2015 Annual Report of Network Activities

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Table of Contents

Report Highlights

End Stage Renal Disease (ESRD) Network 5's annual report highlights activities conducted under contract with the Centers for Medicare & Medicaid Services during calendar year 2015. The Network's contract focuses on three aims: better care for the individual through patient- and family-centered care, better health for the ESRD population, and reducing costs of ESRD care by improving care.

The *What If..?* emergency preparedness campaign described on page 7 was driven by the Network Patient Advisory Committee and provided specific recommendations to patients in various emergency scenarios, such as having no water, having no telephone service, or having no transportation. Patients wanted to make emergency preparedness manageable and help others feel more capable of success. This patient-centered approach to a quality improvement project has proven effective and beneficial and is a sustainable model upon which the Network continues to build.

Kidney transplantation is the preferred treatment option for suitable patients, with referral as the initial step in this process. The Network's project to promote better health for the ESRD population focused on transplant referral, as discussed on page 10. The Network's innovation for this project was a patient education model, represented by the mnemonic PAM. This signifies a patient, Pam, who is considering transplant but has concerns about **P**assing required medical tests, is **A**fraid of transplant, and has **M**oney concerns. This model, constructed upon three of the most common patient concerns related to transplant, was developed to facilitate transplant referral discussions with individual patients.

In addition to its contract work, the Network was selected to work on a CMS special innovation project. The patient mentoring/peer-to-peer (P2P) support project, described on page 15, was designed to assist ESRD patients in managing their complex chronic illnesses to improve outcomes of importance to them, healthcare payers, and providers. The Network demonstrated that a coaching P2P program for in-center hemodialysis patients can be beneficial for both mentees and mentors, even when conducted on a pilot basis over a short period of time.

The Network's Board of Directors, Medical Review Board, and Patient Advisory Committee extend our gratitude to the provider community, which has partnered with us to achieve our goals and objectives. Providers in the ESRD Network 5 region have promoted patient-centered care, supported quality improvement initiatives, and collaborated with the Network to improve the quality of care for beneficiaries with renal disease. Their efforts are greatly appreciated.

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.

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 transplant services by linking dialysis facilities, 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.

ESRD Network 5's Role in Improving the Quality of ESRD Care

Network 5 is a subsidiary of Quality Insights, a West Virginia corporation that also holds five Quality Innovation Network-Quality Improvement Organization (QIN-QIO) contracts. The Network 5 service area includes the states of Maryland, Virginia, and West Virginia, and the District of Columbia. The Network area has a population of 16.6 million in an area of approximately 75,600 square miles. It covers a diverse geographic area with a unique mix of urban and rural regions. For example, population density ranges from 77 per square mile in West Virginia to over 9,900 per square mile in Washington, DC. (Source: *2012 U.S. Census Population Estimates*). Data from the ESRD National Coordinating Center (NCC) indicated that, in 2015, 88.7 percent of patients received in-center dialysis, while the remaining 11.3 percent dialyzed in their homes. Race variation among prevalent patients in Network 5's area deviated from national figures (Network 5 = 58 percent black or African-American, US = 35.5 percent), while gender in Network 5 reflected the national gender distribution.[1]

Table A. Dialysis Facilities and Transplant Centers in the Network's Service Area, as of December 31, 2015

Category	Number
Number of Dialysis Facilities in the Network's Service Area*	386
Number of Transplant Centers in the Network's Service Area*	9

Source of data: CROWNWeb. Data from the National Coordinating Center were not available at the time of this report submission.
*Counts of dialysis facilities and transplant centers 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, 2015.

Table B. Number of Medicare-Certified Dialysis Facilities in the Network's Service Area and Number and Percent of Dialysis Facilities Offering Dialysis Shifts Starting after 5 PM, as of December 31, 2015

Category	Number	Percent
Number of Dialysis Facilities in the Network's Service Area*	386	
Dialysis Facilities in the Network's Service Area Offering Dialysis Shifts Starting after 5 PM*	87	22.5%

Source of data for number of dialysis facilities: CROWNWeb Data from the National Coordinating Center were not available at the time of this report submission.
Source of data for dialysis facilities offering dialysis shifts starting after 5 PM: CROWNWeb. Data from the National Coordinating Center were not available at the time of this report submission.
*Counts of dialysis facilities and transplant centers 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, 2015.

[1] Centers for Medicare & Medicaid Services. End Stage Renal Disease Network Organization Program 2013 Summary Annual Report. Baltimore, MD: CMS; 2015.

Network Goals

CMS establishes priorities for the ESRD Network contractors annually in the Statement of Work section of each Network's contract with the agency. These priorities support CMS and Department of Health and Human Services (HHS) national quality improvement goals and priorities.

In 2015, the ESRD Network contractors were tasked with meeting the following goals:

- Improving care for ESRD patients in the Network's service area by
    - Promoting patient- and family-centered care;
    - Responding to grievances about ESRD-related services filed by, or on behalf of, ESRD patients;
    - Supporting improvement in patients' experience of care;
    - Working with dialysis facilities to ensure that all dialysis patients have access to appropriate care;
    - Promoting best practices in vascular access management; and
    - Helping dialysis facilities reduce the incidence of healthcare-associated infections.
- Improving the health of the ESRD patient population in the Network's service area through activities designed to reduce disparities in ESRD care
- Reducing the costs of ESRD care in the Network's service area by supporting performance improvement at the dialysis facility level and supporting facilities' submission of data to CMS-designated data collection systems

Profile of Patients in the Network's Service Area

The ESRD Network Program collects data on incident (new) ESRD patients, prevalent (currently treated) dialysis patients, and renal transplant recipients.

The Network 5 uses data on patients' clinical characteristics—including primary cause of ESRD, treatment modality, and vascular access type—to focus its outreach and quality improvement activities.

Table C. Clinical Characteristics of the ESRD Population in the Network's Service Area, Calendar Year 2015

Category	Number	Percent
Incident (New) ESRD Patients		
Number of Incident ESRD Patients, Calendar Year 2015	6601	
Prevalent Dialysis Patients[2]		
Number of Prevalent Dialysis Patients as of 2015	26,692	
Treatment Modality of Prevalent Dialysis Patients as of 2015		
In-Center Hemodialysis or Peritoneal Dialysis	23,679	88.7%
In-Home Hemodialysis or Peritoneal Dialysis	3,013	11.3%
Total	26,692	100%
Vascular Access Type at Latest Treatment among Prevalent In-Center and In-Home Hemodialysis Patients as of December 31, 2015		
Arteriovenous Fistula in Use	14,117	60%
Arteriovenous Graft in Use	4,378	19%
Catheter in Use for 90 Days or Longer	2,810	12%
Other	2,054	9%
Total		100%
Renal Transplants		
Number of Renal Transplant Recipients, Calendar Year 2015	1,250	
Total	1,250	100%

[2] Centers for Medicare & Medicaid Services. End Stage Renal Disease Network Organization Program 2013 Summary Annual Report. Baltimore, MD: CMS; 2015.

Improving Care for ESRD Patients

The Network works closely with ESRD patients, patients' family members 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 Network 5 service area.

Under its contract with CMS, the Network is responsible for

- Identifying opportunities for quality improvement and developing interventions to improve care for ESRD patients in the Network 5 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 care, including home modalities and transplantation, as appropriate, to promote patient independence and improve clinical outcomes
- Promoting the coordination of care across treatment settings
- Ensuring accurate and timely data collection, analysis, and reporting by facilities in accordance with national standards.

The Network values the patient perspective and benefits from patient involvement on committees and in educational efforts targeted to all audiences, whether patients or professionals. It ensures that patient and family/caregiver values, preferences, and needs are considered. The Network's support of patients through orientations, debriefings, and fellowship ensures they are informed and committed. This creates a meaningful and productive partnership that benefits the patients and informs the activities of the local Network as well as those on the national level with the ESRD National Coordinating Center (NCC) and CMS.

Emergency Preparedness Campaign

In 2015, the Network conducted an innovative emergency preparedness campaign titled *What If…?* The objective of this campaign was to assist in-center dialysis patients in preparing for emergencies by helping them identify simple activities they could do immediately and obtaining their commitment to follow through on at least one activity. The framework of the campaign was based on a Loyola University study.[3]

[3] *Nephrology News & Issues*, "80% of dialysis patients unprepared for natural disaster or emergency." November 20, 2014. Source: http://www.nephrologynews.com/articles/110561-80-percent-of-kidney-dialysis-patients-unprepared-for-natural-disaster-or-emergency

Fifty-nine in-center hemodialysis facilities with a patient population totaling 5,313 (>20% of the Network patient population) were randomly assigned to this campaign. Efforts were made to avoid inclusion of facilities already enrolled in another Network project, with a high transient rate, or with a predominant nursing home census.

Figure A: What If…? *Campaign Posters*

Our patient subject matter experts (SMEs) emphasized that emergency preparedness is an involved process which may overwhelm patients and act as a barrier to preparedness. They recommended dividing the process into smaller parts to help people feel more capable of success. Having accomplished one component of preparedness, a person would then be more prepared than before and perhaps motivated to go on to do more preparation. Based on their own experiences, patient SMEs recommended that facilities post emergency take-off procedures on machines and offer live practice sessions for patients. They further directed the poster themes to avoid the obvious (e.g., hurricanes, tornadoes, etc.) and focus on the effects of such events, including loss of power, no phone service, and lack of access to treatment, all issues of most concern to patients.

In this campaign, patients were asked to sign a pledge committing to complete one of six activities:

1. Communicate: address, contact information, emergency numbers, medical emblem
2. Plan: escape floor plans, safe meeting places, alert service subscription
3. Stock: 3-day emergency diet
4. Get: “go bag” container
5. Gather: basic first aid supplies
6. Pack: documents, cash, keys, water, food, emergency kit, etc.

They were then provided with a related single-page checklist to assist in fulfilling the pledge. Facilities were asked to assess patient preparedness level with an instrument modeled on one used in the Loyola University study. Table D demonstrates that while most patients assessed believed they were prepared for an emergency, few actually were.

Table D. Results of Patient Emergency Preparedness Assessment

Do you believe you are prepared for an emergency? Yes = 82.9% (991/1196)				
Do you know about the 3-day emergency diet?	Are you comfortable hand-cranking your machine if the power goes off?	Are you confident in your ability to take yourself off the machine in an emergency (clamps/disconnect)?	Do you have an emergency plan that you have discussed with family or your clinic?	Do you know how to find a dialysis facility if yours is closed?
Yes = 52.7% (630/1196)	Yes = 57.8% (691/1196)	Yes = 67.2% (804/1196)	Yes = 57.4% (687/1196)	Yes = 75.7% (905/1196)

The Network developed a series of posters with companion handouts (http://www.esrdnet5.org/Dialysis-Providers/Patient-Family-Engagement/2015-Activities/Emergency-Preparedness.aspx), and a different poster was distributed to facilities each month to further spread awareness of the issue and challenge complacent patients (see Figure A).

Figure B: Several facilities posted emergency take-off procedures on patient stations.

Patients were enthusiastic about pledging. Two stretch goals were exceeded, with nearly 82 percent (48/59) of facilities obtaining at least 10 percent of their patients pledged.

Patients were asked to provide feedback regarding their experience in the campaign and changes they saw in their facilities as a result. While the response rate was low (3.9%; 174/5313), the responses were positive. Most encouraging is that nearly 60 percent (103/174) indicated that they had committed to more than one pledge activity, and nearly 70 percent (118/174) were provided an opportunity to practice take-off procedures. Over 80 percent (140/174) believed they were better prepared for an emergency because of their participation in the project.

Lessons Learned

An enemy of emergency preparedness is apathy. Patients expressed apathy by continuing to lack concern that they could be at risk in an emergency, or by assuming that in an emergency, the facility would handle everything for them. Apathy in staff was apparent in comments from one facility indicating that it conducted a quarterly check list review with patients and found this project redundant and a waste of time. Facilities that embraced this project had the most success. Sharing their creative motivating activities helped inspire other facilities. Examples of best practices include

- Inclusion of patients on the project team (52% of project facilities did this!)
- Drawing for a “packed box”/tote bag for those who pledged

- Having patients encourage each other to pledge
- Staff matching patient pledges with their own

Sustainability
Of the facilities that responded to an evaluation (29%; 17/59), 94 percent (16/17) indicated that they planned to continue the efforts made in the campaign. All of the materials remain available on the Network website and are marketed to anyone interested. Facilities will periodically be reminded of these resources, particularly during preparedness events.

Innovative AIM 2 Project

The 2015 contract year provided an opportunity to conduct an innovative pilot project to improve the quality of and access to ESRD care in transplantation. Kidney transplant remains the optimal treatment for many patients with ESRD. The informed consent process for any medical intervention requires a discussion of risks and benefits of the chosen treatment as well as alternative treatment options, their risks and benefits, and a rationale for selecting the chosen treatment. For patients with ESRD, the informed consent process for initiating hemodialysis should include a discussion of kidney transplantation as an alternative, regardless of "appropriateness" for this treatment option.[4]

After completing a root cause analysis, the Network identified six barriers dialysis facilities faced when referring patients for transplant:

1. Complexity of the referral process
2. Elderly patient populations
3. Identifying patients as transplant referral opportunities
4. Undocumented patients
5. Patients not interested
6. Poor patient follow-up with referral for transplant

The Network developed interventions with enrolled facilities to overcome these identified barriers. The most noteworthy intervention was developed to overcome poor patient follow-up with referral process. The Network developed a patient education model, PAM, for providers to use when discussing transplant referral with individual patients (see Figure C). The model was constructed upon three of the most common patient concerns related to transplant and included correlating provider interventions.

The most frequent reason that patients are lost to follow-up is that they do not believe they will pass the required medical tests.[5] Providing accurate information is essential, and patients should be told that they are being referred because they might be eligible for transplant and the only way to find out is to complete the process. Another reason patients may be lost to follow-up within

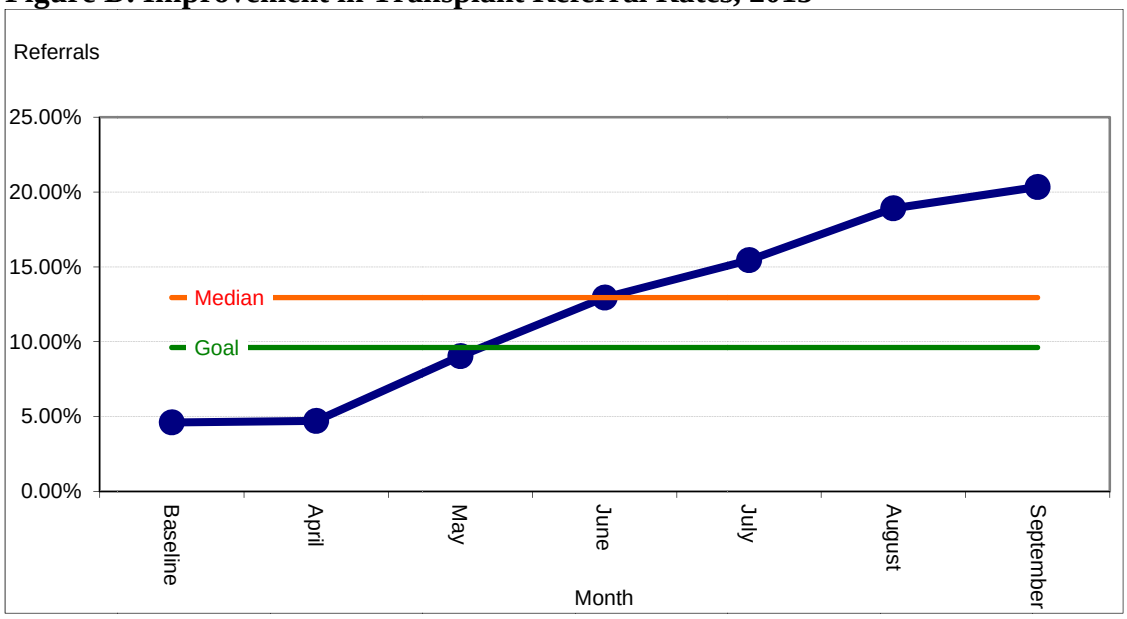
[4] Salter ML; Orandi B; McAdams-DeMarco MA; Law A, et al. Patient- and provider-reported information about transplantation and subsequent waitlisting. *J Am Soc Nephrol.* 2014, 25: 2871-2877.
[5] Kazley, A., Simpson, K., Chavin, K., & Baliga, P. (2012). Barriers facing patients referred for kidney transplant cause loss to follow-up. *Kidney Int, 82*(9), 1018-1023.

the transplantation referral process is there is a great deal of patient fear about transplantation.[6] Presenting an accurate picture of life after kidney transplant is necessary. Finally, patients report they do not have the money for transportation or evaluation of transplantation.[7] Dialysis facilities may assist patients to activate and use their Medicaid and Medicare eligibility as it may cover ambulance transportation. Patients in a Medicare Advantage Plan may also have some non-ambulance transportation to dialysis centers and doctors covered as well. Such support may require more active involvement of social workers or the addition of patient navigator services.

The model was shared with enrolled facilities in May 2015. The Network met the 5-percentage-point increase in referrals that month and was able to sustain the improvement until the end of the performance period.

Figure C: Patient education model for healthcare providers

Figure D. Improvement in Transplant Referral Rates, 2015



[6] Kazley, A., Simpson, K., Chavin, K., & Baliga, P. (2012). Barriers facing patients referred for kidney transplant cause loss to follow-up. *Kidney Int, 82*(9), 1018-1023.
[7] Kazley, A., Simpson, K., Chavin, K., & Baliga, P. (2012). Barriers facing patients referred for kidney transplant cause loss to follow-up. *Kidney Int, 82*(9), 1018-1023.

In addition to its responsibilities under its contract with CMS, the Network achieved other noteworthy goals in 2015.

5-Diamond Patient Safety

The Network is actively involved in partnerships and projects with other ESRD Networks to help promote the national program goals set forth by CMS. One example of a collaborative project is the Network's 5-Diamond Patient Safety Program, which was developed in conjunction with ESRD Network 1 in 2008. This program is endorsed by the American Association of Kidney Patients (AAKP), the American Nephrology Nurses' Association (ANNA), the Renal Physicians Association (RPA), and the National Renal Administrators Association (NRAA). It is also endorsed by Dialysis Clinic, Inc., and Fresenius Medical Care. There are currently 14 modules within the program, each serving as a complete educational course with objectives, required activities, optional activities, tools and resources, and measures.

There are 18 CMS-contracted ESRD Network organizations in the country, and in 2015, 13 Networks participated in the program. However, the 5-Diamond Patient Safety Program is available to all facilities regardless of their Network's involvement. When a provider selects a non-participating Network, Network 5 assumes administrative responsibility for reviewing and approving the facility's module submissions. All users can print their own certificates and can promote themselves as a *5-Diamond Patient Safety* facility upon completion of five modules.

The Program's website automates all submissions, allows participants to be tracked, and offers the opportunity to build in more rigorous measures using accumulated data. In 2015, over 1,500 dialysis centers nationwide participated, representing a 16-percent increase over 2014. Approximately 540 of these facilities achieved 5-Diamond status. "Hand Hygiene" and "Slips, Trips, and Falls" are the two modules most frequently utilized.

Peer-to-Peer Mentoring

ESRD is a growing problem in the United States. Patients with ESRD tend to have significant comorbidities and are hospitalized more frequently than the general Medicare population.[8,9,10] Chronic ESRD patients are treated with life-preserving in-center hemodialysis, which imposes the further burden of a 4-hour extracorporeal treatment three times weekly. For many, these treatments are associated with significant adverse effects, including nausea, low blood pressure, itching, and cramping. To achieve the best outcomes, patients need to follow a complex treatment regimen and practice behaviors that promote treatment efficacy. Managing one's own disease has been shown to be associated with improved outcomes in chronic disease, including

[8] Cohen LM, Germain MJ, Poppel DM. Practical considerations in dialysis withdrawal. *JAMA.* 2003;289(16):2113-2119.
[9] Weisbord SD, Fried LF, Arnold RM, et al. Prevalence, severity, and importance of physical and emotional symptoms in chronic hemodialysis patients. *J Am Soc Nephrol.* 2005;16(8):2487-2494.
[10] United States Annual Data Report (USRDS). *Annual data report: atlas of chronic kidney disease and end-stage renal disease in the United States.* Bethesda, MD 2012.

fewer hospitalizations.[11,12] In 2015, the Network received Special Innovation Project funding from CMS to establish a peer-to-peer mentoring program to address some of these pressing issues.

Patient mentoring/peer-to-peer (P2P) support programs have the potential to assist ESRD patients in managing their complex chronic illnesses to improve outcomes of importance to them, healthcare payers, and providers. Yet, there is little research examining the effectiveness of P2P programs in improving psychosocial and physiological outcomes, leading ultimately to reductions in hospitalizations.

The Network designed a P2P coaching intervention tailored to the identified needs of patients in a facility serving 249 in-center hemodialysis patients in Lynchburg, Virginia. The intervention was preceded by a social marketing effort, which included a naming contest and participant recruitment. The contest resulted in naming the intervention *Peer Up! Together Makes Us Better*. Patients were eligible to participate if they were receiving in-center hemodialysis, 18 years of age or older, able to provide informed consent, able to comprehend English without the aid of a support person, and willing to commit for the duration of the study. Patients with an intellectual disability and/or physician diagnosis of mental illness, including major depression, dementia, Alzheimer's disease, schizophrenia, bipolar disorder, alcoholism, or drug abuse, were ineligible. The intervention included: (1) pairing of mentees and mentors, (2) mentor training, (3) kick-off social mixers to explain the program and introduce mentees and mentors, (4) ongoing meetings between mentees and mentors, (5) mentor training booster, and (6) a final celebration.

To test the effectiveness of the P2P coaching intervention on patients' psychosocial and physiological health, including frequency of hospitalization, the Network used a single-arm pilot study with repeated measurements over three time periods. Data collection extended from January 2015 through June 2015, occurring at pre-training (mentors only), post-training/pre-intervention, mid-intervention (mentees only), and post-intervention time periods. The Network gathered data to measure the extent to which the intervention was implemented as planned and tested its hypotheses that the intervention would result in improved mentee self-efficacy, perceived social support, dialysis social support, knowledge, self-management behaviors, health-related quality of life, serum phosphorus, and vascular access, while reducing missed treatments, shortened treatments, interdialytic weight gain (IDWG), and all-cause hospitalization. The Network also tested its hypotheses that the intervention would result in improved mentor-perceived social support, dialysis self-management knowledge, and self-efficacy.

Mentees experienced significant increases in self-efficacy, knowledge, perceived social support, dialysis social support, and health-related quality of life. Missed treatments decreased significantly. Mentors experienced significant increases in knowledge, dialysis social support, and dialysis self-management. For both mentees and mentors, the hospitalization rate was low at baseline and did not change significantly throughout the study.

[11] Lorig KR, Sobel DS, Stewart AL, et al. Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: a randomized trial. *Med care.* 1999;37(1):5-14.
[12] Clark NM, Nothwehr F. Self-management of asthma by adult patients. *Patient Educ Couns.* 1997;32:S5-S20.

A coaching P2P program for in-center hemodialysis patients can be beneficial for both mentees and mentors, even when conducted on a pilot basis over a short period of time. While the program was associated with improvement in both psychosocial and physiological measures, there was no improvement in hospitalization rates, perhaps owing to the relatively short duration of the program, which was only four months. Future efforts should focus on programs extending over longer time periods with larger groups of patients and employing more rigorous research designs.

Facilities that Consistently Failed to Cooperate with Network Goals

In 2015, there were no facilities that consistently failed to cooperate with Network goals, consistent with 42 CFR Section 494.180(i).

Recommendations for Sanctions

No sanction recommendations were made to CMS in 2015.

Recommendations to CMS for Additional Services or Facilities

The Network continued to add new dialysis programs as the patient population increased. There were 34 new facilities that became operational in the Network area in 2014 and 2015. The District of Columbia and West Virginia continue to have Certificate of Need requirements. The Network makes data available, upon request, to individuals and agencies that are examining the need for expansion of existing facilities or development of new facilities. The Network does not make recommendations in this process and believes that the market-driven forces are sufficient to meet the needs in the Network area.

The Network recommends that CMS examine the feasibility of establishing special need facilities that are equipped to deal with the special needs of patients who have been involuntary discharged from other dialysis programs. These are frequently patients who have exhibited socially unacceptable or mentally ill behavior and represent a risk to other patients and staff. These patients require expensive treatment through hospital emergency departments due to the difficulty of finding permanent placement. The Network would welcome the opportunity to participate in a pilot to treat these patients in specially equipped facilities that have increased security, on-site psychological services, higher staffing ratios, and experienced staff. This has been an identified need for multiple years by multiple Networks.

The Network also recommends that CMS waive the 3-month waiting period for entitlement for patients who start dialysis with an AVF. This cost savings incentive is available to patients who receive transplant or receive home training in the first three months and would improve the quality of life of patients who usually start dialysis with a CVC.

Contributions to the Professional Literature

In 2015, Network staff (in bold) published two articles in peer-reviewed journals:

- **Lynch JR**, **Armistead N**, **Vinson BB**, Howard AD. Correlates of change in health care worker seasonal influenza vaccination rates among dialysis facilities. *Am J Infect Control*. 2015; 43: 409-411.
- Culp S, Lupu D, Arenella C, **Armistead N**, Moss AH. Unmet supportive care needs in U.S. dialysis centers and lack of knowledge of available resources to address them. *J Pain Symptom Manage*. 2015 Dec 17. pii: S0885-3924(15)00968-9. doi: 10.1016/j.jpainsymman.2015.11.017. [Epub ahead of print]

Grievances and Access to Care

The Network responds to grievances filed by or on behalf of ESRD patients in its service area. In 2015, the Network responded to 80 grievances. Of these, five (6.25%) involved issues related to access to care. Not reflected in Table H is one grievance case regarding access to care in which a patient desired a voluntary transfer that was delayed.

Table H. Network 5 Grievance Data for Calendar Year 2015

Category	Number
Number of Grievance Cases Opened in Calendar Year 2015	80
Number of Grievance Cases Involving Access to Care	5
Number of Grievance Cases Involving Involuntary Transfer	4
Number of Grievance Cases Involving Involuntary Discharge	0
Number of Grievance Cases Involving Failure to Place	0
Number of Non-Grievance Cases Involving Access to Care	93
Number of Non-Grievance Access to Care Cases Involving Involuntary Transfer	1
Number of Non-Grievance Access to Care Cases Involving Involuntary Discharge	23
Number of Non-Grievance Access to Care Cases Involving Failure to Place	15
Total Number of Grievance and Non-Grievance Cases Involving Access to Care	98
Number of Grievance Cases Closed by the Network in Calendar Year 2015	80
Number of Non-Grievance Access to Care Cases Closed by the Network in Calendar Year 2015	88

Source of data: Patient Contact Utility

Grievance Cases Referred to State Survey Agencies

Four cases were referred to State Survey Agencies (SAs) in 2015. No follow-up reports have been received from them to-date.

Case 1: CMS copied the Network on the referral of an ESRD grievance to the SA. The grievance concerned issues with facility equipment and supplies. The Network coordinated with the SA and provided historical information about grievances received in reference to the specific facility as well as Network quality improvement activities in which it had been enrolled.

Case 2: The case involved a third party grievant relaying the family's concern that the patient was being tortured by a dialysis staff person. The Network consulted with the SA, which took over the case.

Case 3: The family contacted the Network with a concern that a patient's death was related to abuse/neglect from dialysis staff. The patient was humiliated over a toileting incident in which staff would not assist, and the patient was left in soiled clothing for hours. The patient refused to do dialysis ever again.

Case 4: A patient had to grab staff walking by as the patient's blood pressure was dropping and no one was responding to the machine alarm because the volume was turned down. The case was referred to the SA with additional concerns about the facility, including inadequate facility management personnel, repeated grievances, and lack of response from regional management.

Emergency Preparedness and Response

In 2015, a number of emergency events impacted facilities in the Network 5 region. These included weather-related closures, water main breaks or facility closures due to significant water damage, mold, carbon monoxide leaks, and power outages, and closure of a nursing home-based facility due to a patient testing positive for legionella. Overall, facilities managed these events without the need for assistance; however, the Network did receive calls from patients in the facility that closed due to water damage. They expressed frustration with how the provider was handling the situation. The Network spoke with a facility representative and was provide with a list of accommodations being made for patients. No fault was found on the part of the facility, which seemed to be going to great lengths to accommodate displaced patients.

One West Virginia facility was impacted by a fuel spill into its water source. The facility routed patients to alternate facilities until a water tanker arrived to supply the facility. Within one week, the facility was back on municipal water supply. The Network maintained communication with the facility and provided updates to CMS and other state and federal partners. No assistance was requested.

On February 16, 2015, a train carrying crude oil derailed and ignited in Fayette County, West Virginia. Oil from the tanker cars spilled into the Kanawha River, potentially affecting the water supplies in Kanawha and Fayette Counties. The Network contacted all five dialysis facilities in the area and none were impacted by the spill. This information was shared with CMS and other state and federal partners.

On April 27, 2015, peaceful protests in Baltimore, Maryland, turned violent in the wake of Freddie Gray's funeral. Gray died from injuries suffered during a ride in a police van following his arrest. Protestors rioted in the streets, destroying businesses, setting fires, and looting. On April 28, the Network, with assistance from the Kidney Community Emergency Response (KCER) Coalition, contacted facilities (25 facilities, ~3500 patients excluding transplant patients) to determine the impact of the riots on their facilities, staff, and patients and to offer assistance. All facilities were operational, with some shortening treatments to allow patients and staff to get home safely. Two facilities—both hospital-based—were on lockdown with police and National Guard outside. By April 29, all facilities were operating normally.

Per contract requirements, the Network maintained a Comprehensive Emergency Management Plan (CEMP), providing quarterly updates to CMS and adding a KCER-provided Terrorism Preparedness Annex. The Network also participated in the June 3, 2015, KCER national tabletop exercise; the Network's director of operations served on the exercise planning team. Network staff participated in all relevant KCER calls and notified KCER, CMS, its back-up Network, and representatives from the U.S. Department of Health and Human Services' Office of the Assistant

Secretary for Preparedness and Response (HHS/ASPR) and all relevant state agencies of all events affecting the Network and facilities. Staff also provided status reports on situational calls with federal agency representatives as needed.

In 2015, the Network continued to conduct outreach on emergency preparedness for dialysis facilities, patients, and community partners. The Network website has an emergency preparedness section at www.esrdnet5.org/Dialysis-Providers/Emergency-Preparedness.aspx. This section includes

- Information on how the Network can assist providers and patients
- Listing of emergency contacts
- Facility closure notification form
- Listing of closed facilities
- Many tools and resources for providers and patients
- Information on the KCER Coalition with a link to its website
- Toll-free emergency hotline for patients and providers

In addition to the website, the Network provided outreach to the dialysis community via its electronic newsletter, social media, and fax and email blast notifications of impending weather events.

The Network is prepared to assist its counterparts in other states in carrying out contract requirements during the initial and recovery phases of an emergency or disaster. It has a signed Memorandum of Agreement with Network 14 (Texas) to provide back-up services in emergency events and can assist other Networks as needed.

List of Tables

The following data tables are presented in the CMS-prescribed format:*

*Tables are taken directly from CMS CROWNWeb; their accuracy has not been verified.

Appendix. Data Tables

Table 1. Incident (New) ESRD Patients in Network 5's Service Area by Patient Characteristics January 1, 2015 - December 31, 2015

Network 5's Service Area	Number	Percent
Age Group		
<= 4 Years	12	0.2%
5-9 Years	4	0.1%
10-14 Years	12	0.2%
15-19 Years	20	0.3%
20-24 Years	46	0.7%
25-29 Years	97	1.5%
30-34 Years	138	2.1%
35-39 Years	174	2.6%
40-44 Years	302	4.6%
45-49 Years	388	5.9%
50-54 Years	577	8.7%
55-59 Years	756	11.5%
60-64 Years	900	13.6%
65-69 Years	947	14.3%
70-74 Years	803	12.2%
75-79 Years	658	10.0%
80-84 Years	477	7.2%
>= 85 Years	290	4.4%
Network-Level Total	6601	100.0%
Median Age	64	
Gender		
Female	2841	43.0%
Male	3760	57.0%
Network-Level Total	6601	100.0%
Ethnicity*		
Hispanic or Latino	257	3.9%
Not Hispanic or Latino	6329	95.9%
Not Specified	15	0.2%
Network-Level Total	6601	100.0%
Race*		
American Indian/Alaska Native	4	0.1%
Asian	198	3.0%
Black or African American	2920	44.2%
Native Hawaiian or Other Pacific	51	0.8%

Islander		
White	3397	51.5%
More Than One Race Reported	16	0.2%
Not Specified	15	0.2%
Network-Level Total	6601	100.0%
Primary Cause of ESRD*		
Diabetes	2831	42.9%
Glomerulonephritis	335	5.1%
Secondary Glomerulonephritis/Vasculitis	109	1.7%
Interstitial Nephritis/Pyelonephritis	123	1.9%
Transplant Complications	4	0.1%
Hypertension/Large Vessel Disease	2253	34.1%
Cystic/Hereditary/Congenital/Other Diseases	159	2.4%
Neoplasms/Tumors	111	1.7%
Disorders of Mineral Metabolism	1	0.0%
Genitourinary System	6	0.1%
Acute Kidney Failure	35	0.5%
Miscellaneous Conditions	395	6.0%
Not Specified	239	3.6%
Network-Level Total	6601	100.0%

Source of data: CROWNWeb.
*Categories are from the CMS-2728 form.
NOTES:

1. This table includes data on dialysis and transplant patients whose initial “Admit Date” in CROWNWeb was within the calendar year. Excludes patients with a "Discharge Reason" of acute kidney failure.
2. This table may include data on some patients receiving dialysis services from U.S. Department of Veterans Affairs (VA) facilities.
3. Data on "ethnicity" and "race" should be interpreted with caution because of the inherent instability of race/ethnicity data.

Table 2. Prevalent Dialysis Patients in Network 5's Service Area
by Patient Characteristics
As of December 31, 2015

Network 5's Service Area	Number	Percent
Age Group		
<= 4 Years	20	0.1%
5-9 Years	4	0.0%
10-14 Years	13	0.0%
15-19 Years	27	0.1%
20-24 Years	161	0.6%
25-29 Years	373	1.4%
30-34 Years	625	2.3%
35-39 Years	884	3.3%
40-44 Years	1336	5.0%
45-49 Years	1891	7.1%
50-54 Years	2524	9.5%
55-59 Years	3238	12.2%
60-64 Years	3475	13.1%
65-69 Years	3697	13.9%
70-74 Years	3009	11.3%
75-79 Years	2506	9.4%
80-84 Years	1687	6.3%
>= 85 Years	1154	4.3%
Network-Level Total	26624	100.0%
Median Age	63	
Gender		
Female	11752	44.1%
Male	14872	55.9%
Network-Level Total	26624	100.0%
Ethnicity*		
Hispanic or Latino	1177	4.4%
Not Hispanic or Latino	25427	95.5%
Not Specified	20	0.1%
Network-Level Total	26624	100.0%
Race*		
American Indian/Alaska Native	16	0.1%
Asian	743	2.8%
Black or African American	15330	57.6%
Native Hawaiian or Other Pacific Islander	180	0.7%
White	10316	38.7%
More Than One Race Reported	26	0.1%
Not Specified	13	0.0%
Network-Level Total	26624	100.0%
Primary Cause of ESRD*		
Diabetes	10306	38.7%
Glomerulonephritis	1965	7.4%
Secondary Glomerulonephritis/Vasculitis	546	2.1%

Interstitial Nephritis/Pyelonephritis	527	2.0%
Transplant Complications	5	0.0%
Hypertension/Large Vessel Disease	9259	34.8%
Cystic/Hereditary/Congenital/Other Diseases	733	2.8%
Neoplasms/Tumors	737	2.8%
Disorders of Mineral Metabolism	1	0.0%
Genitourinary System	6	0.0%
Acute Kidney Failure	23	0.1%
Miscellaneous Conditions	1909	7.2%
Not Specified	607	2.3%
Network-Level Total	26624	100.0%

Source of data: CROWNWeb.

*Categories are from the CMS-2728 form.

NOTES:

1. This table includes data on all patients identified in CROWNWeb as alive and receiving dialysis services as of December 31 of the calendar year.
2. This table may include data on some patients receiving dialysis services from U.S. Department of Veterans Affairs (VA) facilities.
3. Data on "ethnicity" and "race" should be interpreted with caution because of the inherent instability of race/ethnicity data.

Table 3. In-Home Dialysis Patients in Network 5's Service Area
by Dialysis Facility and Modality
As of December 31, 2015

State	HD	CAPD	CCPD	Other Modalities	Total In-Home Patients	Total In-Center and In-Home Patients
DC	19	30	95	0	144	1961
MD	103	205	608	0	916	10160
VA	323	283	965	7	1578	12243
WV	85	114	176	0	375	2328
Network Total	**530**	**632**	**1844**	**7**	**3013**	**26692**

Source of data: ESRD Facility Survey (CMS-2744A) as recorded in CROWNWeb.
HD = Hemodialysis
CAPD = Continuous Ambulatory Peritoneal Dialysis
CCPD = Continuous Cycling Peritoneal Dialysis
NOTE: This table may include data for some U.S. Department of Veterans Affairs (VA) facilities.

Table 4. In-Center Dialysis Patients in Network 5's Service Area
by Dialysis Facility and Modality
As of December 31, 2015

State	HD	PD	Total In-Center Patients	Total In-Center and In-Home Patients
DC	1817	0	1817	1961
MD	9242	2	9244	10160
VA	10664	1	10665	12243
WV	1953	0	1953	2328
Network Total	**23676**	**3**	**23679**	**26692**

Source of data: ESRD Facility Survey (CMS-2744A) as recorded in CROWNWeb.
HD = Hemodialysis
PD = Peritoneal Dialysis
NOTE: This table may include data for some U.S. Department of Veterans Affairs (VA) facilities.

Table 5. Number of Transplants Performed in Network 5's Service Area, by Transplant Center and Donor Type and Number of Patients on Transplant Waiting List* in Network 5's Service Area, by Transplant Center
January 1, 2015 - December 31, 2015

State	Deceased Donor	Living Related Donor	Living Unrelated Donor	Unknown Donor Type	Total Transplants Performed	Patients on Transplant Waiting List
DC	172	53	36	0	261	791
MD	365	118	53	0	536	2519
VA	295	68	49	0	412	2169
WV	22	2	1	0	25	157
Network Total	**854**	**241**	**139**	**0**	**1234**	**5636**

Source of data: CROWNWeb. Information on patients awaiting transplant comes from the ESRD Facility Survey completed by transplant centers (Form CMS-2744B).
*As of December 31, 2015.
NOTE: Cumulative total for January 1, 2015 – December 31, 2015. A patient who had more than one transplant during the calendar year is represented more than once in the table.

Table 6. Renal Transplant* Recipients in Network 5's Service Area
by Patient Characteristics
January 1, 2015 - December 31, 2015

Network 5's Service Area	Transplant Recipients	Percent
Age Group		
<= 4 Years	6	0.5%
5-9 Years	8	0.6%
10-14 Years	14	1.1%
15-19 Years	16	1.3%
20-24 Years	21	1.7%
25-29 Years	49	3.9%
30-34 Years	68	5.4%
35-39 Years	92	7.4%
40-44 Years	106	8.5%
45-49 Years	145	11.6%
50-54 Years	174	13.9%
55-59 Years	186	14.9%
60-64 Years	143	11.4%
65-69 Years	137	11.0%
70-74 Years	58	4.6%
75-79 Years	21	1.7%
80-84 Years	4	0.3%
>= 85 Years	2	0.2%
Network-Level Total	1250	100.0%
Median Age	52	
Gender		
Female	455	36.4%
Male	795	63.6%
Network-Level Total	**1250**	**100.0%**
Ethnicity*		
Hispanic or Latino	56	4.5%
Not Hispanic or Latino	1187	95.0%
Not Specified	7	0.6%
Network-Level Total	**1250**	**100.0%**
Race*		
American Indian/Alaska Native	2	0.2%
Asian	42	3.4%
Black or African American	614	49.1%
Native Hawaiian or Other Pacific Islander	12	1.0%
White	569	45.5%

More Than One Race Reported	5	0.4%
Not Specified	6	0.5%
Network-Level Total	**1250**	**100.0%**
Primary Cause of ESRD**		
Diabetes	279	22.3%
Glomerulonephritis	194	15.5%
Secondary Glomerulonephritis/Vasculitis	41	3.3%
Interstitial Nephritis/Pyelonephritis	25	2.0%
Transplant Complications	0	0.0%
Hypertension/Large Vessel Disease	321	25.7%
Cystic/Hereditary/Congenital/Other Diseases	121	9.7%
Neoplasms/Tumors	78	6.2%
Disorders of Mineral Metabolism	0	0.0%
Genitourinary System	0	0.0%
Acute Kidney Failure	0	0.0%
Miscellaneous Conditions	89	7.1%
Not Specified	102	8.2%
Network-Level Total	1250	100.0%

Source of data: CROWNWeb.
*Data are shown for unduplicated patients. A patient who had more than one transplant during the calendar year is counted only once in the table.
**Categories are from the CMS-2728 form.
NOTES: Data on “ethnicity” and “race” should be interpreted with caution because of the inherent instability of race/ethnicity data.

Table 7. Deaths among Dialysis Patients in Network 5's Service Area by Patient Characteristics
January 1, 2015 - December 31, 2015

Network 5's Service Area	Number	Percent
Age Group		
<= 4 Years	4	0.1%
5-9 Years	0	0.0%
10-14 Years	0	0.0%
15-19 Years	1	0.0%
20-24 Years	8	0.2%
25-29 Years	8	0.2%
30-34 Years	39	0.8%
35-39 Years	55	1.1%
40-44 Years	79	1.6%
45-49 Years	168	3.5%
50-54 Years	280	5.8%
55-59 Years	415	8.6%
60-64 Years	566	11.7%
65-69 Years	673	13.9%
70-74 Years	705	14.6%
75-79 Years	688	14.3%
80-84 Years	601	12.5%
>= 85 Years	537	11.1%
Network-Level Total	4827	100.0%
Median Age	70	
Gender		
Female	2122	44.0%
Male	2705	56.0%
Network-Level Total	4827	100.0%
Ethnicity*		
Hispanic or Latino	84	1.7%
Not Hispanic or Latino	4725	97.9%
Not Specified	18	0.4%
Network-Level Total	4827	100.0%
Race*		
American Indian/Alaska Native	3	0.1%
Asian	114	2.4%
Black or African American	2156	44.7%
Native Hawaiian or Other Pacific Islander	15	0.3%
White	2521	52.2%
More Than One Race Reported	4	0.1%
Not Specified	14	0.3%
Network-Level Total	4827	100.0%
Primary Cause of ESRD*		
Diabetes	2101	43.5%
Glomerulonephritis	182	3.8%
Secondary Glomerulonephritis/Vasculitis	69	1.4%
Interstitial Nephritis/Pyelonephritis	104	2.2%
Transplant Complications	0	0.0%

Hypertension/Large Vessel Disease	1640	34.0%
Cystic/Hereditary/Congenital/Other Diseases	56	1.2%
Neoplasms/Tumors	152	3.1%
Disorders of Mineral Metabolism	0	0.0%
Genitourinary System	0	0.0%
Acute Kidney Failure	5	0.1%
Miscellaneous Conditions	377	7.8%
Not Specified	141	2.9%
Network-Level Total	4827	100.0%
Primary Cause of Death**		
Cardiac	1661	34.4%
Endocrine	0	0.0%
Gastrointestinal	22	0.5%
Infection	350	7.3%
Liver Disease	31	0.6%
Metabolic	19	0.4%
Vascular	138	2.9%
Other	844	17.5%
Unknown	1494	31.0%
Not Specified	268	5.6%
Network-Level Total	4827	100.0%

Source of data: CROWNWeb.
*Categories are from the CMS-2728 form.
**Categories are from the CMS-2746 form.
NOTES:

1. This table may include data on some patients who received dialysis services from U.S. Department of Veterans Affairs (VA) facilities.
2. Data on “ethnicity” and “race” should be interpreted with caution because of the inherent instability of race/ethnicity data.

Table 8: Vocational Rehabilitation
As of 1/1/2015 - 12/31/2015

State	Aged 18 through 54	Referred to Voc Rehab Services	Receiving Voc Rehab Services	Employed Full-Time or Part-Time	Attending School Full-Time or Part-Time
DC	666	5	2	115	4
MD	2937	10	6	603	12
VA	3616	8	10	722	21
WV	588	3	0	57	1
Network Total	**7807**	**26**	**18**	**1497**	**38**

Source of data: CROWNWeb.
Voc Rehab = Vocational Rehabilitation

Table 9. Renal Transplant Recipients* in Network 5's Service Area, by Ethnicity and Race
January 1, 2015 - December 31, 2015

Ethnicity** Category	Race** Category	Number	Percent
Hispanic or Latino	American Indian/Alaska Native	0	0.0%
	Asian	1	1.8%
	Black or African American	1	1.8%
	Native Hawaiian or Other Pacific Islander	3	5.4%
	White	50	89.3%
	More Than One Race Reported	1	1.8%
	Total	56	100.0%
Not Hispanic or Latino	American Indian/Alaska Native	2	0.2%
	Asian	41	3.5%
	Black or African American	613	51.6%
	Native Hawaiian or Other Pacific Islander	9	0.8%
	White	518	43.6%
	More Than One Race Reported	4	0.3%
	Total	1187	100.0%
Ethnicity Not Specified	American Indian/Alaska Native	0	0.0%
	Asian	0	0.0%
	Black or African American	0	0.0%
	Native Hawaiian or Other Pacific Islander	0	0.0%
	White	1	14.3%
	More Than One Race Reported	0	0.0%
	Not Specified	6	85.7%
	Total	7	100.0%
	Total: Transplant ESRD Patients	**1250**	

Source of data: CROWNWeb.
*Data are shown for unduplicated patients. A patient who had more than one transplant during the calendar year is counted only once in the table.
**Categories are from the CMS-2728 form.
NOTES: Data on "ethnicity" and "race" should be interpreted with caution because of the inherent instability of race/ethnicity data.