training via webinar on several topics of interest. One such topic was the NHSN Dialysis Event reporting protocol as described earlier; the webinar spotlighted a guest speaker from the CDC who provided additional NHSN reporting training. To keep the audience engaged and to obtain viewer feedback, QIRN 4 included polling questions for the participants. During this process QIRN 4 received positive feedback on the value of the webinars.

Network 4 In-Person Trainings

Adult learners acquire information in several ways. For most people learning is doing; therefore, QIRN 4 held in-person trainings to vary training methods. One such in-person training was the QIRN 4 Annual Network Meeting, which hosted 135 attendees and featured several breakout sessions for smaller group learning. During this meeting, dialysis facility staff representatives and patients were given an overview of the 2014 QIRN 4 QIAs and were given

educational presentations on a wide variety of topics including infection prevention, kidney transplant and organ allocation, and preparation for a state certification survey. They were also encouraged to contribute to open discussions and sharing of best practices. The results of an Annual Meeting Evaluation Survey were 100% positive and indicated attendees were in favor of another Annual Network Meeting in 2015.

QIRN 4, as previously reported, provided two “cannulation camps” in Eastern and Western Pennsylvania. Many of the facility participants stated they had never attended hands-on vascular access training. The participants were patient care technicians and nurses. Both events were well attended and received rave reviews by the participants.

QIRN 4 also provided multiple in-person trainings on grievance management and access to care to regional groups of social workers from the Council of Nephrology Social Workers and to the social work staff from Network-area LDOs. Further in-person training on grievance management and access to care was provided to a multidisciplinary group of renal professionals at the 2014 Kidney Foundation of Central Pennsylvania’s Annual Education Symposium.

Network 4 e-Newsletter

In 2014, QIRN 4 staff met weekly to develop a robust yet easy to understand e-newsletter. It was distributed every other week to all facilities in the Network 4 community, patients in the Network 4 community, the Network 4 Medical Review Board, the Network 4 Board of Directors, WVMI corporate executives, the Network 4 CMS Contracting Officer’s Representative, the Pennsylvania and Delaware Departments of Health and any other stakeholders that subscribed (subscription information is located at www.qirn4.org). The topics presented in the e-newsletters were frequently linked to more in-depth information covering renal care concepts, infection prevention, patient and family engagement, patient safety, CMS news, ESRD QIP updates, product recalls and patient educational information as well as Network 4 news and patient news. Since the inception of the QIRN 4 e-newsletter in October of 2013, QIRN 4 has tracked how often the distributed e-newsletters were opened by the recipient (open rates). As of December 2014, the QIRN4 e-newsletter had a 17.1% open rate, demonstrating a 33.6% improvement since October of 2013. In 2014, 33.5% of the readers followed hyperlinks after opening the e-newsletter, representing a 46.9% improvement since October of 2013. After distribution, all e-newsletters were posted on the QIRN 4 website for review or download.

Table E. October - December 2013 and January - December 2014 e-Newsletter Distribution

	e-Newsletters Sent	Bounce Backs	e-Newsletters Opened	Recipient Clicked on Link(s)
2013	1483	46 (3.1%)	184 (12.8%)	42 (22.8%)
2014	1768	105 (5.9%)	284 (17.1%)	95 (33.5%)

QIRN 4 Website and Network 4 Facility Resource Materials

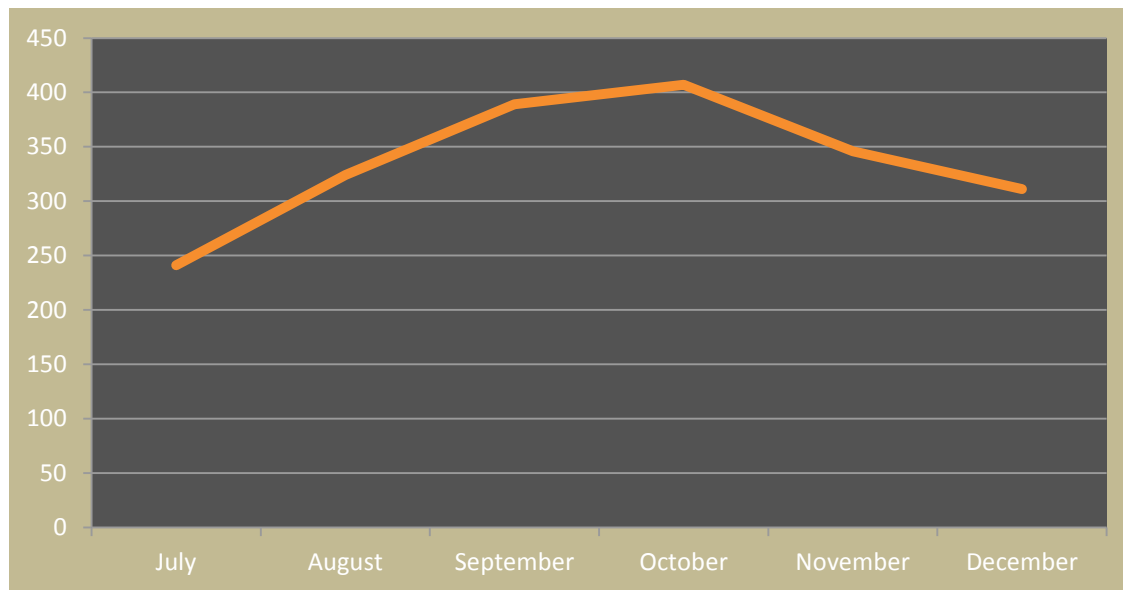
QIRN 4's website was launched in 2013 and continues to be a valuable tool for housing and distributing educational and technical information to not only patients and facilities but also to anyone else seeking ESRD-related information. The Network 4 homepage (found at <http://www.QIRN4.org>) is Section 508-compliant, provides easy navigation, and is continuously updated with robust content for all ESRD stakeholders. The Network website also hosts various reporting tools for dialysis providers and feedback portals for patients and families. Recognizing the vast informational needs within the ESRD community, a wide variety of content and internet links have been created to provide the end user with information on topics such as:

- Patient and Family Engagement
- Patient Rights and Responsibilities
- Data Collecting and Reporting
- Educational Resources for Patients and Providers
- Informational Resources for Patients and Providers
- Continuing Education Offerings for Professional Facility Staff
- FDA Alerts and Recalls
- Grievance Information
- Emergency Preparedness Information
- Network and Industry News
- BOD and MRB Governance Structure and membership
- Medical Review Board
- QIRN 4 Staff
- How to Contact the QIRN 4 Staff and the QIRN 4 Toll Free Number

QIRN 4 has assessed the user friendliness of its website through the eyes of ESRD patients. In 2014, QIRN 4 conducted two such tests asking Network 4 patients who serve on QIRN 4's Patient Advisory Committee to search the website for specific information. The test results indicated the website needed to be redesigned for ease of navigation for patients and families.

Because of this feedback, a new website design was introduced in 2014. QIRN 4 will continue to incorporate end-user feedback when developing its website so as to enrich the end-user experience.

Figure 3. QIRN 4 Website Activity (“Hits”) by Month July 2014 to December 2014



Network 4 Email Blasts

To reduce facility email burden, only time-sensitive information was distributed to appropriate Network–area facilities and/or staff in 2014 by way of Email Blasts. The Network distributed all emergency recall notices as well as any emergency preparation communications via Email Blasts. All other information that was not time-sensitive or critical in nature was consolidated and distributed to facilities in the bi-monthly e-newsletter and posted on the QIRN 4 website.

5-Diamond Safety Program

In 2014, 46 of the QIRN 4 facilities participated in the national ESRD *5-Diamond Patient Safety Program*. This program, developed in 2008 by the Mid-Atlantic Renal Coalition and the ESRD Network of New England, is designed to assist dialysis facilities in improving both staff and patient awareness of specific patient safety areas. There are 15 Web-based educational modules addressing all aspects of patient safety. All modules include objectives, required activities, tools and resources, and optional activities. For each module successfully completed, the facility is awarded a “Diamond,” culminating in a special recognition for those facilities that complete 5 modules in one year. These successful facilities receive the title of “5-Diamond.” This program is endorsed by the American Nephrology Nurses’ Association (ANNA), the National Renal Administrators Association (NRAA), and the Renal Physician’s Association (RPA).

In QIRN 4's inaugural year of 2013, QIRN 4 participated in 5-Diamond Safety Program conference calls, sent out 5-Diamond Patient Safety Program information in our e-newsletter, sent out 5-Diamond Patient Safety Program information email blasts to all Network facilities and posted 5-Diamond Patient Safety Program information on the QIRN 4 website. At the end of this first year, 17 facilities had successfully completed five modules and were designated as 5-Diamond Facilities. With continued effort of advertising this exciting program, by the end of 2014, 46 additional facilities had participated in the 5-Diamond program, from which 31 facilities successfully completed the five modules and were designated as "5-Diamond" Facilities, representing an 82% increase as compared to 2013.

Contributions to Professional Literature by Board and LAN Members in 2014

QIRN 4 Board of Directors Publications:

Director Paul Palevsky, MD

Peer-reviewed manuscripts (2014):

Mor MK, Sevick MA, Shields AM, Green JA, **Palevsky PM**, Arnold RM, Fine MJ, Weisbord SD. Sexual function, activity, and satisfaction among women receiving maintenance hemodialysis. *Clinical Journal of the American Society of Nephrology* 2014; 9: 128-134. ([PMCID: PMC3878703](#)).

Murugan R, Wen X, Shah N, Lee M, Kong L, Pike F, Keener C, Unruh M, Finkel K, Vijayan A, **Palevsky PM**, Paganini E, Carter M, Elder M, Kellum JA. Plasma inflammatory and apoptosis markers are associated with dialysis dependence and death among critically ill patients receiving renal replacement therapy. *Nephrology Dialysis Transplantation* 2014; 29: 1854-1864. ([PMCID: PMC4173817](#))

Weisbord SD, Mor MK, Sevick MA, Shields AM, Rollman BL, **Palevsky PM**, Arnold RM, Green JA, Fine MJ. Associations of depressive symptoms and pain with dialysis adherence, health resource utilization, and mortality in patients receiving chronic hemodialysis. *Clinical Journal of the American Society of Nephrology* 2014; 9: 1594-1602. ([PMCID: PMC4152801](#))

Belayev L, Mor M, Sevick MA, Shields AM, Rollman B, **Palevsky PM**, Arnold RM, Fine MJ, Seisbord SD. Longitudinal associations of depressive symptoms and pain with quality of life in patients receiving chronic hemodialysis. *Hemodialysis International* 2014 (E-pub November 18, 2014; [doi: 10.1111/hdi.12247](#); [PMCID: PMC25403142](#)).

Invited Reviews, Editorials and Book Chapters (2014):

Belayev LY, **Palevsky PM**. The link between AKI and CKD. *Current Opinion in Nephrology and Hypertension* 2014; 23: 149-154.

Palevsky PM. Acute kidney injury. In: Parrillo JE, Dellinger RP, eds. *Critical Care Medicine: Diagnosis and Management in the Adult*, 4th Edition. Elsevier Saunders, Philadelphia, 2014.

Palevsky PM. Renal angina: Right concept...wrong name? Clinical Journal of the American Society of Nephrology 2014; 9: 633-634.

Sessler CN, Schmidt GA, Baumann MH, Bowton DL, Ginsberg FL, Hall JB, Karam G, Levine SM, MacIntyre NR, Moores LK, Niven AS, **Palevsky PM**, Parrillo JE, Sandrock CE, Wheeler AP. Assessment in Critical Care and Pulmonology – Self-Education and Evaluation of Knowledge: Critical Care Medicine, Volume XXIV. American College of Chest Physicians, Northbrook, Illinois, 2014.

Electronic/Multimedia publications (2014):

Palevsky PM. Continuous arteriovenous hemodialysis: Technical considerations. UpToDate, UpToDate, Inc., Waltham, MA, 1999-2014 (www.UpToDate.com).

Palevsky PM. Continuous venovenous hemodialysis: Technical considerations. UpToDate, UpToDate, Inc., Waltham, MA, 1999-2014 (www.UpToDate.com).

Palevsky PM. Continuous venovenous hemodiafiltration: Technical considerations. UpToDate, UpToDate, Inc., Waltham, MA, 2006-2014 (www.UpToDate.com).

Palevsky PM. Renal replacement therapy (dialysis) in acute kidney injury (acute renal failure): Indications, timing, and dialysis dose. UpToDate, UpToDate, Inc., Waltham, MA, 2007-2014 (www.UpToDate.com).

Mandel J, **Palevsky PM.** Treatment of severe hypovolemia or hypovolemic shock in adults. UpToDate, UpToDate, Inc., Waltham, MA, 2012-2014 (www.UpToDate.com).

Director Michael J. Moritz, MD

Journal Articles

Constantinescu, S, Pai, A, Coscia, LA, Davison, JM, **Moritz, MJ**, Armenti, VT. Breastfeeding after Transplantation. Best Practice & Research Clinical Obstetrics Gynaecology 28: 1163-73; 2014.

Coscia, LA, Constantinescu, S, Davison, JM, **Moritz, MJ**, Armenti, VT. Immunosuppressive Drugs and Fetal Outcome. Best Practice & Research Clinical Obstetrics Gynaecology 28: 1174-87; 2014.

Book Chapter

Constantinescu, S, Gomez-Lobo, V, Davison, JM, **Moritz, MJ**, Armenti, VT. Pregnancy and Contraception in Transplantation, in The Textbook of Organ Transplantation. AD Kirk, SJ Knechtle, CP Larsen, TC Pearson, and SA Webber, Eds. Wiley-Blackwell, London, UK, 2014.

Director Barbra Bendar

Journal Article

Bendar B, Latham C, The Changing Landscape of the Nephrology Nursing Care Environment in the United States over the Last 45 years. Journal of the American Nephrology Nurses' Association, March/April 2014, Vol 41, No. 2 pages 183-190

Healthcare-Associated Infections Learning and Action Network

Member: Ami Patel , PhD

Journal Article

Suryaprasad AG, White JZ, Xu F, Eichler B, Hamilton J, **Patel A**, et al. Emerging Epidemic of Hepatitis C Virus Infections Among Young Nonurban Persons Who Inject Drugs in the United States, 2006–2012. *Clinical Infectious Diseases* 59(10):1411-9, 2014.

Member: James Davis

Journal Articles

Davis J, Peripheral Vascular Catheter–Related Infection: Dwelling on Dwell Time Pa Patient Saf Advis, 2014 Mar;11(1):30-5.

Davis J, Surgical Site Infection Prevention Utilizing Patient Screening and Decolonization: The PA-HEN SSI Prevention Collaboration Pa Patient Saf Advis 2014 Sep;11(3):131-5.

Disparities in ESRD Care

Population Health Innovation Pilot Project

The innovative project selected by QIRN 4 in 2014 was Improving Kidney Transplant Coordination, which consisted of increasing kidney transplant referral for patients with ESRD by 5 percentage points while decreasing the Network 4 identified disparity by 1 percentage point. Selection of this project was motivated by the fact that the Network's service area has a total of 20 kidney transplant facilities, which provide significant kidney transplant facility access to patients in the Network area. QIRN 4 considers kidney transplant as the gold standard treatment option for the patient with ESRD, and we hold a core belief that all eligible ESRD patients should have the opportunity to receive a kidney transplant. This opportunity begins with a kidney transplant referral.

Background

Kidney transplantation offers advantages over dialysis for ESRD patients in both quality of life and survival. In 2014, the overall kidney transplant referral rate for ESRD patients in the Network 4's service area was 11.3%. This kidney transplant referral rate is well below the CMS goal of 50% and represented a key opportunity for improvement. Upon closer review of the Network-area kidney transplant referral data, a disparity was identified for patients ages 65 and older vs. patients younger than 65 (see Table F). This trend of a lower referral rate for kidney transplant in older adults is not unique to the Network 4 service area. According to Dorry Segev, transplant surgeon and researcher at Johns Hopkins, kidney transplant referral for older adults is one-tenth that of younger patients." Additionally, Saidi et al. (2008) compared the early and long-term outcomes of deceased donor kidney transplantation in patients aged greater than or equal to 60 years with outcomes in younger recipients and concluded that kidney transplantation in appropriately selected elderly recipients provides equivalent outcomes compared with those observed in younger patients.

Establishing a Kidney Transplant Referral Baseline and Disparity

QIRN 4 conducted a disparity assessment for kidney transplant referral baseline data in the following order*:

1. Race (African American vs. White or Groups Other than White vs. White).
2. Ethnicity (Hispanic vs. Non-Hispanic).
3. Facility Location (Rural vs. Urban).
4. Gender (Female vs. Male).
5. Age (65 and older vs. Younger than Age 65).

*Items on the left of each order are the disparate group.

Table F. 2014 Network 4 Kidney Transplant Referral Disparity Data Drill Down Results; Age Disparity

Age Category	Numerator	Denominator	Rate
<65 years of age	1,399	8,613	16.2%
>=65 years of age	471	7,999	5.9%

2014 AIM 2 Focus Facility Selections

AIM 2 Focus Facilities were selected based on lowest overall kidney transplant referral rates for ESRD dialysis patients. The initial (baseline) kidney transplant referral rate for these facilities was less than CMS' goal of 50% Each AIM 2 Focus Facility was directed to demonstrate at least a 5 percentage point increase in the rate of kidney transplant referrals while decreasing the identified age disparity of 1 percentage point by the end of the 3rd quarter of 2014.

2014 Innovative Project Design: Improve Kidney Transplant Referral and Reduce Identified Disparity

To embrace this opportunity for improvement in kidney transplant referral, QIRN 4 planned a multi-pronged approach that included comparative feedback reports, analysis of kidney transplant referral processes and development of kidney transplantation educational materials geared to the older dialysis patient. The scope of this innovative project included just over 5% of Network area facilities, which represented approximately 4% of the ESRD patient population in the Network area (regardless of ESRD treatment modality). QIRN 4 designed this project by incorporating the CMS' 6 Innovative Project Attributes. QIRN 4 addressed the CMS Innovative Project Attributes in the following ways:

Rapid Cycle Improvement in Quality Improvement Activities and Outputs

QIRN 4 collected and analyzed monthly kidney transplant referral rates for patients aged 18-64 vs. those 65 years and older. Data feedback reports were emailed by QIRN 4 to facilities for real-time quality improvement monitoring. QIRN 4 provided Plan-Do-Study-Act (PDSA) worksheets to each facility to promote rapid cycle improvement.

Customer Focus and Value of the Quality Improvement Activities to Patients, Participants and CMS

In addition to working with the AIM 2 Focus Facilities to develop individualized process improvement strategies, QIRN 4 focused on patient/community engagement by educating the entire Network-area regarding the process of kidney transplant referral.

Ability to Prepare the Field to Sustain the Improvement

QIRN 4 continued to engage facility leadership to support system changes to ensure facility staff were included in the decision making process as system changes were discussed and developed. Through education, we encouraged facility-level documentation of process improvements and role assignments that the centers' infrastructure supported so that changes were hard-wired into everyday tasks and activities.

Value Placed on Innovation

To carry out our multi-pronged interventional approach, QIRN 4 encouraged centers to not only identify a Transplant Champion who would ensure all ESRD patients at their facility were considered for kidney transplant referral but collaborate with other AIM 2 Focus Facilities and learn about their innovated approaches that had a positive impact on patient kidney transplant referral rates. Additionally, QIRN 4 sought to engage patients by recruiting kidney transplant patients over age 65 to share their kidney transplant experience.

Commitment to Boundarilessness

QIRN 4 reached outside of the Network 4 service area and supported the "Explore Transplant" program through promoting the "Explore Transplant" seminars and tool kit. QIRN 4 continued outreach to other ESRD Networks throughout the country working on this project and shared analytic findings and possible "best practice" approaches to improve kidney transplant referral rates. QIRN 4 utilized the QIRN 4 website and the QIRN 4 newsletter as vehicles for providing educational tools and resources. Throughout the project we continued to pursue kidney transplant centers in Pennsylvania and Delaware for feedback and kidney transplant referral information. Last, QIRN 4 collaborated with other stakeholder organizations such as the Gift of Life to increase kidney transplant awareness.

Unconditional Teamwork

QIRN 4 met with not only CMS and the NCC to discuss strategies to improve the quality of the kidney transplant referral rates in Network 4 service area, but QIRN 4 demonstrated unconditional teamwork throughout this project by sharing kidney transplant referral data and improvement strategies with other Networks as well as developing ongoing partnership with the Kidney Foundation and Gift of Life.

AIM 2 Project Definitions

At the inception of our project, QIRN 4 sought to reduce any possible variation as to the definition of a kidney "transplant referral" as well as who would be considered "eligible" for a kidney transplant referral. QIRN 4 collaborated with four other Networks working on this

innovative project as well as numerous kidney transplant centers in Network 4 to arrive at the following definitions:

Kidney Transplant Referral : “Any first-time kidney transplant referral for a patient (i.e., the patient has not already been referred or been placed on a kidney transplant waitlist), and for which either a dialysis facility or kidney transplant center provides an indication that the patient has been referred. Patients who have had kidney transplant failures are considered as re-starting the kidney transplant referral process anew, and would be eligible for ‘first-time’ kidney transplant referrals”.

Eligible for Kidney Transplant Referral: “All ESRD dialysis patients are eligible for a kidney transplant referral to a transplant center for kidney transplant”.

Kidney Transplant Referral Completed: “Initial contact has been made by the facility on behalf of the patient to a kidney transplant center by means of fax, letter, email or phone call”.

Interventions

The various interventions employed by QIRN 4 to encourage kidney transplant referral by the AIM 2 Focus Facilities which included:

- Provided presentations at local kidney transplant symposiums;
- Provided educational table displays at Network area events;
- Distributed monthly kidney transplant education materials;
- Provided one-on-one support to the AIM 2 Focus Facilities to discuss the monthly data and identify barriers;
- Asked the AIM 2 Focus Facilities to identify their kidney transplant referral process to so as to share best practices with Network-area facilities.

The process improvement activities led to a tremendous improvement in kidney transplant referral rates for both age groups. However, this increased the disparity between the two age groups. To respond to this unintended consequence of our interventions, QIRN 4 contacted the AIM 2 Focus Facilities and asked them to identify facility-specific barriers that were preventing kidney transplant referral of their dialysis patients. The top two common reasons for not referring a patient for kidney transplant referral were identified as

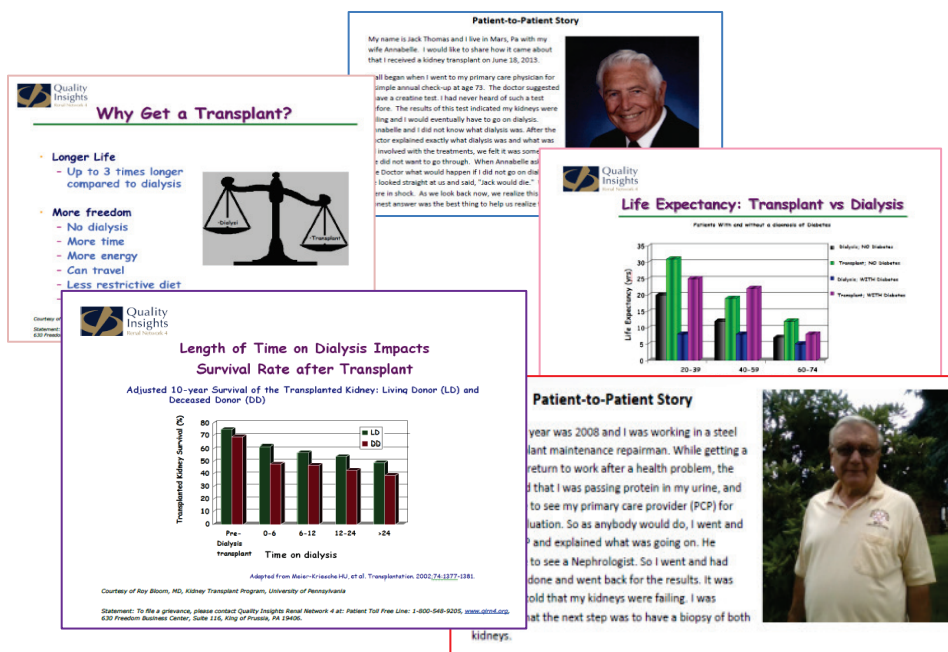
1. A patient’s advanced “age” followed by
2. The patient being “not interested.”

Responding to this information, QIRN 4 established an innovated education campaign, named the “ME, TOO!” campaign. This campaign was developed to address the top two identified barriers. A Kidney Transplant Referral Tool Kit was developed and consisted of education materials to be printed out and distributed to AIM 2 Focus Facility patients weekly for a full two months (see Table G).

Table G. Weekly Activity Schedule for the ME, TOO! Campaign:

July 2014	
Week #1	Patient-to-Patient Story – Jack’s Story <i>AIM 2 Champion to print out and share with ESRD patients and dialysis faculty staff</i>
Week #2	Why Get a Kidney Transplant? <i>AIM 2 Champion to hand out this education pamphlet to ESRD patients</i>
Week #3	Paired Kidney Exchange for Kidney Transplanting <i>AIM 2 Champion to share this Article with dialysis facility staff</i>
Week #4	List of Kidney Transplant Centers in Network 4 <i>AIM 2 Champion to print out and share with ESRD patients and dialysis faculty staff</i>
August 2014	
Week #1	Patient-to-Patient Story – Joseph’s Story <i>AIM 2 Champion to print out and share with ESRD patients and dialysis faculty staff</i>
Week #2	Impact of ESRD Time on Graft Survival <i>AIM 2 Champion to hand out this education pamphlet to ESRD patients</i>
Week #3	Life Expectancy Kidney Transplant vs. Dialysis <i>AIM 2 Champion to hand out this education handout to Dialysis Staff</i>
Week #4	Schedule a Lobby Day <i>AIM 2 Champion to share “Patient-to-patient booklet” with Dialysis patients and ESRD staff</i>

Figure 4. Educational Flyers Provided to Patients in ME, TOO! Campaign



Innovation Project Collaborative Outcome

QIRN 4, in collaboration with six other ESRD Networks that worked on the same innovation project aimed at increasing kidney transplant referral rates, produced a booklet that contained

stories from kidney transplant recipients and donors as told in their own words. It was created to inspire hope for ESRD patients, their family members and care partners as well as to encourage ESRD patients to explore all treatment modalities, including kidney transplant. This booklet is available on the ESRD NCC website under the “Patients” tab, and may be downloaded in PDF format.

[http://esrdncc.org/wp-content/uploads/2014/09/Your Life Your Choice.pdf](http://esrdncc.org/wp-content/uploads/2014/09/Your_Life_Your_Choice.pdf)

Innovation Project Outcomes

At the conclusion of the QIRN 4 Population Health Innovative Pilot Project, the overall kidney transplant referral rate for the Focus Facilities improved by 364%, while the older group (≥ 65 years old) improved by over 1400%. Although this project did not reduce the age disparity by the required 1 percentage point, it did reduce the identified age disparity of patients 65 and older from 667% down to just 71.74%.

Table H. 2014 Kidney Transplant Referral Rates: 22 AIM 2 Focus Facilities

Category	Baseline Oct2013	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sept 2014	% Increase in Number of Referrals
Overall Referral	14%	45%	49%	50%	52%	53%	54%	59%	62%	65%	364%
Referrals Age ≤ 64	23%	61%	65%	66%	68%	70%	70%	76%	77%	79%	243%
Referrals Age ≥ 65	3%	26%	30%	31%	33%	34%	35%	38%	43%	46%	1433%
% Point Differences Between Age Groups	20%	35%	35%	35%	35%	36%	35%	38%	34%	33%	65%
Percentage difference between Age Groups	667%	135%	117%	113%	106%	106%	100%	100%	79.07%	71.74%	

Key Partners

The key partners and stakeholders in this innovation project include CMS, the NCC, other ESRD Networks, the QIRN 4 Board of Directors, the QIRN 4 Medical Review Board (MRB), the QIRN 4 Patient Advisory Committee, all Network-area kidney transplant centers, all Network-area dialysis facilities and facility staff (including nurses, technicians, and social workers), LDOs, SDOs, and patients.

References:

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Saidi RF, Kennealey PT, Elias N, Kawai T, Hertl M, Farrell M, Goes N, Hartono C, Tolkoff-Rubin N, Cosimi AB, Ko DS. Deceased donor kidney transplantation in elderly patients: Is there a difference in outcomes? *Transplant Proc.* 2008;40:3413–

Partnerships and Coalitions

QIRN 4 is committed to cultivating collaborative relationships with all organizations serving ESRD healthcare consumers in the Network 4 service area.

State Survey Agencies

QIRN 4 achieved successful collaboration with the State Survey Agencies in 2014 by participating in monthly conference calls during which a collaborative exchange of information took place. Throughout the year, QIRN 4 educated the State Survey Agencies staff on the ESRD QIP and Network quality improvement projects during these calls. Collaboratively, two new processes were developed for reporting state survey activity and communication of patient-specific issues. Additionally, QIRN 4 partnered with and supported the Philadelphia DOH in the submission and eventual award of a research grant to reduce bloodstream infections in the city of Philadelphia ESRD population.

Office of Emergency Management

QIRN 4 hosted a representative from the Philadelphia Office of Emergency Management (OEM) to attend the Kidney Community Emergency Response (KCER) table top Emergency Drill held at the King of Prussia Network 4 office in the fall of 2014. This representative effectively contributed to the activity and gave guidance to the QIRN 4 staff on emergency preparedness as well as providing additions to the Network 4 Comprehensive Emergency Management Plan (CEMP). This participation has laid the foundation for a working collaborative relationship with the OEM in preparation for the 2015 Papal visit to the city of Philadelphia.

Pennsylvania and Delaware Quality Improvement Organizations

A continued partnership and collaboration with the state Quality Improvement Organizations (QIOs) in Network 4's service area has provided unique opportunities to share best practices and resources to help achieve common quality improvement goals for the ESRD patients in Pennsylvania and Delaware. In 2014 the Pennsylvania QIO began discussions with QIRN 4 on an exciting transition of care project to be launched in 2015.

Large Dialysis Organizations

QIRN 4 continued to engage and partner with large dialysis organizations (LDOs), and during 2014, the Network 4 Patient Services Director (PSD) was invited to attend regional meetings and address social workers from two LDO's in the Network service area.. Our Quality

Improvement Director (QID) was also invited to speak and collaborated with two LDO's to organize vascular access meetings.

Small Dialysis Organizations

The collaborative work QIRN 4 had with small dialysis organizations (SDOs) in 2014 was a continuation of the support provided in 2013. A number of SDO facilities were included in our patient safety HAI QIA, allowing these facilities to participate in a network wide quality improvement project with QIRN 4 support.

Renal Organizations

One key to the success of QIRN 4 is the ongoing ability of our staff to work collaboratively with renal advocacy organizations and other stakeholders. During our inaugural year (2013), our team reached out and began forging relationships by attending educational offerings and enthusiastically participating in organizational activities. This passion continued in 2014. Our staff set up "meet and greet" tables at meetings sponsored by a variety of organizations such as:

- The Kidney Foundation of Central PA
- National Kidney Foundation
- Western Pennsylvania Kidney Support Groups

Professional Organizations

Other key partnership the QIRN 4 staff fostered in 2014 were relationships with vital renal professional organizations. Our team was actively involved with or attended conferences hosted by:

- American Society of Nephrology (ASN)
- American Nephrology Nurses' Association (ANNA)
- Council of Nephrology Social Workers (CNSW)
- Pennsylvania Patient Safety Authority
- Association for Professionals in Infection Control and Epidemiology (APIC)

Dialysis Facilities

QIRN 4 has used every opportunity to maintain positive collaborative relationships with each of the Network area facilities it interacts with. In 2014 QIRN 4 achieved success in its quality improvement projects as a direct result of a dynamic working relationship that the QIRN 4 staff has established with the Network 4 facilities.

Other Networks

In 2014, our staff at QIRN 4 continued to successfully collaborate with our sister Networks (Networks 3 and 5) in our corporate family as well as other ESRD Networks. This working relationship was evidenced in particular with the publication of a patient-inspired booklet geared for patients seeking kidney transplantation. This joint effort among 6 Networks and the NCC demonstrated boundarilessness and collaboration between QIRN 4 and other Networks.

Patient and Family Engagement

Education for ESRD Patients and Caregivers

In 2014, QIRN 4 used a multimodal approach to delivering education to patients, families and caregivers. We sought and valued the feedback we received from our Patient Learning and Action Network (P-LAN) members, Patient Advisory Committee (PAC) members, and BOD and MRB members who advised QIRN 4 on the educational needs of the Network 4 patient population. In 2014, QIRN 4 distributed educational materials to patients and caregivers via direct mail, telephone, website postings, webinars, flyers, e-newsletters and email. In consideration of the various ways in which people learn, and the varying levels of reading abilities, all educational material for patients, families and caregivers complied with requirements of Section 508 of the 1998 amendment to the Rehabilitation Act of 1973 requiring federal agencies to make their electronic and information technology accessible to people with disabilities.

QIRN 4 took the necessary steps to ensure that all patient education materials were made available to Network 4 stakeholders. Members of the PAC, LAN and the staff from the Pennsylvania and Delaware State Survey Agencies were informed of ongoing educational campaigns and educational materials in order that they could assess the availability of the materials at the dialysis facilities.

To assist in these patient and caregiver education efforts, QIRN 4 worked in conjunction with our parent company, WVMI, and the NCC to ensure reliable communication to patients, families and caregivers using the following methods in 2014:

- Maintaining a patient toll-free telephone number that is answered by a staff member during business hours. When the phone cannot be answered, there is a detailed voice message that directs the caller to the appropriate staff extension;
- Providing a Network 4 electronic mailbox that immediately sends a reply to the sender that his/her message has been received while simultaneously sending the email to the Executive Director and the Communications Coordinator. This mechanism ensures a response is triggered from the email received;
- Operating a QIRN 4 website that contains a wealth of up-to-date educational resources, as well as hosting links to powerful educational materials, the ESRD QIP site, state health department sites, Network 4 Annual Reports, the KCER website, emergency preparedness and management materials, the NCC website, and the CMS website and serves as a clearinghouse for all patient, family and caregiver educational materials. The “Patients and Families” section of the QIRN 4 website houses educational material on access to care,

grievances, disease management, emergency preparedness, end of life, Medicare, mental health, life changes, nutrition, patient safety, staying active, treatment options, vocational rehabilitation and much more. The 2014 monthly patient topics included exercise, hand hygiene, the ESRD QIP, transplantation, travel, disasters, vaccinations, fluid restriction, smoking cessation, diabetes and vascular access. (The Network also distributed these monthly patient education materials via dialysis clinics for patients who did not have Internet access);

- QIRN 4 reviews and updates the New ESRD Patient Orientation Package (NEPOP) cover letter and actively investigates and resolves undeliverable NEPOPs.

QIRN 4 evaluates the effectiveness and distribution of the educational materials through various methods including patient education program evaluations and recommendations, a website contact tool which provides analytic monitoring of website traffic, e-newsletter evaluations, and patient interviews during facility visits. The periodic use of the online “Survey Monkey” tool also provides another mechanism to receive feedback from patients and caregivers.

Additional methods used to measure effective education:

- 2014 year-end Patient Needs Assessment
- Monitoring for improvement on ESRD QIP clinical quality measures
- Reduction in facility generated grievances due to non-compliance

Patient Engagement Learning and Action Network (LAN)

QIRN 4 is committed to incorporating the perspective of patients, family members, and other caregivers into its quality improvement activities. Three of the Network’s most targeted and measurable patient education efforts are driven by the Patient Learning and Action Network (P-LAN) and are detailed below in this section of this report.

Background

QIRN 4 continued to maintain a Patient Learning and Action Network (P-LAN) that was formed on August 8, 2013. The P-LAN is made up of patients, family members and other renal stakeholders from Pennsylvania and Delaware. Participants are considered Subject Matter Experts (SMEs) for their expertise in the patient experience. The P-LAN is one of the Network’s primary means of engaging patients. The P-LAN held six teleconferences in 2014 and the Network corresponded with LAN members via email, telephone and USPS regularly.

Overview of 2014 Patient Learning and Action Network Projects

In 2014, the P-LAN created three separate projects focusing on patient engagement. All three projects are aimed at improving the care of ESRD patients and improving the patient experience.

2014 Patient Learning Action and Network QIA

In 2014, the P-LAN chose the topic of improving patient participation in care planning sessions at the dialysis facility as the focus of its 2014 QIA. This was chosen out of concern that patients may have a very limited understanding of what is included in their dialysis care plan. The P-LAN set out to increase patients' understanding of what a patient care plan is, the content of a patient care plan and the value of the plan to the patient and his/her family. The P-LAN predicted this gained knowledge would help patients and their families understand how the patient's care is planned, facilitate their participation in care planning and assist them in better adhering to their care plan. The rationale for this objective is that the ever-growing bodies of evidence demonstrate that patients who are actively involved in their health care will experience better health outcomes and incur lower health care costs. The P-LAN understands and appreciates health care organizations' employing strategies to better engage patients by educating them about their conditions and involving them more fully in making decisions about their care. The P-LAN members feel the crux of that involvement lies in care planning.

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February 14, 2013, "Health Policy Brief: Patient Engagement" Health Affairs. Retrieved from http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief_id=86

George Ochoa, March 2013, "Actively Engaged Patients Have Lower Health Care Costs, Better Outcomes" Pharmacy Practice News. Retrieved from http://www.pharmacypracticenews.com/ViewArticle.aspx?d=Clinical&d_id=50&i=March+2013&i_id=938&a_id=22793

Kip Piper March 28, 2013, "Patient Engagement to Lower Health Care Costs and Improve Outcomes" Piper Report. Retrieved from <http://www.piperreport.com/blog/2013/03/28/patient-engagement-costs-improve-outcomes/>

QIA Focus Facilities and Interventions

The P-LAN's quality improvement activity focused on increasing patient understanding of the care plan by >5% in 10% of the in-center hemodialysis (ICHD) patients in Network 4's service area over a three-month period of time. The participating Focus Facilities were randomly selected from both Pennsylvania and Delaware. The P-LAN authored letters and sent them to Administrators from the selected Focus Facilities. The letters outlined the Care Planning and Participation quality improvement activity which consisted of:

- One pre-test
- Six educational flyers for patients
- Three educational flyers for staff

- One post-test

The P-LAN provided pre-tests to patients to determine the baseline understanding that they had about their care plan. Then, educational flyers outlining key concepts of care planning were distributed to the patients at the Focus Facilities. During this patient educational period, the Focus Facility staff also received the same educational flyers enabling them to reinforce the concepts the patients were being given. Finally a post-test was administered to the Focus Facility patients.

QIA Outcome

In summary, the P-LAN's QIA achieved a 16.9% improvement in patients' care planning knowledge. This improvement was demonstrated by patients in the P-LAN QIA Focus Facilities (denominator) who responded to questions on the care planning posttest (numerator) after receiving care planning educational materials.

2014 Patient Learning Action and Network Education Campaign #1

The first 2014 educational campaign the P-LAN chose was to educate patients on the various roles of the dialysis facility staff. The SMEs recognized that despite proactively planning for dialysis as a medical intervention, the actuality of starting dialysis treatments can be quite overwhelming. Patients, families and caregivers are introduced to the outpatient dialysis center staff consisting of many people from multiple disciplines. Each staff person comes with many required tasks the patient must participate with and uses terminology that is likely foreign to the patients, families and caregivers. The SMEs' concern was that patients, families and caregivers are not formally introduced to the roles of each discipline caring for them at the dialysis center. That concern compelled the P-LAN to focus an educational effort on assisting patients, families and caregivers in understanding the roles of the different staff members who provide the ESRD patient with his/her care. The title of the P-LAN Campaign #1 is "Who's Who in the Dialysis Center."

Campaign #1 AIM

The 2014 P-LAN's educational Campaign #1 focused on increasing patient understanding of the roles of each dialysis facility staff member by >10% in 20% of the ICHD patient population in Network 4's service area over a three-month period of time.

Campaign #1 Focus Facilities and Interventions

Network dialysis facilities not currently involved in a Network 4 improvement activity were randomly selected to be one of 62 Focus Facilities for campaign #1. Each facility administrator from the Campaign #1 Focus Facilities received a letter authored by the P-LAN outlining the

“Who’s Who in the Dialysis Center” educational campaign, which consisted of a pre-test, a series of eight educational flyers about what each staff member’s roll was and a post-test.

Campaign #1 Outcomes

After completion of Campaign #1, an improvement of 13.8% was achieved, meeting the P-LAN and CMS goal of >10% improvement over the course of the campaign. This improvement was demonstrated by patients in the P-LAN Campaign #1 Focus Facilities (denominator) who responded to questions on the role of the dialysis staff posttest (numerator) after receiving educational materials highlighting the various dialysis staff roles.

2014 Patient Learning Action and Network Education Campaign #2

The P-LAN established that many dialysis patients do not ask their doctor questions about their care. The SMEs’ concern was that the patients may not know what questions to ask or remember what questions they may have when the doctor visits them. That concern was the impetus to the P-LAN in creating a campaign to instruct patients on the value of asking their doctor questions. The P-LAN also provided the patients with a tool that could be used to help formulate questions for their doctor so as to maximize use of the time spent with their doctor. The title of P-LAN Campaign #2 is “Maximize Your Time with the Doctor.”

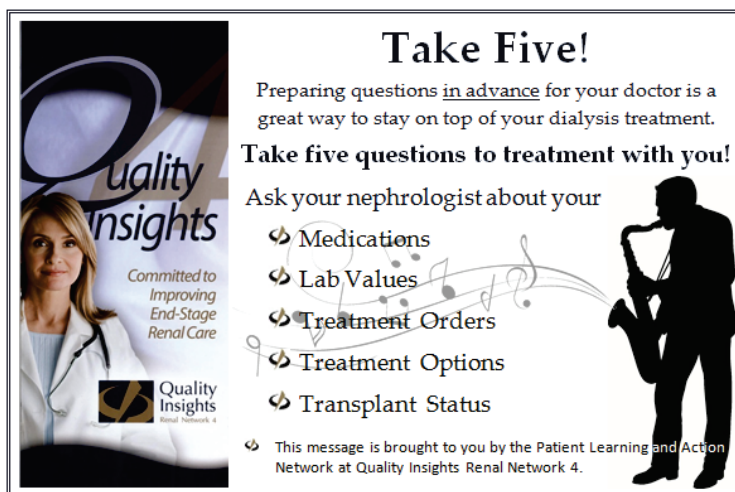
Campaign #2 AIM

Because dialysis patients see their kidney doctors typically during patient care rounds, the P-LAN sought to increase the number of patients asking questions of their doctor during patient care rounds by >10% in 20% of the ICHD patients in Network 4’s service area over a three-month period of time.

Campaign #2 Focus Facilities and Interventions

As with Campaign #1, all Network dialysis facilities not currently involved in a Network 4 improvement activity were randomly selected to be one of 64 Focus Facilities for Campaign #2. Facility Administrators from the Focus Facilities received a letter authored by the P-LAN. The letter outlined the “Maximize Your Time with the Doctor” educational campaign, which consisted of pre-campaign baseline measurements, distribution of a postcard tool, distribution of two subsequent handouts and post-campaign measurement.

Figure 5. Campaign #2 Educational Tool



Campaign #2 Outcomes

The post-intervention measurement demonstrated a 10.6% improvement. This improvement achieved the P-LAN and CMS goal of a >10% improvement over the course of Campaign #2. This improvement was demonstrated by patients in the P-LAN Campaign #2 Focus Facilities (denominator) who had prepared questions to present to their doctor at during patient care rounds (numerator) after receiving the "Take Five!" educational materials and tool.

Campaign #1 and #2 Summary

In summary, both of these education campaigns were well received, with the "Who's Who in the Dialysis Center" earning the most positive feedback of the 2014 P-LAN projects. As indicated by the data, this Campaign successfully achieved the goal to educate patients on the various roles of the dialysis center staff. Second, this campaign's popularity will serve to demonstrate the value of patient-driven efforts supported by Network 4 and potentially bolster buy-in to future campaigns.

Other Activities Performed by the Patient Learning Action and Network

Members of the P-LAN sat on both the QIRN 4 Board of Directors and the QIRN 4 Medical Review Board in 2014 and attended monthly calls with QIRN 4 and the Network 4 CMS Contracting Officer's Representative (COR). These same P-LAN members took part in the 2014 CMS Annual On-Site Review with the Network 4 COR. In 2014 QIRN 4 sponsored two P-LAN members' attendance to the CMS QualityNet conference in Baltimore. Both P-LAN members were able to interact extensively with CMS officials. One of the P-LAN members was a featured panelist and gave a lecture on kidney transplantation.

Support for ICH CAHPS

The Consumer Assessment of Healthcare Providers and Systems In-Center Hemodialysis Survey (ICH CAHPS) annually measures the experiences of people receiving in-center hemodialysis care from Medicare-certified dialysis facilities. The survey measures were endorsed by the National Quality Forum (NQF) in 2007.

Background

The ICH-CAHPS survey tool, containing 65 questions, was designed to assess patient perceptions of care provided at dialysis facilities. Items on the ICH-CAHPS survey instruments address: nephrologists' communication and caring, quality of dialysis center care and operations, providing information to patients, global rating of kidney doctors, global rating of dialysis center staff and global rating of the dialysis center. All patients ages 18 and over receiving outpatient hemodialysis for at least three months are eligible to complete the survey. To receive the calendar year 2014 (CY2014) annual payment update (APU), all Medicare-certified ICH facilities were required to have an independent survey vendor administer ICH-CAHPS to their patients in 2014.

QIRN 4 ICH-CAHPS Interventions

QIRN 4 encouraged all qualified outpatient dialysis facilities to participate in the ICH-CAHPS distribution. QIRN 4 promoted the use of ICH-CAHPS across Network 4's service area during quarterly Network Council webinars, in the QIRN 4 e-newsletters and via E-mail Blasts. QIRN 4 also used an Internet survey tool to track the completion of ICH-CAHPS in Network area facilities. Between survey and email responses, QIRN 4 identified that 100% of the Network area facilities initiated the distributed the ICH-CAHPS to eligible patients for 2014.

Grievances and Access to Care

Quality Insights Renal Network 4 (QIRN 4) responds to grievances filed by or on behalf of ESRD patients in Pennsylvania and Delaware.

In many instances, QIRN 4 works with individual facilities to identify and address difficulties in placing or maintaining patients in treatment. The access to care cases may come to the Network's attention in the form of a grievance, or may be initiated by facility staff.

Access to care cases include: cases involving involuntary discharges, involuntary transfers, and failures to place. An involuntary discharge is a discharge initiated by the treating dialysis facility without the patient's agreement. An involuntary transfer occurs when the transferring facility temporarily or permanently closes due to a merger, due to an emergency or disaster situation, or due to other circumstances, and the patient is dissatisfied with the transfer to another facility. A failure to place is defined as a situation in which no outpatient dialysis facility can be located that will accept an ESRD patient for routine dialysis treatment. In 2014, QIRN 4 responded to 160 grievances. Of these, 15 (9%) involved issues related to access to care. QIRN 4 responded to 106 additional non-grievance access to care cases brought to the Network's attention by facility staff.

Table I. Grievances and Non-Grievance Access to Care Cases, Calendar Year 2014

Category	Number
Number of Grievance Cases Opened by Network 4 in Calendar Year 2014*	160
Number (Percent) of Grievance Cases Involving Access to Care	15 (9%)
Number of Non-Grievance Access to Care Cases Opened by Network 4 in Calendar Year 2014	106
Total Number of Grievance and Non-Grievance Cases Involving Access to Care in Calendar Year 2014	121
Number of Cases Involving Involuntary Transfers**	6
Number of Cases Involving Involuntary Discharges**	40
Number of Cases Involving Failure to Place**	2

Source of data: Patient Contact Utility.

*Includes grievance cases involving access to care.

**Includes grievance cases involving access to care as well as non-grievance access to care cases.

Grievances and Non-Grievance Access to Care Cases Referred to State Survey Agencies

In 2014, QIRN 4 consulted with the State Survey Agency for nine cases, of which two went on to be referred to the State Survey Agency for further investigation. One of the referrals was a

patient complaint related to cleanliness of the patient's dialysis facility. This complaint was substantiated after the State Survey Agency investigation, and the facility submitted a plan of correction. The other referral was related to a patient who had been involved in a verbal altercation with another patient. The complainant felt the situation was not treated fairly. The State Survey Agencies surveyed the facility and found there was no deviation from facility policies and found the complaint was not substantiated.

In 2014, the State Survey Agencies collaborated with Network 4 concerning two cases involving patients who appeared to have psychosocial issues. In one of the two cases, the patient's facility was experiencing a delay in response from the Medical Assistance Transportation Provider (MATP). Network 4 assisted in this situation and reminded the MATP of the rules set by the State's Department of Medicaid. The MATP complied and the issue was resolved. The second case concerned a scheduling conflict between a patient and his doctor. Network 4 worked with the patient and the patient's facility to broker a solution that was agreeable to both parties.

Last, in 2014, QIRN 4 worked collaboratively with the State Survey Agencies and a dialysis facility regarding a patient who was going to Liberia for two months during the Ebola outbreak. QIRN 4 and the State Survey Agencies worked closely with the patient's facility to assure safety for all patients at the dialysis facility as well as to provide the patient a smooth transition back to dialysis once he had returned to the United States.

Recommendations for Sanctions

The guidance provided to Network 4 in the CMS Statement of Work (SOW) directs QIRN 4 to "recommend sanctions pursuant to §1881(c)(2) of the Social Security Act and procedures outlined in Attachment J-08 – *Recommendations for Sanctions*. The Network shall conduct a thorough review of a facility reporting more than two IVD/IVTs per month or three IVD/IVTs per quarter to ensure regulatory/statutory compliance and consider exercising its authority to recommend sanctions."

Additionally, the SOW goes on to state "the Network shall consider recommending sanctions for facilities that:

- Engage in inappropriate practice patterns;
- Demonstrate a pattern of not accepting the Network's offers of technical assistance;
- Demonstrate a pattern of non-adherence to Network recommendations;
- Do not meet Network-determined benchmarks as required by CMS;
- Do not meet CMS and Network goals relative to clinical performance measures and ESRD QIP measures;

- Do not demonstrate evidence of effective quality improvement activities that result in continuous quality improvement for those clinical areas in which the facility is not meeting benchmarked standards.”

In 2014, no facility in Network 4’s service area met the criteria for a sanction recommendation.

Recommendations to CMS for Additional Facilities

In 2014, QIRN 4 did not make any recommendations for additional facilities to be added to the Network 4 service area.

Emergency Preparedness and Response

Background

In the Network 4 geographic area, patients and facilities encounter a wide variety of weather-related conditions that may impact patients receiving dialysis care. These situations include high heat, high winds, snow/ice storms, arctic cold conditions, Nor'easters, and coastal flooding throughout a typical year. In 2014, Network 4's service area experienced a higher than average snow fall and several record subzero temperature events. During all snow storm events encountered in 2014, QIRN 4 utilized a facility reporting process both before and during the event to ensure that all patients received care or had a medically acceptable plan to receive care. For this process, the facilities reported their status: closure; alternate treatment schedule; transient status of patients sent to a backup facility; loss of power or on generator power to QIRN 4 via the Network's Facility Status Reporting Tool located on the QIRN 4 website. QIRN 4 maintained an Excel spreadsheet designed to track the reporting facilities' information and to assist with ongoing analysis. Additionally, all weather-related information was submitted to CMS, KCER, and community contacts as needed.

Weather-Related Occurrences in 2014

Throughout 2014, QIRN 4 distributed educational information to facilities and patients on emergency preparedness. In particular, in October 2014, the staff at QIRN 4 targeted the emergency dietary strategies patients need to follow in the event of a facility shut down due to weather conditions. Through the year, QIRN 4 worked with individual facilities, KCER, the City of Philadelphia Emergency Management Department, and LDO/SDO corporate administrators via conference calls to monitor inclement weather situations as they occurred. During these conference calls, QIRN 4 shared key information impacting patient care, including details on geographic areas without power, facilities operating on generators, facility closures, and facilities that were operating on altered schedules. QIRN 4 monitored each storm as it progressed through the Network 4 area via various media: the National Oceanic and Atmospheric Administration site (www.noaa.gov); the national Weather Channel site (www.weather.gov); and local/national radio stations and weather channels.

When severe weather approached and was predicted to impact the operations of the Network-area facilities, an e-blast was sent out to the potentially affected facilities. As the facilities prepared for the weather event, they reported their status to QIRN 4 via the Web-based Facility Status Reporting Tool. This reporting process allowed the staff at QIRN 4 the ability to monitor

and evaluate the preparation activities of the impacted Network 4 facilities as well as monitor for patient accountability.

The Government Emergency Telecommunications Service (GETS) and/or the Wireless Priority Service (WPS).

The GETS and WPS are White House directed and federally funded services offered by the Department of Homeland Security Office of Emergency Communications. They provide emergency access and specialized processing in the local telephone network, which increases the probability of completing emergency calls when normal calling methods fail. They are intended for use only by government and government-sponsored personnel with bona fide National Security or Emergency Preparedness (NS/EP) responsibilities, and only during emergencies, testing, or training. In 2014, QIRN 4 applied for and received a GETS card to be used in the event of an emergency that would impact communications at the QIRN 4 office located in King of Prussia, Pennsylvania.

Emergency Preparedness 2014 Year in Review

- **March 18, 2014:** Key Emergency Preparedness QIRN 4 staff attended a Pennsylvania Statewide Advisory Meeting on emergency preparedness.
- **April 8, 2014:** Emergency Preparedness QIRN 4 staff attended a Mitigate, Prepare, and Respond: Emergency Managers as Partners in Climate Adaptation conference.
- **September 23, 2014:** Emergency Preparedness QIRN 4 staff as well as a Network 4 patient SME developed and conducted a Network-area emergency management mock drill for the dialysis facilities Emergency Management Coordinator's.
- **October 21, 2014:** PSC participated in one day of the week-long multiple-state OEM exercise.
- **September 2014:** PSC activated the Government Emergency Telecommunications Service (GETS) card.

List of Network-Area Data Tables

Data Table 1: ESRD Incidence Report

Data Table 2: ESRD Dialysis Prevalence Report

Data Table 3: Dialysis Patients Modality and Setting - In Home Report

Data Table 4: Dialysis Patients Modality and Setting - In Center Report

Data Table 5: Renal Transplant by Transplant Center

Data Table 6: Renal Transplant Recipients

Data Table 7: Dialysis Death Report

Data Table 8: Vocational Rehabilitation Report

Data Table 1: ESRD Incidence – One Year Statistics Network 4

As of 01/01/2014 Through 12/31/2014

Age Group	DE	PA	Other	Total
00-04	2	9	3	14
05-09	0	8	5	13
10-14	0	5	4	9
15-19	1	11	1	13
20-24	5	37	0	42
25-29	6	48	7	61
30-34	9	87	8	104
35-39	13	113	5	131
40-44	13	147	8	168
45-49	22	251	8	281
50-54	36	328	16	380
55-59	37	479	17	533
60-64	43	616	18	677
65-69	50	611	28	689
70-74	41	610	15	666
75-79	40	560	17	617
80-84	36	423	10	469
>=85	11	364	9	384
Total	365	4,707	179	5,251
Gender	DE	PA	Other	Total
Female	146	1,931	61	2,138
Male	219	2,776	118	3,113
Not Specified	0	0	0	0
Total	365	4,707	179	5,251
Race	DE	PA	Other	Total
American Indian/Alaska Native	1	1	2	4
Asian	4	88	8	100
Black or African American	151	1,103	33	1,287
Multiracial	1	6	3	10
Native Hawaiian or Other Pacific Islander	3	20	0	23
White	204	3,445	125	3,774
Not Specified	1	44	8	53
Total	365	4,707	179	5,251
Primary Diagnosis	DE	PA	Other	Total
Cystic/Hereditary/Congenital Diseases	11	129	9	149
Diabetes	145	1,968	64	2,177
Glomerulonephritis	31	296	13	340
Hypertension/Large Vessel Disease	94	1,238	38	1,370
Interstitial Nephritis/Pyelonephritis	18	127	2	147
Miscellaneous Conditions	35	400	20	455

Neoplasms/Tumors	5	146	7	158
Secondary GN/Vasculitis	8	97	5	110
Not Specified	18	306	21	345
Total	365	4,707	179	5,251

Source of Information: CROWNWeb

Race: The categories are from the CMS-2728 Form.

Diagnosis: The categories are from the CMS 2728 Form.

This table cannot be compared to the CMS facility survey because the CMS Facility Survey is limited to dialysis patients receiving outpatient services from Medicare approved dialysis facilities.

This table includes 165 patients with transplant therapy as an initial treatment.

This table includes 22 patients receiving treatment at VA facilities.

Data Table 2: ESRD Dialysis Prevalence - One Year Statistics Network 4

As of 01/01/2014 Through 12/31/2014

Age Group	DE	Other	PA	Total
00-04	2	7	12	21
05-09	0	1	9	10
10-14	0	2	7	9
15-19	1	5	27	33
20-24	11	2	110	123
25-29	16	4	224	244
30-34	34	9	342	385
35-39	49	15	500	564
40-44	53	15	724	792
45-49	106	27	1,087	1,220
50-54	150	36	1,462	1,648
55-59	200	39	1,985	2,224
60-64	208	43	2,197	2,448
65-69	233	50	2,323	2,606
70-74	176	42	1,958	2,176
75-79	152	28	1,717	1,897
80-84	121	34	1,354	1,509
>=85	78	22	1,094	1,194
Total	1,590	381	17,132	19,103
Gender	DE	Other	PA	Total
Female	651	164	7,124	7,939
Male	939	217	10,008	11,164
Total	1,590	381	17,132	19,103
Ethnicity	DE	Other	PA	Total
Hispanic or Latino	54	20	818	892
Not Hispanic or Latino	1,536	360	16,305	18,201
Not Specified	0	1	9	10
Total	1,590	381	17,132	19,103
Race	DE	Other	PA	Total
American Indian/Alaska Native	2	2	8	12
Asian	15	8	238	261
Black or African American	834	85	5,718	6,637
More than one race selected	0	2	20	22
Native Hawaiian or Other Pacific Islander	3	1	57	61
White	736	283	11,084	12,103
Not Specified	0	0	7	7
Total	1,590	381	17,132	19,103
Primary Diagnosis	DE	Other	PA	Total
Acquired obstructive uropathy	15	1	205	221
Acute interstitial nephritis	1	0	21	22

AIDS nephropathy	14	1	117	132
Amyloidosis	0	1	26	27
Analgesic abuse	4	0	27	31
Cholesterol emboli, renal emboli	1	0	31	32
Chronic interstitial nephritis	13	3	113	129
Chronic pyelonephritis, reflux nephropathy	7	1	46	54
Complications of transplanted bone marrow	0	0	2	2
Complications of transplanted heart	3	1	36	40
Complications of transplanted kidney	31	10	499	540
Complications of transplanted liver	0	1	38	39
Complications of transplanted lung	1	0	17	18
Complications of transplanted organ unspecified	2	0	11	13
Complications of transplanted pancreas	0	0	1	1
Congenital nephrotic syndrome	2	1	13	16
Congenital obstruction of ureteropelvic junction	1	1	18	20
Congenital obstruction of ureterovesical junction	0	0	7	7
Cystinosis	0	0	3	3
Dense deposit disease, MPGN type 2	1	0	7	8
Diabetes with renal manifestations Type 1	56	17	658	731
Diabetes with renal manifestations Type 2	601	127	6,411	7,139
Drash syndrome, mesangial sclerosis	0	0	7	7
Etiology uncertain	52	16	530	598
Fabry's disease	0	0	6	6
Focal Glomerulonephritis, focal sclerosing GN	65	16	529	610
Glomerulonephritis (GN) (histologically not examined)	78	7	461	546
Goodpasture's syndrome	2	1	22	25
Gouty nephropathy	1	0	2	3
Hemolytic uremic syndrome	4	0	25	29
Henoch-Schonlein syndrome	0	1	4	5
Hepatorenal syndrome	1	0	33	34
Hereditary nephritis, Alport's syndrome	2	2	33	37
Hypertension: Unspecified with renal failure	344	103	4,587	5,034
IgA nephropathy, Berger's disease (proven by immunofluorescence)	12	4	139	155
IgM nephropathy (proven by immunofluorescence)	0	0	11	11
Lead nephropathy	0	0	4	4
Lupus erythematosus, (SLE nephritis)	17	6	186	209
Lymphoma of kidneys	0	0	5	5
Medullary cystic disease, including nephronophthisis	0	0	8	8
Membranoproliferative GN type 1, diffuse MPGN	1	1	68	70
Membranous nephropathy	12	1	104	117
Multiple myeloma	7	0	95	102
Nephrolithiasis	2	1	29	32
Nephropathy caused by other agents	5	1	70	76
Nephropathy due to heroin abuse and related drugs	1	0	4	5
Other (congenital malformation syndromes)	5	1	28	34
Other Congenital obstructive uropathy	2	6	28	36

Other disorders of calcium metabolism	0	0	1	1
Other immuno proliferative neoplasms (including light chain nephropathy)	1	1	10	12
Other proliferative GN	8	1	54	63
Other renal disorders	19	9	216	244
Other Vasculitis and its derivatives	7	1	36	44
Polyarteritis	0	0	7	7
Polycystic kidneys, adult type (dominant)	37	10	421	468
Polycystic, infantile (recessive)	0	3	8	11
Post infectious GN, SBE	5	1	16	22
Post partum renal failure	0	0	4	4
Primary oxalosis	0	0	1	1
Prune belly syndrome	1	0	3	4
Radiation nephritis	0	0	9	9
Renal artery occlusion	2	2	17	21
Renal artery stenosis	6	2	103	111
Renal hypoplasia, dysplasia, oligonephronia	4	1	32	37
Renal tumor (benign)	0	0	4	4
Renal tumor (malignant)	3	1	62	66
Renal tumor (unspecified)	3	0	10	13
Scleroderma	2	0	6	8
Secondary GN, other	3	0	25	28
Sickle cell disease/anemia	1	0	8	9
Sickle cell trait and other sickle cell (HbS/Hb other)	0	0	1	1
Traumatic or surgical loss of kidney(s)	0	0	21	21
Tuberous sclerosis	0	0	8	8
Tubular necrosis (no recovery)	45	8	313	366
Urinary tract tumor (benign)	0	0	1	1
Urinary tract tumor (malignant)	0	0	13	13
Urinary tract tumor (unspecified)	0	0	4	4
Urolithiasis	1	0	8	9
Wegener's granulomatosis	4	1	54	59
With lesion of rapidly progressive GN	3	0	50	53
Not Specified	69	8	281	358
Total	1,590	381	17,132	19,103

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When a category count = 0, the category may not be displayed on the report.

Data Table 3: Dialysis Patients Modality and Setting - In Home Network 4

For Survey Years 2013 and 2014

State: DE

Facility CCN	Hemo		CAPD		CCPD		Other		Total	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
080004	0	0	0	0	0	0	0	0	0	0
08002F	0	0	0	0	0	0	0	0	0	0
082300	0	0	0	0	0	0	0	0	0	0
082501	0	0	0	0	0	0	0	0	0	0
082502	0	0	0	0	0	0	0	0	0	0
082503	0	0	0	0	0	0	0	0	0	0
082505	0	2	7	7	15	22	0	0	22	31
082506	0	0	0	0	1	0	0	0	1	0
082507	4	6	4	5	20	26	0	0	28	37
082508	0	0	1	0	7	9	0	0	8	9
082509	0	0	0	0	0	0	0	0	0	0
082510	0	0	0	0	0	0	0	0	0	0
082511	0	0	0	0	0	0	0	0	0	0
082512	0	0	0	0	0	0	0	0	0	0
082513	0	0	0	0	0	0	0	0	0	0
082514	0	0	0	0	0	0	0	0	0	0
082515	4	1	2	2	12	19	0	0	18	22
082516	0	0	0	0	0	0	0	0	0	0
082517	1	0	2	1	17	12	0	0	20	13
082518	0	0	6	1	8	14	0	0	14	15
082519	0	0	0	0	0	0	0	0	0	0
082520	9	10	12	14	55	69	0	0	76	93
082521	0	0	0	0	0	0	0	0	0	0
082522^	0	0	0	0	0	1	0	0	0	1
083300	0	0	0	0	1	3	0	0	1	3
DE Totals	18	19	34	30	136	175	0	0	188	224

State: PA

Facility CCN	Hemo		CAPD		CCPD		Other		Total	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
390035#	0	0	0	0	0	0	0	0	0	0
390046	12	14	1	1	17	13	0	0	30	28
390049#	0	0	0	0	0	0	0	0	0	0
39005F	0	0	0	0	0	0	0	0	0	0
390079	0	0	1	1	5	4	0	0	6	5
390119#	0	0	0	0	0	0	0	0	0	0
390121^#	0	0	0	0	0	0	0	0	0	0
390123#	0	0	0	0	0	0	0	0	0	0
39012F	3	4	0	0	14	12	0	0	17	16

39013F	0	0	0	0	0	0	0	0	0	0
390142	0	0	14	16	10	4	0	0	24	20
390164	0	0	0	0	0	0	0	0	0	0
390256	0	0	1	1	19	22	0	0	20	23
392300	0	0	3	3	14	21	0	0	17	24
392501	0	0	0	0	0	0	0	0	0	0
392502	0	0	0	1	15	4	0	0	15	5
392505	0	0	0	0	0	0	0	0	0	0
392506	1	1	0	1	1	0	0	0	2	2
392507	2	2	1	1	2	1	0	0	5	4
392508	0	0	0	0	0	0	0	0	0	0
392509	0	0	0	0	0	0	0	0	0	0
392511	12	10	2	11	15	18	0	0	29	39
392512	1	1	0	0	5	7	0	0	6	8
392513	0	0	0	0	0	0	0	0	0	0
392515	0	0	1	1	3	5	0	0	4	6
392516	0	0	0	0	0	0	0	0	0	0
392517	0	0	0	0	0	0	0	0	0	0
392518	0	0	13	12	2	4	0	0	15	16
392520	0	0	0	0	0	0	0	0	0	0
392521	12	0	3	0	27	0	0	0	42	0
392522	0	0	3	3	17	22	0	0	20	25
392523	1	2	0	0	7	8	0	0	8	10
392524	0	1	0	0	0	0	0	0	0	1
392528	0	0	0	0	0	0	0	0	0	0
392530	0	0	0	0	0	0	0	0	0	0
392531	0	0	0	0	0	0	0	0	0	0
392532	0	0	0	0	8	10	0	0	8	10
392533	0	0	0	0	1	1	0	0	1	1
392534	2	0	0	0	9	5	0	0	11	5
392535	0	0	0	0	0	3	0	0	0	3
392536	0	0	0	0	0	0	0	0	0	0
392537	1	3	0	0	9	7	0	0	10	10
392538	0	0	0	0	0	0	0	0	0	0
392539	0	0	1	0	13	19	0	0	14	19
392540	0	0	0	0	0	0	0	0	0	0
392541	0	0	1	1	5	10	0	0	6	11
392542	0	0	0	0	0	0	0	0	0	0
392543	0	0	0	0	4	0	0	0	4	0
392544	0	0	0	0	3	0	0	0	3	0
392545	0	0	0	0	0	0	0	0	0	0
392546	0	0	0	0	0	7	0	0	0	7
392547	0	1	2	3	3	3	0	0	5	7
392548	0	0	8	6	2	4	0	0	10	10
392549	0	0	6	5	36	34	0	0	42	39
392551	0	0	0	0	0	0	0	0	0	0

392552	1	1	1	0	7	3	0	0	9	4
392553	0	0	1	1	7	13	0	0	8	14
392554	0	0	0	0	2	1	0	0	2	1
392555	0	0	0	0	0	0	0	0	0	0
392556	0	0	0	0	0	0	0	0	0	0
392557	0	0	2	1	11	14	0	0	13	15
392559	0	0	0	0	0	0	0	0	0	0
392560	3	2	2	3	5	5	1	1	11	11
392561	0	0	2	0	4	0	0	0	6	0
392562	0	0	2	0	6	0	0	0	8	0
392563	0	0	0	0	0	0	0	0	0	0
392565	0	0	0	0	0	0	0	0	0	0
392567	0	0	0	0	1	3	0	0	1	3
392568	0	0	0	0	0	0	0	0	0	0
392569	0	0	0	0	0	0	0	0	0	0
392572	0	0	0	0	0	0	0	0	0	0
392573	0	0	1	2	12	6	0	0	13	8
392574	0	0	2	1	4	5	0	0	6	6
392575	1	0	0	2	1	0	0	0	2	2
392576	0	0	1	0	4	7	0	0	5	7
392577	0	0	0	0	0	0	0	0	0	0
392578	0	0	0	0	0	0	0	0	0	0
392579	0	0	0	0	0	0	0	0	0	0
392580	0	0	0	0	0	0	0	0	0	0
392581	0	0	2	1	2	0	0	0	4	1
392582	0	0	0	0	0	0	0	0	0	0
392584	2	2	1	1	9	6	0	0	12	9
392586	0	0	0	0	1	2	0	0	1	2
392587	0	1	0	0	12	8	0	0	12	9
392588	0	0	0	0	4	5	0	0	4	5
392590	0	0	0	0	0	0	0	0	0	0
392591#	0	0	0	0	0	0	0	0	0	0
392592	1	1	0	1	8	7	0	0	9	9
392594	2	1	1	1	1	2	0	0	4	4
392595	5	2	3	3	14	7	0	0	22	12
392597	0	0	0	0	0	0	0	0	0	0
392598	0	0	0	0	9	2	0	0	9	2
392600	0	0	0	0	4	3	0	0	4	3
392601	0	0	0	0	0	0	0	0	0	0
392602	0	0	0	0	0	0	0	0	0	0
392603	0	2	0	0	0	0	1	0	1	2
392604	0	0	0	0	0	0	0	0	0	0
392605	0	0	1	5	7	6	0	0	8	11
392606	0	0	0	0	0	0	0	0	0	0
392609	0	0	0	0	0	0	0	0	0	0
392610	7	8	3	3	23	24	0	0	33	35

392612	0	0	0	0	2	3	0	0	2	3
392613	0	0	0	0	0	0	0	0	0	0
392614	12	12	1	6	29	39	0	0	42	57
392616	5	6	0	0	4	5	0	0	9	11
392617	0	0	1	0	1	2	0	0	2	2
392618	0	0	0	0	0	0	0	0	0	0
392619	0	0	1	3	16	22	0	0	17	25
392620	0	0	2	2	1	0	0	0	3	2
392621	0	0	0	0	0	0	0	0	0	0
392622	0	0	0	0	0	0	0	0	0	0
392623	0	0	0	0	3	1	0	0	3	1
392626	0	0	0	0	0	0	0	0	0	0
392627	0	0	0	0	4	4	0	0	4	4
392628	9	9	3	4	16	14	0	0	28	27
392629	0	0	0	0	0	0	0	0	0	0
392630	7	8	2	1	21	18	0	0	30	27
392631	0	0	0	0	0	0	0	0	0	0
392632	0	0	0	0	0	0	0	0	0	0
392633	0	1	0	3	9	14	0	0	9	18
392634	1	0	3	3	4	9	0	0	8	12
392635	0	0	0	0	0	0	0	0	0	0
392636	0	0	2	2	6	4	0	0	8	6
392637	0	0	0	0	0	0	0	0	0	0
392638	0	0	0	0	0	0	0	0	0	0
392639	0	0	0	0	0	0	0	0	0	0
392640	0	0	0	0	0	0	0	0	0	0
392641	0	0	0	0	3	2	0	0	3	2
392642	0	0	0	0	0	0	0	0	0	0
392644	0	0	0	0	0	0	0	0	0	0
392646	0	0	0	0	3	1	0	0	3	1
392647	0	0	1	2	4	3	0	0	5	5
392648	0	0	0	1	11	6	0	0	11	7
392649	3	1	1	0	4	3	0	0	8	4
392650	0	0	0	0	0	0	0	0	0	0
392651	0	0	0	0	4	3	0	0	4	3
392653	0	0	0	0	0	0	0	0	0	0
392656	1	1	0	1	1	1	0	0	2	3
392657	0	0	0	0	1	0	0	0	1	0
392658	6	4	3	2	15	14	0	0	24	20
392659	6	5	3	1	3	8	0	0	12	14
392660	1	1	0	0	2	1	0	0	3	2
392661	0	0	0	0	0	0	0	0	0	0
392662	0	0	0	0	0	0	0	0	0	0
392663	0	0	0	0	0	0	0	0	0	0
392664	0	0	0	0	0	0	0	0	0	0
392665	0	0	0	0	0	0	0	0	0	0

392666	0	0	0	0	2	6	0	0	2	6
392667#	0	0	0	0	0	0	0	0	0	0
392669	3	2	0	0	0	0	0	0	3	2
392670	0	0	0	0	0	0	0	0	0	0
392671	0	0	0	0	0	0	0	0	0	0
392672	0	0	0	0	0	0	0	0	0	0
392674	0	0	0	0	1	0	0	0	1	0
392676	0	0	0	0	0	3	0	0	0	3
392677	0	0	0	0	9	6	0	0	9	6
392678	0	0	0	0	0	0	0	0	0	0
392680	0	0	0	0	0	0	0	0	0	0
392681	1	2	3	1	0	0	0	0	4	3
392682	0	0	0	0	0	0	0	0	0	0
392683	1	0	0	0	3	2	0	0	4	2
392684	0	0	17	23	7	10	0	0	24	33
392685	0	0	3	1	1	3	0	0	4	4
392686	0	0	0	0	7	5	0	0	7	5
392687	2	1	1	0	17	13	0	0	20	14
392688	0	0	1	0	1	1	0	0	2	1
392689	0	1	0	0	0	0	0	0	0	1
392690	0	0	0	0	0	0	0	0	0	0
392691	0	0	0	0	7	7	0	0	7	7
392692	1	1	0	0	4	7	0	0	5	8
392694	0	0	0	0	0	0	0	0	0	0
392695	0	0	0	0	1	0	0	0	1	0
392697#	0	0	0	0	0	0	0	0	0	0
392698	0	0	0	0	6	5	0	0	6	5
392699	0	0	0	0	2	0	0	0	2	0
392700	0	0	0	0	0	0	0	0	0	0
392701	0	0	0	0	0	0	0	0	0	0
392702	0	0	0	2	0	11	0	0	0	13
392704	0	0	0	0	0	0	0	0	0	0
392705	0	0	0	0	0	0	0	0	0	0
392706	0	0	0	0	0	0	0	0	0	0
392707	0	0	0	0	4	4	0	0	4	4
392708	1	2	4	2	1	4	0	0	6	8
392710	3	4	0	0	0	0	0	0	3	4
392711	0	0	7	4	18	21	0	0	25	25
392713	0	0	1	1	5	2	0	0	6	3
392714	1	1	0	0	0	1	0	0	1	2
392715	0	0	0	0	3	2	0	0	3	2
392716	0	0	0	0	0	0	0	0	0	0
392717	0	0	1	3	9	7	0	0	10	10
392718	0	0	0	0	0	0	0	0	0	0
392719	0	0	0	0	0	0	0	0	0	0
392720	1	0	0	0	13	9	0	0	14	9

392721	0	0	0	0	0	0	0	0	0	0
392723	6	3	5	5	40	30	0	0	51	38
392724	0	0	0	0	0	0	0	0	0	0
392725	0	0	0	0	0	0	0	0	0	0
392726	0	0	0	0	0	0	0	0	0	0
392727	0	0	0	0	8	7	0	0	8	7
392729	0	0	0	0	0	0	0	0	0	0
392731	3	5	0	1	8	14	0	0	11	20
392732	4	0	0	0	0	0	0	0	4	0
392733	0	0	0	0	0	0	0	0	0	0
392734	0	0	2	2	6	9	0	0	8	11
392735	0	0	1	1	4	3	0	0	5	4
392736	1	1	0	1	9	10	0	0	10	12
392738	0	0	0	0	0	0	0	0	0	0
392739	0	0	4	9	24	21	0	0	28	30
392740	0	1	0	0	0	2	0	0	0	3
392741	1	2	5	4	9	10	0	0	15	16
392742	0	0	0	0	3	3	0	0	3	3
392743	2	2	0	2	4	6	0	0	6	10
392745#	0	0	0	0	0	0	0	0	0	0
392746	2	2	1	1	7	4	0	0	10	7
392747	0	0	0	1	1	1	0	0	1	2
392748	0	0	0	0	6	2	0	0	6	2
392749	0	0	0	0	0	0	0	0	0	0
392750	0	0	1	1	10	15	0	0	11	16
392751	0	0	0	0	0	0	0	0	0	0
392752	3	4	2	2	11	8	0	0	16	14
392753	0	0	0	0	0	0	0	0	0	0
392754	0	0	0	0	0	0	0	0	0	0
392755	1	3	5	3	22	19	0	0	28	25
392756	26	33	1	0	37	28	0	0	64	61
392757#	0	0	0	0	0	0	0	0	0	0
392758#	0	0	0	0	0	0	0	0	0	0
392759	0	0	0	0	0	0	0	0	0	0
392761	0	0	0	0	0	0	0	0	0	0
392763	0	0	8	11	0	1	0	0	8	12
392764	0	0	0	0	0	0	0	0	0	0
392765	0	0	0	0	2	1	0	0	2	1
392766	0	0	0	0	5	5	0	0	5	5
392767	0	0	0	0	0	0	0	0	0	0
392768	0	0	0	0	3	3	0	0	3	3
392769	6	3	0	0	11	8	0	0	17	11
392770	0	0	0	0	0	0	0	0	0	0
392771	0	0	0	0	0	0	0	0	0	0
392772	15	9	0	2	13	16	0	0	28	27
392773	0	0	0	0	3	6	0	0	3	6

392775	3	2	0	1	27	17	0	0	30	20
392776	0	0	1	0	8	9	0	0	9	9
392777	0	0	0	2	4	6	0	0	4	8
392778	0	0	1	0	4	5	0	0	5	5
392779	0	0	0	0	0	1	0	0	0	1
392780	0	0	0	0	0	0	0	0	0	0
392781	0	0	1	0	0	3	0	0	1	3
392782	2	2	0	0	7	8	0	0	9	10
392783	0	0	1	2	1	3	0	0	2	5
392784	1	1	0	0	2	2	0	0	3	3
392785	31	25	1	6	43	52	0	0	75	83
392786	0	0	1	1	2	2	0	0	3	3
392787	1	13	0	5	24	50	0	0	25	68
392788	0	0	0	0	2	4	0	0	2	4
392789	0	0	2	1	4	4	0	0	6	5
392790	0	0	1	1	9	16	0	0	10	17
392791	0	0	2	5	6	9	0	0	8	14
392792	0	0	0	0	0	0	0	0	0	0
392793#	0	0	0	0	0	0	0	0	0	0
392794^	0	0	0	0	0	0	0	0	0	0
392795#	0	0	0	0	0	0	0	0	0	0
392796	16	19	7	5	78	78	0	0	101	102
392797	11	14	0	0	5	7	0	0	16	21
392798	0	0	0	0	1	2	0	0	1	2
392799#	0	0	0	0	0	0	0	0	0	0
392800	0	0	0	1	0	3	0	0	0	4
392801	0	0	0	0	0	2	0	0	0	2
392802	0	0	0	2	0	7	0	0	0	9
392803	0	0	1	1	26	22	0	0	27	23
392804	8	6	0	0	3	4	0	0	11	10
392805	0	1	0	0	0	3	0	0	0	4
392806	0	0	3	2	3	7	0	0	6	9
392807	0	0	0	0	0	2	0	0	0	2
392808^	0	0	0	0	0	0	0	0	0	0
392809	0	0	0	0	0	0	0	0	0	0
392810	0	0	0	0	2	3	0	0	2	3
392811	0	2	1	6	4	17	0	0	5	25
392813	0	4	0	0	1	12	0	0	1	16
392815	0	0	0	0	0	0	0	0	0	0
392816	0	0	12	17	1	2	0	0	13	19
392817	0	0	0	3	0	9	0	0	0	12
392818	0	0	0	0	0	0	0	0	0	0
392819	0	0	0	0	0	0	0	0	0	0
392820^	0	0	0	0	0	0	0	0	0	0
392821^	0	0	0	0	0	0	0	0	0	0
392822^	0	0	0	0	0	0	0	0	0	0

392825^	0	0	0	0	0	0	0	0	0	0
393302	0	0	1	0	5	3	0	0	6	3
393303	0	0	1	1	3	7	0	0	4	8
393307	0	0	0	0	5	3	0	0	5	3
393505	0	0	0	0	6	7	0	0	6	7
393515	0	0	0	0	0	0	0	0	0	0
393518	0	0	0	0	0	0	0	0	0	0
393519#	0	0	5	0	7	0	0	0	12	0
PA Totals	277	278	224	268	1,251	1,306	2	1	1,754	1,853

Network 4	Hemo		CAPD		CCPD		Other		Total	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Network 4 Totals	295	297	258	298	1,387	1,481	2	1	1,942	2,077

Source of Information: Facility Survey (CMS 2744) and CROWNWeb

Date of Preparation: May 2015

This table includes 0 Veterans Affairs Facility patients for 2013 and 0 Veterans Affairs Facility patients for 2014

^ Facility not operational in 2013

Facility not operational in 2014

* Facility does not have a generated 2744 in 2014

Data Table 4: Dialysis Patients Modality and Setting - In Center Network 4

For Survey Years 2013 and 2014

State: DE

Facility CCN	Hemo		PD		Total		Total In-Center & Home	
	2013	2014	2013	2014	2013	2014	2013	2014
080004	5	2	0	0	5	2	5	2
08002F	21	28	0	0	21	28	21	28
082300	17	17	0	0	17	17	17	17
082501	69	71	0	0	69	71	69	71
082502	94	94	0	0	94	94	94	94
082503	64	67	0	0	64	67	64	67
082505	95	98	0	0	95	98	117	129
082506	68	73	0	0	68	73	69	73
082507	75	86	1	0	76	86	104	123
082508	38	41	0	0	38	41	46	50
082509	101	104	0	0	101	104	101	104
082510	37	39	0	0	37	39	37	39
082511	62	66	0	0	62	66	62	66
082512	61	75	0	0	61	75	61	75
082513	75	72	0	0	75	72	75	72
082514	55	55	0	0	55	55	55	55
082515	73	71	0	0	73	71	91	93
082516	72	70	0	0	72	70	72	70
082517	65	66	0	0	65	66	85	79
082518	77	65	0	0	77	65	91	80
082519	47	47	0	0	47	47	47	47
082520	0	0	0	0	0	0	76	93
082521	45	60	0	0	45	60	45	60
082522^	0	31	0	0	0	31	0	32
083300	2	2	0	0	2	2	3	5
DE Totals	1,318	1,400	1	0	1,319	1,400	1,507	1,624

State: PA

Facility CCN	Hemo		PD		Total		Total In-Center & Home	
	2013	2014	2013	2014	2013	2014	2013	2014
390035#	34	0	0	0	34	0	34	0
390046	164	166	0	0	164	166	194	194
390049#	20	0	0	0	20	0	20	0
39005F	32	45	0	0	32	45	32	45
390079	59	63	0	0	59	63	65	68
390119#	31	0	0	0	31	0	31	0
390121^#	0	0	0	0	0	0	0	0
390123#	0	0	0	0	0	0	0	0
39012F	30	32	0	0	30	32	47	48

39013F	13	12	0	0	13	12	13	12
390142	1	1	0	0	1	1	25	21
390164	9	10	0	0	9	10	9	10
390256	41	44	0	0	41	44	61	67
392300	2	2	0	0	2	2	19	26
392501	92	115	0	0	92	115	92	115
392502	78	71	0	0	78	71	93	76
392505	118	116	0	0	118	116	118	116
392506	41	39	0	0	41	39	43	41
392507	82	75	0	0	82	75	87	79
392508	183	165	0	0	183	165	183	165
392509	100	106	0	0	100	106	100	106
392511	94	98	0	0	94	98	123	137
392512	124	114	0	0	124	114	130	122
392513	72	64	0	0	72	64	72	64
392515	68	71	0	0	68	71	72	77
392516	37	33	0	0	37	33	37	33
392517	63	69	0	0	63	69	63	69
392518	76	71	0	0	76	71	91	87
392520	61	58	0	0	61	58	61	58
392521	149	153	0	0	149	153	191	153
392522	111	101	0	0	111	101	131	126
392523	56	49	0	0	56	49	64	59
392524	32	31	0	0	32	31	32	32
392528	118	125	0	0	118	125	118	125
392530	116	117	0	0	116	117	116	117
392531	102	115	0	0	102	115	102	115
392532	47	48	0	1	47	49	55	59
392533	95	97	0	0	95	97	96	98
392534	46	44	0	0	46	44	57	49
392535	51	43	0	0	51	43	51	46
392536	104	102	0	0	104	102	104	102
392537	60	68	0	0	60	68	70	78
392538	133	135	0	0	133	135	133	135
392539	123	108	0	0	123	108	137	127
392540	101	90	0	0	101	90	101	90
392541	50	45	0	0	50	45	56	56
392542	84	68	0	0	84	68	84	68
392543	113	118	0	0	113	118	117	118
392544	50	55	0	0	50	55	53	55
392545	30	29	0	0	30	29	30	29
392546	79	86	0	0	79	86	79	93
392547	45	42	0	0	45	42	50	49
392548	128	126	0	0	128	126	138	136
392549	179	172	1	0	180	172	222	211
392551	87	79	0	0	87	79	87	79

392552	71	64	0	0	71	64	80	68
392553	86	95	0	0	86	95	94	109
392554	69	70	0	0	69	70	71	71
392555	63	59	0	0	63	59	63	59
392556	82	86	0	0	82	86	82	86
392557	79	85	0	0	79	85	92	100
392559	57	63	0	0	57	63	57	63
392560	65	67	0	0	65	67	76	78
392561	65	59	0	0	65	59	71	59
392562	93	78	0	0	93	78	101	78
392563	44	43	0	0	44	43	44	43
392565	58	59	0	0	58	59	58	59
392567	62	60	0	0	62	60	63	63
392568	105	100	0	0	105	100	105	100
392569	120	124	0	0	120	124	120	124
392572	21	20	0	0	21	20	21	20
392573	41	46	0	0	41	46	54	54
392574	55	50	0	0	55	50	61	56
392575	64	59	0	0	64	59	66	61
392576	32	30	0	0	32	30	37	37
392577	55	54	0	0	55	54	55	54
392578	21	27	0	0	21	27	21	27
392579	48	51	0	0	48	51	48	51
392580	25	26	0	0	25	26	25	26
392581	67	69	0	0	67	69	71	70
392582	31	28	0	0	31	28	31	28
392584	44	46	0	0	44	46	56	55
392586	59	55	0	0	59	55	60	57
392587	103	124	0	0	103	124	115	133
392588	43	47	0	0	43	47	47	52
392590	47	49	0	0	47	49	47	49
392591#	0	0	0	0	0	0	0	0
392592	64	57	0	0	64	57	73	66
392594	92	106	0	0	92	106	96	110
392595	61	52	0	0	61	52	83	64
392597	20	28	0	0	20	28	20	28
392598	83	95	0	0	83	95	92	97
392600	31	30	0	0	31	30	35	33
392601	80	78	0	0	80	78	80	78
392602	36	39	0	0	36	39	36	39
392603	118	121	0	0	118	121	119	123
392604	36	32	0	0	36	32	36	32
392605	115	118	0	0	115	118	123	129
392606	79	76	0	0	79	76	79	76
392609	107	99	0	0	107	99	107	99
392610	85	79	0	0	85	79	118	114

392612	43	44	0	0	43	44	45	47
392613	54	50	0	0	54	50	54	50
392614	94	82	0	0	94	82	136	139
392616	52	42	0	0	52	42	61	53
392617	44	58	0	0	44	58	46	60
392618	39	45	0	0	39	45	39	45
392619	71	90	0	0	71	90	88	115
392620	39	41	0	0	39	41	42	43
392621	51	49	0	0	51	49	51	49
392622	15	16	0	0	15	16	15	16
392623	38	40	0	0	38	40	41	41
392626	42	31	0	0	42	31	42	31
392627	33	26	0	0	33	26	37	30
392628	46	47	0	0	46	47	74	74
392629	63	72	0	0	63	72	63	72
392630	37	37	0	0	37	37	67	64
392631	93	93	0	0	93	93	93	93
392632	54	50	0	0	54	50	54	50
392633	120	103	0	0	120	103	129	121
392634	37	38	0	0	37	38	45	50
392635	114	105	0	0	114	105	114	105
392636	42	42	0	0	42	42	50	48
392637	26	21	0	0	26	21	26	21
392638	44	44	0	0	44	44	44	44
392639	33	28	0	0	33	28	33	28
392640	75	81	0	0	75	81	75	81
392641	34	39	0	0	34	39	37	41
392642	26	19	0	0	26	19	26	19
392644	17	22	0	0	17	22	17	22
392646	34	32	0	0	34	32	37	33
392647	53	62	0	0	53	62	58	67
392648	52	47	0	0	52	47	63	54
392649	72	83	0	0	72	83	80	87
392650	20	25	0	0	20	25	20	25
392651	51	61	0	0	51	61	55	64
392653	57	54	0	0	57	54	57	54
392656	50	54	0	0	50	54	52	57
392657	49	45	0	0	49	45	50	45
392658	150	153	0	0	150	153	174	173
392659	41	48	0	0	41	48	53	62
392660	24	21	0	0	24	21	27	23
392661	36	0	0	0	36	0	36	0
392662	60	62	0	0	60	62	60	62
392663	74	76	0	0	74	76	74	76
392664	114	113	0	0	114	113	114	113
392665	67	57	0	0	67	57	67	57

392666	37	34	0	0	37	34	39	40
392667#	0	0	0	0	0	0	0	0
392669	17	22	0	0	17	22	20	24
392670	63	65	0	0	63	65	63	65
392671	66	62	0	0	66	62	66	62
392672	57	67	0	0	57	67	57	67
392674	43	43	0	0	43	43	44	43
392676	39	30	0	0	39	30	39	33
392677	70	73	0	0	70	73	79	79
392678	41	42	0	0	41	42	41	42
392680	21	20	0	0	21	20	21	20
392681	30	32	0	0	30	32	34	35
392682	76	73	0	0	76	73	76	73
392683	63	64	0	0	63	64	67	66
392684	91	98	0	0	91	98	115	131
392685	37	41	0	0	37	41	41	45
392686	26	28	0	0	26	28	33	33
392687	75	91	1	0	76	91	96	105
392688	45	49	0	0	45	49	47	50
392689	52	52	0	0	52	52	52	53
392690	12	12	0	0	12	12	12	12
392691	50	59	0	0	50	59	57	66
392692	23	30	0	0	23	30	28	38
392694	47	47	0	0	47	47	47	47
392695	17	13	0	0	17	13	18	13
392697#	0	0	0	0	0	0	0	0
392698	23	18	0	0	23	18	29	23
392699	51	51	0	0	51	51	53	51
392700	44	43	0	0	44	43	44	43
392701	31	37	0	0	31	37	31	37
392702	0	81	0	0	0	81	0	94
392704	33	43	0	0	33	43	33	43
392705	48	53	0	0	48	53	48	53
392706	73	71	0	0	73	71	73	71
392707	86	92	0	0	86	92	90	96
392708	28	28	0	0	28	28	34	36
392710	28	31	0	0	28	31	31	35
392711	67	72	0	0	67	72	92	97
392713	32	33	0	0	32	33	38	36
392714	80	81	0	0	80	81	81	83
392715	70	56	0	0	70	56	73	58
392716	60	65	0	0	60	65	60	65
392717	59	54	0	0	59	54	69	64
392718	65	63	0	0	65	63	65	63
392719	36	35	0	0	36	35	36	35
392720	66	69	0	0	66	69	80	78

392721	54	65	0	0	54	65	54	65
392723	59	60	0	0	59	60	110	98
392724	46	45	0	0	46	45	46	45
392725	42	44	0	0	42	44	42	44
392726	30	25	0	0	30	25	30	25
392727	80	72	0	0	80	72	88	79
392729	47	43	0	0	47	43	47	43
392731	85	92	0	0	85	92	96	112
392732	6	15	0	0	6	15	10	15
392733	83	87	0	0	83	87	83	87
392734	27	26	0	0	27	26	35	37
392735	63	64	0	0	63	64	68	68
392736	103	97	0	0	103	97	113	109
392738	47	39	0	0	47	39	47	39
392739	77	79	0	0	77	79	105	109
392740	23	20	0	0	23	20	23	23
392741	84	86	0	0	84	86	99	102
392742	83	91	0	0	83	91	86	94
392743	57	56	0	0	57	56	63	66
392745#	0	0	0	0	0	0	0	0
392746	65	68	0	0	65	68	75	75
392747	33	40	0	0	33	40	34	42
392748	91	87	0	0	91	87	97	89
392749	98	80	0	0	98	80	98	80
392750	47	40	0	0	47	40	58	56
392751	100	107	0	0	100	107	100	107
392752	50	57	0	2	50	59	66	73
392753	81	89	0	0	81	89	81	89
392754	11	10	0	0	11	10	11	10
392755	39	42	0	0	39	42	67	67
392756	0	0	0	0	0	0	64	61
392757#	5	0	0	0	5	0	5	0
392758#	0	0	0	0	0	0	0	0
392759	44	47	0	0	44	47	44	47
392761	20	24	0	0	20	24	20	24
392763	39	39	0	0	39	39	47	51
392764	50	47	0	0	50	47	50	47
392765	32	40	0	0	32	40	34	41
392766	73	85	0	0	73	85	78	90
392767	30	36	0	0	30	36	30	36
392768	31	33	0	0	31	33	34	36
392769	83	85	2	3	85	88	102	99
392770	37	42	0	0	37	42	37	42
392771	25	27	0	0	25	27	25	27
392772	0	0	0	0	0	0	28	27
392773	61	66	0	0	61	66	64	72

392775	0	0	0	0	0	0	30	20
392776	31	33	0	0	31	33	40	42
392777	79	74	0	0	79	74	83	82
392778	37	35	0	1	37	36	42	41
392779	54	50	0	0	54	50	54	51
392780	10	13	0	0	10	13	10	13
392781	53	78	0	1	53	79	54	82
392782	31	37	0	0	31	37	40	47
392783	26	37	0	0	26	37	28	42
392784	30	31	0	0	30	31	33	34
392785	26	48	0	0	26	48	101	131
392786	66	75	0	1	66	76	69	79
392787	38	53	0	0	38	53	63	121
392788	33	37	0	0	33	37	35	41
392789	17	20	0	0	17	20	23	25
392790	23	39	0	0	23	39	33	56
392791	83	100	0	0	83	100	91	114
392792	27	51	0	0	27	51	27	51
392793#	0	0	0	0	0	0	0	0
392794^	0	13	0	0	0	13	0	13
392795#	0	0	0	0	0	0	0	0
392796	0	0	0	0	0	0	101	102
392797	34	44	0	0	34	44	50	65
392798	27	43	0	0	27	43	28	45
392799#	0	0	0	0	0	0	0	0
392800	12	18	0	0	12	18	12	22
392801	4	13	0	0	4	13	4	15
392802	34	69	0	1	34	70	34	79
392803	164	169	0	7	164	176	191	199
392804	0	0	0	0	0	0	11	10
392805	13	21	0	0	13	21	13	25
392806	22	40	0	0	22	40	28	49
392807	22	43	0	0	22	43	22	45
392808^	0	3	0	0	0	3	0	3
392809	44	24	0	0	44	24	44	24
392810	26	57	0	0	26	57	28	60
392811	0	0	0	0	0	0	5	25
392813	0	0	0	0	0	0	1	16
392815	0	40	0	0	0	40	0	40
392816	0	0	0	0	0	0	13	19
392817	0	123	0	0	0	123	0	135
392818	0	18	0	0	0	18	0	18
392819	0	12	0	0	0	12	0	12
392820^	0	15	0	0	0	15	0	15
392821^	0	11	0	0	0	11	0	11
392822^	0	16	0	0	0	16	0	16

392825^	0	1	0	0	0	1	0	1
393302	1	1	0	0	1	1	7	4
393303	10	12	0	0	10	12	14	20
393307	9	9	0	2	9	11	14	14
393505	100	99	0	0	100	99	106	106
393515	17	18	0	0	17	18	17	18
393518	64	69	0	0	64	69	64	69
393519#	124	0	0	0	124	0	136	0
PA Totals	15,086	15,569	4	19	15,090	15,588	16,844	17,441

Network 4	Hemo		PD		Total		Total In-Center & Home ¹	
	2013	2014	2013	2014	2013	2014	2013	2014
Network 4 Totals	16,404	16,969	5	19	16,409	16,988	18,351	19,065

Source of Information: Facility Survey (CMS 2744) and CROWNWeb

Date of Preparation: May 2015

¹ The last column of the report displays the total from Table #3 plus total from Table #4

This table includes 66 Veterans Affairs Facility patients for 2013 and 85 Veterans Affairs Facility patients for 2014

^ Facility not operational in 2013

Facility not operational in 2014

* Facility does not have a generated 2744 in 2014

Data Table 5: Renal Transplant by Transplant Center Network 4

As of: 01/01/2014 - 12/31/2014

Transplant Center	Total Transplants Performed		Patients Awaiting Transplant	
	2013	2014	2013	2014
080001	45	26	123	357
083300	4	5	6	5
DE Total	49	31	129	362
390006	23	37	0	356
390027	19	50	0	0
390050	73	75	0	312
390067	54	34	414	362
390111	187	188	1,138	199
39012F	39	39	0	0
390133	74	76	379	347
390142	73	66	1,070	0
390164	203	186	642	699
390174	105	90	606	616
390180	6	5	32	70
390195	21	23	77	143
390256	38	36	175	171
390270	25	8	72	0
390290	39	44	109	464
393302	8	19	15	12
393303	20	11	9	50
393307	1	0	1	0
PA Total	1,008	987	4,739	3,801

Data Table 6: Renal Transplant Recipients Network 4

As of 01/01/2014 - 12/31/2014

Age Group	Transplant Type				Total
	Deceased	Living Related	Living Unrelated	Unknown	
00-04	2	2	0	0	4
05-09	5	2	3	0	10
10-14	7	3	0	0	10
15-19	5	1	1	0	7
20-24	10	6	3	0	19
25-29	13	14	8	0	35
30-34	18	8	11	0	37
35-39	28	8	14	0	50
40-44	57	8	13	0	78
45-49	61	19	21	0	101
50-54	71	14	17	0	102
55-59	98	10	14	0	122
60-64	124	17	16	0	157
65-69	117	10	7	0	134
70-74	65	8	6	0	79
75-79	16	1	2	0	19
80-84	2	0	1	0	3
>=85	0	0	0	0	0
Total	699	131	137	0	967
Gender	Transplant Type				Total
	Deceased	Living Related	Living Unrelated	Unknown	
Female	255	41	52	0	348
Male	444	90	85	0	619
Total	699	131	137	0	967
Race	Transplant Type				Total
	Deceased	Living Related	Living Unrelated	Unknown	
American Indian/Alaska Native	0	1	0	0	1
Asian	37	4	6	0	47
Black or African American	276	7	21	0	304
Multiracial	1	1	0	0	2
Native Hawaiian or Other Pacific Islander	3	0	0	0	3
White	382	118	110	0	610
Not Specified	0	0	0	0	0
Total	699	131	137	0	967
Primary Diagnosis	Transplant Type				Total
	Deceased	Living Related	Living Unrelated	Unknown	
Acquired obstructive uropathy	6	1	1	0	8
Acute interstitial nephritis	2	0	0	0	2

AIDS nephropathy	2	1	0	0	3
Amyloidosis	1	0	0	0	1
Analgesic abuse	0	0	0	0	0
Cholesterol emboli, renal emboli	0	0	0	0	0
Chronic interstitial nephritis	13	2	2	0	17
Chronic pyelonephritis, reflux nephropathy	3	1	0	0	4
Complications of other specified transplanted organ	0	0	0	0	0
Complications of transplanted bone marrow	1	0	0	0	1
Complications of transplanted heart	2	0	0	0	2
Complications of transplanted intestine	0	0	0	0	0
Complications of transplanted kidney	37	5	5	0	47
Complications of transplanted liver	3	0	1	0	4
Complications of transplanted lung	0	1	2	0	3
Complications of transplanted organ unspecified	1	1	0	0	2
Complications of transplanted pancreas	0	0	0	0	0
Congenital nephrotic syndrome	2	1	2	0	5
Congenital obstruction of ureteropelvic junction	1	0	1	0	2
Congenital obstruction of uretrovesical junction	1	0	0	0	1
Cystinosis	0	1	0	0	1
Dense deposit disease, MPGN type 2	0	0	0	0	0
Diabetes with renal manifestations Type 1	20	10	6	0	36
Diabetes with renal manifestations Type 2	152	19	14	0	185
Drash syndrome, mesangial sclerosis	1	0	0	0	1
Etiology uncertain	32	3	5	0	40
Fabry's disease	0	0	1	0	1
Focal Glomerulonephritis, focal sclerosing GN	47	7	15	0	69
Glomerulonephritis (GN) (histologically not examined)	40	11	6	0	57
Goodpasture's syndrome	3	1	1	0	5
Gouty nephropathy	1	0	0	0	1
Hemolytic uremic syndrome	0	1	0	0	1
Henoch-Schonlein syndrome	0	0	0	0	0
Hepatorenal syndrome	4	1	0	0	5
Hereditary nephritis, Alport's syndrome	4	0	1	0	5
Hypertension: Unspecified with renal failure	157	13	25	0	195
IgA nephropathy, Berger's disease (proven by immunofluorescence)	11	9	6	0	26
IgM nephropathy (proven by immunofluorescence)	1	1	2	0	4
Lead nephropathy	0	0	0	0	0
Lupus erythematosus, (SLE nephritis)	10	1	0	0	11
Lymphoma of kidneys	0	0	0	0	0
Medullary cystic disease, including nephronophthisis	0	0	1	0	1
Membranoproliferative GN type 1, diffuse MPGN	0	1	0	0	1
Membranous nephropathy	4	2	0	0	6
Multiple myeloma	1	0	0	0	1
Nephrolithiasis	1	0	2	0	3
Nephropathy caused by other agents	6	2	0	0	8

Nephropathy due to heroin abuse and related drugs	0	1	0	0	1
Other (congenital malformation syndromes)	1	2	3	0	6
Other Congenital obstructive uropathy	2	1	0	0	3
Other disorders of calcium metabolism	0	0	0	0	0
Other immuno proliferative neoplasms (including light chain nephropathy)	1	0	0	0	1
Other proliferative GN	1	1	0	0	2
Other renal disorders	11	4	2	0	17
Other Vasculitis and its derivatives	3	1	0	0	4
Polyarteritis	1	0	0	0	1
Polycystic kidneys, adult type (dominant)	52	5	16	0	73
Polycystic, infantile (recessive)	3	0	0	0	3
Post infectious GN, SBE	0	0	0	0	0
Post partum renal failure	0	0	0	0	0
Primary oxalosis	0	0	0	0	0
Prune belly syndrome	1	0	0	0	1
Radiation nephritis	0	0	0	0	0
Renal artery occlusion	0	1	0	0	1
Renal artery stenosis	1	0	0	0	1
Renal hypoplasia, dysplasia, oligonephronia	6	4	0	0	10
Renal tumor (benign)	0	0	0	0	0
Renal tumor (malignant)	2	0	0	0	2
Renal tumor (unspecified)	0	0	0	0	0
Scleroderma	2	0	0	0	2
Secondary GN, other	2	2	0	0	4
Sickle cell disease/anemia	0	0	0	0	0
Sickle cell trait and other sickle cell (HbS/Hb other)	0	0	0	0	0
Traumatic or surgical loss of kidney(s)	0	0	0	0	0
Tuberous sclerosis	1	0	0	0	1
Tubular necrosis (no recovery)	8	0	1	0	9
Urinary tract tumor (benign)	0	0	0	0	0
Urinary tract tumor (malignant)	0	0	0	0	0
Urinary tract tumor (unspecified)	0	0	0	0	0
Urolithiasis	2	0	0	0	2
Wegener's granulomatosis	1	0	1	0	2
With lesion of rapidly progressive GN	2	0	0	0	2
Not Specified	26	13	15	0	54
Total	699	131	137	0	967

Data Table 7: Dialysis Deaths Network 4

As of 01/01/2014 - 12/31/2014

Age Group	DE	PA	Other	Total
00-04	0	0	1	1
05-09	0	0	0	0
10-14	0	0	0	0
15-19	0	0	0	0
20-24	0	1	0	1
25-29	1	5	0	6
30-34	3	21	0	24
35-39	4	24	1	29
40-44	5	47	0	52
45-49	7	77	3	87
50-54	16	131	3	150
55-59	19	251	7	277
60-64	23	329	10	362
65-69	31	440	7	478
70-74	32	460	4	496
75-79	31	469	9	509
80-84	33	495	7	535
>=85	21	537	6	564
Total	226	3,287	58	3,571

Gender	DE	PA	Other	Total
Female	86	1,454	22	1,562
Male	140	1,833	36	2,009
Not Specified	0	0	0	0
Total	226	3,287	58	3,571

Race	DE	PA	Other	Total
American Indian/Alaska Native	0	1	0	1
Asian	0	36	0	36
Black or African American	94	745	8	847
Multiracial	1	0	0	1
Native Hawaiian or Other Pacific Islander	0	9	0	9
White	130	2,493	50	2,673
Not Specified	1	3	0	4
Total	226	3,287	58	3,571

Primary Diagnosis	DE	PA	Other	Total
Cystic/Hereditary/Congenital Diseases	3	52	4	59

Diabetes	94	1,425	25	1,544
Glomerulonephritis	18	168	1	187
Hypertension/Large Vessel Disease	56	956	16	1,028
Interstitial Nephritis/Pyelonephritis	5	104	0	109
Miscellaneous Conditions	23	310	5	338
Neoplasms/Tumors	12	161	4	177
Secondary GN/Vasculitis	6	36	0	42
Not Specified	9	75	3	87
Total	226	3,287	58	3,571

Primary Cause of Death	DE	PA	Other	Total
Cardiac	71	1,154	25	1,250
Endocrine	0	0	0	0
Gastro-Intestinal	1	25	0	26
Infection	22	243	2	267
Liver Disease	3	25	0	28
Metabolic	2	15	0	17
Other	76	1,480	20	1,576
Vascular	9	109	1	119
Not Specified	42	236	10	288
Total	226	3,287	58	3,571

Source of Information: CROWNWeb

Race: The categories are from the CMS-2728 Form

Diagnosis: The categories are from the CMS-2728 Form

This table cannot be compared to the CMS Facility Survey because the CMS Facility Survey is limited to those deaths reported by only Medicare-approved facilities.

This table includes 10 Patient receiving treatment at VA facilities.

Data Table 8: Vocational Rehabilitation Network 4

As of: 01/01/2014 - 12/31/2014

DE

Facility CCN	Aged 18 through 54	Patients Receiving Services from Voc Rehab	Patients Employed Full-Time or Part-Time	Patients Attending School Full-Time or Part-Time
082300	7	0	1	0
082501	17	0	2	0
082502	22	0	2	0
082503	16	0	3	0
082505	31	0	5	0
082506	15	0	4	0
082507	40	0	5	0
082508	14	0	0	0
082509	30	0	0	0
083300	0	0	0	0
080004	0	0	0	0
08002F	2	0	1	0
083300	0	0	0	0
082510	7	0	3	0
082511	21	0	1	0
082512	21	0	1	0
082513	19	0	4	0
082514	7	0	0	0
080001	0	0	0	0
082515	29	0	5	0
082516	26	0	1	0
082517	17	0	3	0
082518	13	0	1	0
082519	10	0	1	0
082520	34	0	8	0
082521	17	0	1	0
082522	8	0	1	0
DE Total	423	0	53	0

PA

Facility CCN	Aged 18 through 54	Patients Receiving Services from Voc Rehab	Patients Employed Full-Time or Part-Time	Patients Attending School Full-Time or Part-Time
392609	25	0	1	0
392610	54	3	11	2
392612	8	0	1	0
392613	10	0	0	0
392614	32	0	4	0
392616	12	0	1	0
392617	14	0	2	0
392618	13	0	0	0
392619	36	0	8	0
392620	11	0	2	0
392621	8	0	0	0

392622	4	0	1	0
392623	10	0	2	0
392626	7	0	0	0
392627	12	0	5	0
392628	21	0	1	0
393307	3	0	0	0
392653	22	0	0	0
393303	1	0	0	0
393505	18	0	2	0
392629	29	0	2	0
392633	20	1	3	0
392632	14	0	0	0
392631	29	0	5	0
392630	30	1	11	0
392644	4	0	0	0
392648	13	0	2	0
392640	31	0	4	0
392649	22	0	5	0
392651	16	0	2	0
392662	16	0	0	0
392660	9	0	1	0
392634	6	1	3	1
392641	6	0	0	0
392639	6	0	0	0
392636	7	0	0	0
392637	5	0	0	0
392638	10	0	0	0
392642	2	0	0	0
392646	6	0	0	0
392650	5	0	1	0
392590	9	0	4	0
392592	27	0	6	0
392594	29	0	3	0
392595	14	0	1	0
392597	7	0	0	0
392598	18	0	3	0
392600	5	0	0	0
392601	29	0	2	0
392602	12	1	2	0
392603	28	1	6	1
392604	2	0	0	0
392605	46	0	5	0
392300	7	0	1	0
390046	63	0	7	0
390079	14	0	3	0
39012F	8	0	1	0
39013F	2	0	0	0
390142	12	0	0	0

390256	22	0	2	0
392647	15	0	4	0
392501	50	0	0	0
392502	23	0	5	0
392505	22	0	0	0
392506	16	0	2	0
392507	29	0	0	0
392508	50	0	7	0
392509	34	0	4	0
392511	48	0	12	0
392512	33	1	5	0
392513	22	0	1	0
392515	12	0	1	0
392516	7	0	0	0
392517	18	0	3	0
392518	21	1	3	1
392520	12	0	1	0
392521	51	2	7	2
392522	39	0	9	0
392523	14	0	2	0
392524	16	0	2	0
392528	33	0	3	0
392530	31	0	1	0
392531	34	0	4	0
392532	21	0	1	0
392533	40	0	2	0
392534	19	0	2	0
392535	13	0	3	0
392536	33	0	1	0
392537	13	0	2	0
392538	34	0	4	0
392539	33	0	5	0
392540	36	0	0	0
392541	10	0	0	0
392542	20	0	5	0
392543	26	0	2	0
392544	7	0	2	0
392545	4	0	0	0
392546	22	0	1	0
392547	23	0	3	0
392548	56	4	5	4
392549	65	4	19	4
392551	19	0	0	0
392552	17	0	4	0
392553	23	0	4	0
392554	5	0	0	0
392555	19	0	0	0
392556	23	0	0	0

392557	20	0	4	0
392559	19	0	0	0
392560	16	0	1	0
392561	10	0	1	0
392562	12	0	3	0
392563	8	0	2	0
392567	10	0	2	0
392568	43	0	5	0
392569	40	0	3	0
392572	2	0	1	0
392573	8	0	1	0
392574	12	0	3	0
392575	9	0	2	0
392576	5	0	0	0
392577	15	0	1	0
392578	7	0	0	0
392579	12	0	1	0
392580	7	0	0	0
392581	7	1	2	1
392582	5	0	2	0
392584	8	0	0	0
392586	20	0	5	0
392587	35	1	4	1
392588	12	0	2	0
390006	0	0	0	0
390027	0	0	0	0
390050	0	0	0	0
390290	0	0	0	0
390133	0	0	0	0
390142	0	0	0	0
390164	0	0	0	0
390174	0	0	0	0
390195	0	0	0	0
390256	0	0	0	0
393307	0	0	0	0
393303	0	0	0	0
392657	8	0	0	0
392664	26	0	1	0
392671	10	0	0	0
392658	50	0	7	0
392659	17	0	3	0
392656	7	0	2	0
392665	13	0	1	0
390067	0	0	0	0
392670	21	0	1	0
392666	7	0	3	0
392635	24	1	7	0
392661	0	0	0	0

392663	18	0	1	0
392669	4	0	0	0
390111	0	0	0	0
390164	7	0	1	0
393302	0	0	0	0
392677	18	0	3	0
392672	17	0	1	0
393515	8	0	0	0
392685	10	0	4	0
392676	5	0	1	0
392682	12	0	1	0
392674	11	0	1	0
392684	28	0	3	0
392678	8	0	0	0
392565	9	0	1	0
392606	21	0	2	0
392680	2	0	0	0
392690	4	0	0	0
392688	9	0	1	0
392681	9	0	0	0
392683	16	0	3	0
392687	25	0	2	0
392686	5	0	0	0
392689	11	0	0	0
392691	10	0	2	0
392692	12	0	2	0
392695	3	0	1	0
392694	18	0	4	0
392699	21	0	1	0
39012F	0	0	0	0
392702	41	1	5	1
392704	5	0	0	0
392705	16	0	1	0
392700	4	0	0	0
392701	4	0	0	0
392698	8	0	4	0
392706	11	0	0	0
392707	23	0	3	0
392708	7	0	1	0
392710	11	0	1	0
392713	5	0	1	0
392711	25	0	8	0
392714	25	0	6	0
392715	9	0	0	0
392717	10	0	3	0
392716	10	0	0	0
392719	2	0	0	0
392718	26	0	2	0

392723	29	0	7	0
392726	8	0	0	0
392725	10	0	1	0
392724	7	0	0	0
392720	26	0	4	0
392721	11	0	2	0
392727	4	0	3	0
390270	0	0	0	0
392729	7	0	0	0
392731	27	1	5	1
392732	0	0	0	0
392734	9	0	2	0
392733	13	0	1	0
392735	12	0	2	0
392740	4	0	0	0
392736	23	0	7	0
392739	27	0	2	0
392738	7	0	0	0
392742	17	0	4	0
392741	25	0	4	0
392743	18	0	7	0
392746	18	0	4	0
392745	0	0	0	0
392747	7	0	0	0
392748	23	0	2	0
392750	13	0	2	0
392749	29	0	3	0
392751	28	0	2	0
392753	18	0	1	0
392755	15	0	5	0
392754	1	0	0	0
392752	13	0	2	0
392816	12	0	4	0
392759	8	0	0	0
392770	6	0	0	0
392756	37	5	12	5
393302	2	1	0	1
392773	16	0	3	0
393518	15	0	3	0
392777	28	1	4	1
392771	5	0	0	0
392763	12	0	3	0
392772	11	1	3	0
392776	11	0	0	0
392766	38	1	1	1
392769	37	0	5	0
392768	7	0	2	0
392765	9	0	1	0

392764	14	0	3	0
392778	7	0	0	0
392779	12	0	2	0
392786	10	1	2	1
392775	5	0	1	0
392767	3	0	1	0
392780	3	0	1	0
392787	64	0	16	0
392781	33	0	3	0
392782	6	0	3	0
392796	31	0	7	0
392784	8	0	2	0
392793	0	0	0	0
392790	14	0	5	0
392783	21	0	0	0
392788	16	0	2	0
392803	50	0	4	0
392761	7	0	1	0
392789	6	0	2	0
392791	22	0	6	0
39005F	3	0	1	0
392798	12	0	0	0
392797	20	0	4	0
392800	5	0	0	0
390180	0	0	0	0
392785	41	0	16	0
392792	14	0	2	0
392804	4	0	3	0
392807	11	0	0	0
392810	18	0	1	0
392801	3	0	0	0
392809	7	0	1	0
392806	10	0	3	0
392802	21	0	5	0
392811	9	0	3	0
392805	7	0	3	0
392813	7	0	3	0
392794	2	0	0	0
392820	2	0	0	0
392817	37	1	5	1
392799	0	0	0	0
392815	6	0	0	0
392818	8	0	0	0
392808	1	0	0	0
392821	1	0	0	0
392822	2	0	1	0
392819	5	0	1	0
392825	0	0	0	0

PA Total	4,551	36	633	29
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Appendix A

Network Staffing and Structure

The management staff of Network 4 consists of:

Executive Director; Patricia Lawson, RN, MSN

Responsible for the overall operation of all functions for QIRN 4. Responsible for the total management, supervision and coordination of CMS contract requirements and to assure compliance of deliverable due dates. Responsible for program development and business management. Serves as the primary staff person representing QIRN 4 for the Network 4 Board of Directors, Network Councils and Quality Insights Renal Network Holding Company. Responsible for all Data Management oversight and training of data department. Serves as the supervisor of the Information Specialist. Responsible for orientation and mentoring of all Network 4 staff.

Director, Patient Services; Paul Gordon, MSW

Serves as the primary staff person to lead all Patient & Family Engagement activities, Patient Learning and Action Network (LAN), Network 4 Patient Advisory Committee (PAC) and Network 4 Patient Representatives. Organizes educational sessions for PAC members/patient representatives and the general patient community. Develops QIRN 4 e-newsletter for patients and facility staff for publication. Acts in a liaison capacity to renal-related organizations or agencies. Leads the team on website design and updates, supervises the Patient Services Operational Coordinator and oversees all grievances, concerns and inquiries from patients, family members, and/or facility staff. Serves as the Backup Security Point of Contact (SPOC) for disaster and recovery activities in Network 4.

Director, Quality Improvement; Kou Kha-Moua, RN, BSN

Responsible for the design, development and implementation of all quality improvement work plans in consultation with the Medical Review Board (MRB). Oversees and contributes to all network continuous quality improvement initiatives. Supervises the Quality Improvement Coordinator. Serves as the primary staff person to the Network 4 MRB. Leads the team on the Network 4 e-newsletter development and distribution.

Data Manager; Karen Hricak

Responsible for the supervision of data entry of all forms as well as answering facility questions regarding forms compliance. Coordinates the data activity within Network 4. Responsible for the management of CROWNWeb and QIMS in accordance with contract requirements. Ensures that all facilities have access to QIMS and CROWNWeb. Works directly with dialysis facility staff to promote accurate and timely data submission through CROWNWeb. Provides technical assistance to the dialysis facility staff on data entry of the CMS-2728 (ESRD Medical Evidence Report) and CMS-2746 (ESRD Death Notification) forms in CROWNWeb, including the elimination of duplicate records when necessary. Assists dialysis facility staff to ensure timely and accurate Annual ESRD Facility Surveys (CMS-2744) in CROWNWeb. Monitors the timeliness and accuracy of patient information provided by dialysis facilities in CROWNWeb, including the timely processing and resolution of Notifications, Accretions and Near Match scenarios. Oversees the entry of data forms received from the transplant centers in CROWNWeb with support from the Information Specialist. Provides technical assistance to facility staff in support of CROWNWeb. Provides webinars, training and communication to facility staff as needed. Assists with daily operations, maintenance, integrity, and confidentiality of the Network 4 database and data systems as required by the CMS contract.

The Support Staff of QIRN 4

Quality Improvement Coordinator; Cynthia Vernacchio, RN

Responsible for the validation of ESRD patient data used for Network CMS quality improvement activities. Monitors and tracks compliance of required QI submissions and NHSN data input by facilities. Processes requests for information or assistance from ESRD facilities regarding QI projects. Assists the QI Director to educate facility staff and implement QI tools including PDSA cycles. Provides technical assistance to facility staff on QI projects, NHSN and entry of clinical data in CROWNWeb. Obtains and processes required forms for CEs for educational presentations for renal professionals.

Patient Services Coordinator; Deborah Knight

Coordinates and facilitates the grievance protocol of the Network. Serves as the primary telephone respondent and/or interviewer for grievances, concerns and inquiries from patients, family members, and/or facility staff. Communicates patient grievance policies to patients and providers to facilitate processing and resolution of grievances. Provides timely response to beneficiary and provider calls. Obtains initial and/or follow-up information from patients and providers for all grievances, complaints and concerns as directed by the Patient Services Director. Responsible to provide appropriate documentation of activities

conducted with contacts received in Network 4. Maintains the files for the Patient Services Department. Serves as the network Emergency Management Coordinator. Tracks Network 4 facility participation in the Five Diamonds Patient Safety Program.

Data Assistant, Secretary; Michael Eckerle

Responsible to answer the telephone, open and distribute mail, and dispense faxes.
Responsible to order and maintain supplies and to place service calls for office machines.
Responsible for the preparation of correspondence and other all Network 4 documents.
Sends letters of invitation to new dialysis and transplant facilities to join Network 4.
Assembles and mails the new facility packet to new dialysis and transplant facilities upon receipt of the signed Network 4 Membership Agreement. Coordinates the NEMO/NEPOP data submissions to the NCC. Provides communications of
upcoming CROWNWeb training webinars and distributes all CROWNWeb communications to facility staff as needed. Coordinates the Annual Network Council Meeting. Serves as a back up to assist dialysis facility staff on data entry of the CMS-2728 (ESRD Medical Evidence Report) and CMS-2746 (ESRD Death Notification) forms in CROWNWeb, including the elimination of duplicate records when necessary. Assists dialysis facility staff to ensure accurate Annual ESRD Facility Surveys (CMS-2744) in CROWNWeb.

Information Specialist; Carl Davis Consultant

Works as a consultant to QIRN 4 and assists to communicate and resolve all information systems issues within the Network office. Assists with the operation of data administration within Network 4 inclusive of installation, modification, and maintenance of hardware and software. Responsible to ensure data security, strategic computing and disaster recovery for efficient operation according to CMS requirements. Responsible for the direction found in the ESRD Network Administration and Disaster Recovery Handbook, QualityNet ESRD Network Infrastructure Support Manual, QualityNet System Security Policies Handbook, QualityNet ESRD Networks Business Continuity and Contingency Plan and other documentation provided by CMS.

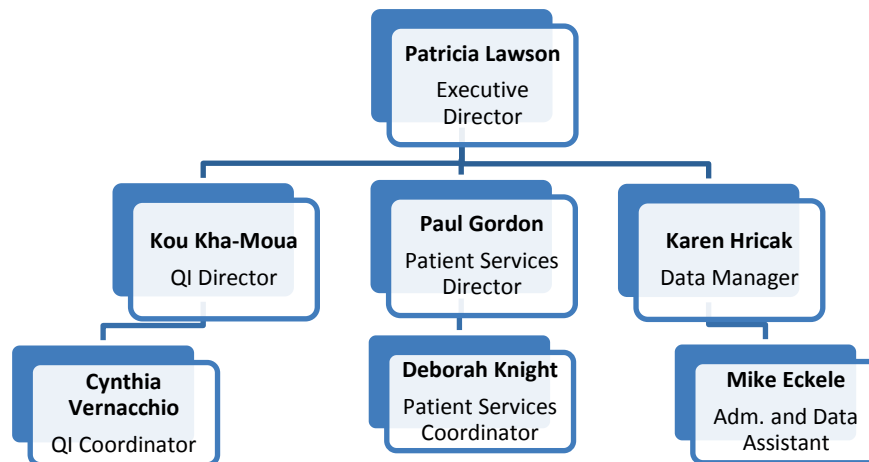
Total Staff at QIRN 4

Table J. Overall, QIRN 4 employed 7 full-time staff in 2014

2014 QIRN4 Staffing Grid	Total Number of Staff
Full time staff members	7
Part time staff members	0
Total 2014 Staff Members	7

Starting January 1, 2014, Patricia Lawson was promoted to Executive Director and Karen Hricak was promoted to Data Manager. These two key positions were transitioned seamlessly. Both positions were approved by CMS and were stable throughout 2014.

Figure 6. QIRN 4 Staffing / Reporting Structure



Appendix B

Network Governance Boards and Committees

CMS' three AIMs for the ESRD Network Program provide the foundation for QIRN 4's core values and are used to guide the activities carried out by QIRN 4's governance boards and committees. The triple AIM consists of:

AIM 1: Better Care for the Individual through Beneficiary and Family Centered Care

AIM 2: Better Health for the ESRD Population

AIM 3: Reduce Costs of ESRD Care by Improving Care.

QIRN 4's Governance Boards and Committees work tirelessly to uphold a unified effort founded on basic principles of compassion and responsibility. We employ an unbiased approach as we strive to achieve advocacy for excellence while being proactive and innovative. The work of QIRN 4 is carried out through the expertise and oversight of the medical experts and the ESRD patients who comprise the QIRN 4 boards and QIRN 4 committees within the corporate structure. These individuals are committed to the mission of QIRN 4. The QIH Board, Quality Insights Renal Network Holding Board of Directors, the QIRN 4 Board of Directors, the QIRN 4 Medical Review Board, the Patient Advisory Committee and the Network Council support and help to facilitate Network operations. Other committees and subcommittees are established when the need arises. All Board and committee members are volunteers and active members and include representation from dialysis and transplant facilities, as well as other strategic organizations in the Network 4 area. Additionally, each QIRN 4 board has at least two consumer representatives. We believe the involvement of the consumer representatives in our Network activities is vital to improving the quality of care and the quality of life for ESRD patients.

Quality Insights Holdings (QIH) Board of Directors

QIH is governed by a board of directors, consisting of physicians, business representatives and consumers. The Board sets corporate policies and assures the orderly and efficient operation of WVMI and Quality Insights Renal Networks (QIRN 3, QIRN 4 and MARC). The Board has fiduciary oversight over all of Quality Insights Renal Networks and reviews its activities as reported by the Network 4 ESRD Executive Director, Christopher Brown and the Quality Insights Board of Directors Vice-Chairperson, Toros Kapoian, MD. The Board considers and acts on the recommendations from the Quality Insights Board of Directors. In addition, ESRD patients serve as a representative of the renal community.

Quality Insights Renal Network Holding Company Board of Directors

The QIRN Holding Company Board of Directors consists of twelve (12) members. The Board of Directors has fiduciary oversight responsibility for QIRN 4 and reviews its activities as reported by the ESRD Executive Director Network 3, Christopher Brown and the Network Board of Director Vice-Chairperson, Toros Kapoian, MD. This oversight board is composed of two consumers, one dietitian, one social worker, two administrators, one nurse, three physicians a Chair and physician. John Wiesendanger, Quality Insights CEO, is the Chairperson; Dr. Toros Kapoian is the Vice-Chairperson.

QIRN 4 Board of Directors

QIRN 4 maintains a separate Board of Directors consisting of 16 members. The Board of Directors is composed of three consumers, one dietitian, one social worker, two administrators, one nurse, 7 physicians a Chair and physician Vice Chair. John Wiesendanger is the Chairperson; Dr. Paul Palevsky is the Vice-Chairperson.

Table K. 2014 QIRN Board of Directors

Name	Affiliation
John Wiesendanger, Chair	Quality Insights / WVMI
Barbara Bednar, MHA, RN, CNN	Reliant Renal Care
John Cannady	Beneficiary
Susan Dulin	Beneficiary
William J. Gillespie	Distributed Systems Services
Rakesh Gulati, MD, MRCP, FACP	Thomas Jefferson University Hospital
Joseph A. Kuhn, MD, FACP	Nephrology Associates
Gregory J. Lynch, DO	Vascular Surgery
Jerry McCauley, MD, MPH	UPMC Transplant Institute
Jill M. Miller, RD, LDN	WellSpan Dialysis
Michael J. Moritz, MD	Lehigh Valley Hospital
Allen Nelson	Beneficiary
Paul Palevsky, MD, Vice-Chair	VA Pittsburgh Healthcare System University of Pittsburgh School of Medicine
Richard Russo, MSW, LMSW	DaVita Riddle and Exton
Rodney Welch	Rothman Specialty Hospital
David R. Wenner, DO, FAAFP, CMD	Hospice of Central PA

Medical Review Board

The Medical Review Board (MRB) evaluates the appropriateness of ESRD care, treatment procedures and services delivered to ESRD consumers. The MRB consists of prominent and dedicated members of the renal community who volunteer their time. The MRB performs functions prescribed by the regulations issued by the Secretary of Health and Human Services, as well as other duties related to quality improvement, vocational rehabilitation, transplantation, and patient concerns and grievances. The MRB acts as the medical advisory committee for Network 4. They advise on all quality improvement activities and as well as provide guidance on issues that impact the care of ESRD patients on dialysis. As of January 2014, there were 14 members on the Network 4 MRB with reasonable geographic representation. The membership included two patients and reflected participation by: nephrologists, vascular surgeon, patients, nurse manager, social worker, dietitian, and dialysis nurse with reasonable geographic representation. Dr. Marc Weiner is the Chairperson for the MRB. The following chart shows the composition of the Network 4 Medical Review Board:

Table L. 2014 Network 4 Medical Review Board Memberships

Name	Affiliation	Location
Laura Bishop, MS, RD, LDN	Renal Dietitian	Newark, DE
Susan Bray, MD	Nephrologist	Philadelphia, PA
John Cannady	Patient Representative	Philadelphia, PA
Edward Jones, MD	Nephrologist	Philadelphia, PA
Kevin Ho, MD	Nephrologist	Pittsburgh, PA
Joseph A. Kuhn, MD, FACP	Nephrologist	Wilmington, DE
Evan Norfolk, MD	Nephrologist	Danville, PA
Paul Palevsky, MD, FACP	Nephrologist	Pittsburgh, PA
Richard Russo, MSW, LSW	Renal Social Worker	Ardmore, PA
Velma P. Scantlebury, MD, FACS	Transplant Surgeon	Newark, DE
Marc H. Weiner, MD	Nephrologist	Lancaster, PA
Kathy Young, RN, BSN, CNN	Renal Nurse	Wilmington, DE
Melvin Yudis, MD	Nephrologist	Willow Grove, PA
Allen Nelson, AA, BA	Patient Representative Former PAC Co-Chair	Philadelphia, PA

Several MRB members serve on committees and play an integral role as subject matter experts in the development and deployment of quality improvement projects.

Table M. MRB Subcommittee Membership

Vascular Access	HAI LAN (Health-Associated Learning & Action Network)	Transplant	Patient Grievances	P-LAN (Patient Learning & Action Network)
Edward Jones	Allen Nelson	Laura Bishop	Evan Norfolk	Rick Russo
Rick Russo	Marc Weiner	Rick Russo	Kathy Young	Velma Scantlebury
		Velma Scantlebury	Marc Weiner	
		Kathy Young		
		Melvin Yudis		

In 2014, QIRN 4 MRB held a joint meeting with two other MRB panel members from Network 3 and the Mid Atlantic Renal Coalition (Network 5). The meeting objectives were to develop a synergistic relationship across the three Networks; identify barriers to MRB efficiencies and MRB engagement; explore and share emerging trends and innovations; and discuss potential collaborative. A total of 28 participants attended the meeting. Twenty-four attendees represented the three Networks and 4 attendees were from the parent company, West Virginia Medical Institute. The meeting was well received and served as the beginning for additional MRB collaborative meetings to come.

Network Council

The ESRD Network Council for Network 4 consists of representation from all dialysis and transplant facilities in Pennsylvania and Delaware. Each facility is required to designate a representative and an alternate representative to the Network Council (NC). QIRN 4 believes that a viable Network organization should include the active participation of all Network facilities to ensure a broad perspective of the ESRD delivery system. The Network Council is composed of these unit-appointed representatives as well the Executive Director for Network 4, Patient Services Director and the Quality Improvement Director and two Network 4 ESRD patients. The co-chairs of the Patient LAN serve as appointed patient representatives to the Network Council.

Patient Advisory Committee

The Patient Advisory Committee (PAC) was organized in 2013 with patient volunteer representation from throughout the Network. The goal of the PAC is to support the mission of QIRN 4, to enhance the quality of care provided to ESRD patients and to represent and support the ESRD patient population by actively participating in the committee responsibilities and

related functions. The committee was charged with providing consumer advice to the boards and other committees on such matters as, but not limited to, quality improvement activities, content and format of the Network's web site; content and format of patient educational material; improvement of communication between consumers and facility staff; direct attention to areas/issues of consumer concern. Committee members attend meetings or conference calls on a quarterly basis. Two of the QIRN 4 Network PAC members attended the CMS Quality Net Meeting in 2014 held in Baltimore. At the end of 2014, The PAC consisted of 105 members, including two patient spouses. Members represented the modalities of in-center hemodialysis, home dialysis and transplantation. There is reasonable representation on the PAC based on Network 4's geographic area. The members bring a diversity of experience and professionalism to the Committee. Several of the members are affiliated with national patient advocacy groups (e.g., National Kidney Foundation, American Association of Kidney Patients, Renal Support Network, and Dialysis Patient Citizens).

Appendix C

The Institute for Healthcare Improvement (IHI) Triple Aim Centers for Medicare & Medicaid Services (CMS) Three Aims for the ESRD Network Program

The Institute for Healthcare Improvement (IHI) Triple Aim

This framework developed by IHI that describes an approach to optimizing health system performance. The design, which is called the health system, simultaneously pursues three dimensions:

- AIM 1:** Improving the patient experience of care (including quality and satisfaction)
- AIM 2:** Improving the health of populations
- AIM 3:** Reducing the per capita cost of health care

CMS adopted three Aims for the ESRD Network Program

This approach is designed to concurrently optimize health delivery for the ESRD population while aligning with the HHS National Quality Strategy (NQS):

- AIM 1:** Better Care for the Individual through Beneficiary and Family Centered Care
- AIM 2:** Better Health for the ESRD Population
- AIM 3:** Reduce Costs of ESRD Care by Improving Care

Appendix D

Table N. 2014 Healthcare-Associated Infection Learning and Action Network Members

Name:	Discipline/Background:	Affiliation:
Ami Patel, PhD MPH	Acute Communicable Disease Program Manager Career Epidemiology Field Officer	Philadelphia Dept. of Public Health\Division of Disease Control and Centers for Disease Control and Prevention\OPHPR
James Davis, MSN, RN, CCRN, CIC	Senior Infection Prevention Analyst	Association for Professionals in Infection Control and Epidemiology (APIC) ECRI Institute Headquarters
Dottie Borton RN, BSN, CIC	Infection Control Practitioner	Albert Einstein Health care Network
Ehtesham Hamid	Director of Operations Brandywine Valley	Fresenius Medical Services
Arlene Smith, RN	President	Susquehanna Valley Chapter American Nephrology Nurses' Association (ANNA)
Joanne Leap, RN, CNN	Clinical Manager	Fresenius Medical Care East Norriton
Thesalie Alvarez, RN, BSN	Facility Administrator	DaVita Philadelphia Market Street
Christine Quinn, RN	Clinical Manager	Fresenius Medical Care Swarthmore Dialysis Center
Anna Boland, RN	Nurse Manager	Dialysis Clinic, Inc. (DCI) of Hastings
Donna Balsley, RN	Program Director	Quality Insights of Pennsylvania (QIO)
Marc Weiner, MD Chairman	Nephrology	QIRN4 Medical Review Board
Allen Nelson, AA, BA	Patient Representative	QIRN4 Medical Review Board
Cynthia Vernacchio, RN	Quality Improvement Coordinator Network 4	QIRN 4 Staff
Kou Kha-Moua, RN, BSN	Quality Improvement Director Network 4	QIRN 4 Staff