Midwest Kidney Network

2016 Network Annual Report

Submitted June 9, 2017

Midwest Kidney Network
ESRD Network 11
1360 Energy Park Drive, Suite 200
St. Paul, 55108
(651) 644-9877
www.midwestkidneynetwork.org

Table of Contents

Report Highlights

Midwest Kidney Network is one of the largest Networks in the USA with 509 dialysis facilities and 21 kidney transplant centers serving 48,000 people with kidney disease.

During 2016, we responded to 71 patient concerns, and we worked with ESRD providers to process 43,784 changes in CROWNWeb, the national registry for people with kidney disease.

In addition, we conducted seven quality improvement activities by engaging dialysis facility personnel, patients, and other stakeholders. Three of these activities had a particularly powerful impact on approximately 10,000 people with kidney disease. See pages 10-15.

Three quality improvement activities resulted in
891 individual people with improved outcomes
356 dialysis facilities engaged in quality, and
$16.5 million potentially saved.

(CDC, 2011) (USRDS, 2012)

Reducing Long-Term Catheters (LTC)

In 2016, we worked intensively with 220 dialysis facilities serving 2,147 people on dialysis. These dialysis units have long-term in use catheter rates >10%. Workshops, on site visits, and offsite record review proved to be successful interventions. Collectively, these facilities made the following improvements.

- 264 fewer patients have an in-use long-term catheter
- The in-use long term catheter rate for this cohort decreased 1.6%
- An estimated $4 million was saved

Reducing Blood Stream Infections (BSIs)

In 2016, we worked with 112 dialysis facilities that served 5,700 people on dialysis. After intensive facility education, including using the CDC infection prevention and audit tools, the blood stream infection rate decreased 37%, far exceeding the 5% goal. Additionally, the impact on patients included the following.

- 154 fewer infections occurred
- BSIs in the 112 dialysis facilities decreased by 37%, far exceeding the 5% goal
- $2.5 million was saved

In addition, facilities that achieved a decrease in BSI rates in 2014 and 2015 sustained their improvement for the next 2-year follow up period.

Increasing Home Dialysis Referral and Decreasing Racial Disparity

Working with 24 dialysis facilities that serve 1900 people on in-center hemodialysis, we assessed and developed materials to address barriers to home dialysis referral. Patient success stories helped to expand thinking about candidacy for home dialysis. The impact associated with this successful project includes the following.

- 473 people were referred to home dialysis.
- Nearly $10 million will be saved if these individuals proceed to home dialysis.
- Dialyzing at home is associated with greater independence, better quality of life, and improved health outcomes.

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 11

Midwest Kidney Network (ESRD Network 11) serves a five-state region: Michigan, Minnesota, North Dakota, South Dakota, and Wisconsin. Midwest Kidney Network (MKN) is a private, nonprofit organization working to assess and improve the care of chronic kidney disease patients.

Geography and Population Density

MKN's service area covers more than 350,000 square miles and spans three time zones. More than 22.6 million people live in the 5-state region. Of that population, 72% reside in Detroit, Milwaukee, and Minneapolis-Saint Paul, while 28% reside in rural areas.

Racial and Cultural Diversity

- Michigan's African American population is the tenth largest in the U.S.
- The city of Detroit, Michigan, is home to an 82% African American population.
- MKN's 5-state area contains more than fifteen Indian Reservations that are among the largest in the United States.

These are notable numbers, as African Americans and Native Americans have a disproportionately higher incidence of kidney disease.

ESRD Facilities and Patients in the Network 11 Region					
State	ESRD Facilities		ESRD Patients		
	Dialysis*	Transplant*	Dialysis*	Transplant**	Total
Michigan	215	8	14,788	6,947	21,735
Minnesota	125	5	4,752	6,804	11,556
North Dakota	16	2	764	490	1,254
South Dakota	25	2	956	476	1,432
Wisconsin	128	4	6,508	5,889	12,397
Total	**509**	**21**	**27,768**	**20,606**	**48,374**

*CROWNWeb , 4/5/2017.
**ESRD NCC Period Prevalence Report, 3/28/2017

Table A. Dialysis Facilities and Transplant Centers in the Network's Service Area, as of December 31, 2016

Category	Number
Number of Dialysis Facilities in the Network's Service Area	509
Number of Transplant Centers in the Network's Service Area	21

Source of data: CROWNWeb

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, 2016

Category	Number	Percent
Number of Medicare-Certified Dialysis Facilities in the Network's Service Area	495	
Dialysis Facilities in the Network's Service Area Offering Dialysis Shifts Starting after 5 PM	280	56%

Source of data: CROWNWeb

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 2016, 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.
    - 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; and
- 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.

Midwest Kidney Network Treatment Goals

Each year, the Midwest Kidney Network Medical Review Committee (MRC) updates its treatment goals. It sets these goals after reviewing its past recommended treatment guidelines and making revisions based on changes in clinical practice guidelines.

In setting these goals, the MRC relies on available evidence and accepted practice guidelines such as those provided by the Kidney Dialysis Outcomes Quality Initiative (K/DOQI).

More at http://midwestkidneynetwork.org/quality-improvement/recommended-treatment-goals

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 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 2016

Category	Number	Percent
Incident (New) ESRD Patients		
Number of Incident ESRD Patients, Calendar Year 2016	7,676	100%
Prevalent Dialysis Patients		
Number of Prevalent Dialysis Patients as of December 31, 2016	27,768	
Treatment Modality of Prevalent Dialysis Patients as of December 31, 2016		
In-Center Hemodialysis or Peritoneal Dialysis	24,553	88%
In-Home Hemodialysis or Peritoneal Dialysis	3,215	12%
Total	27,768	100%
Vascular Access Type at Latest Treatment among Prevalent In-Center and In-Home Hemodialysis Patients as of December 31, 2016		
Arteriovenous Fistula in Use	15,376	63%
Arteriovenous Graft in Use	4,230	17%
Catheter in Use for 90 Days or Longer	2,805	11%
Other*	2,200	9%
Total	24,611	100%
Renal Transplants		
Number of Renal Transplant Recipients,* *Calendar Year 2016	1,776	
Total	1,776	100%

Source of data: CROWNWeb
*This total includes 1,795 patients with a catheter in use for < 90 days.
**Count of unduplicated individuals receiving renal transplantation during the calendar year.

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 Michigan, Minnesota, North Dakota, South Dakota, and Wisconsin.

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 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.

Quality Improvement Activities

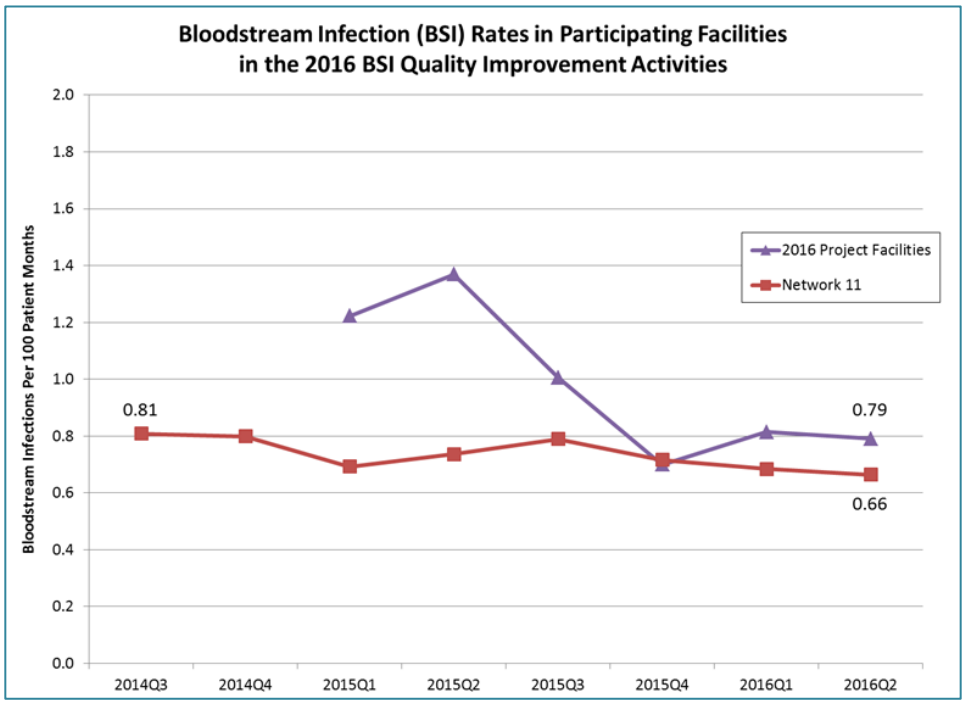
All ESRD Networks worked with providers and patients to address challenges in several areas of patient care: While we consider each of our quality improvement activities to be successful, providers in our region demonstrated significant improvement in three specific quality improvement activities.

1. Reducing rates of bloodstream infections
2. Reducing rates of long-term catheter use
3. Increase referral to home dialysis and reduce disparity

For each of these three quality improvement activities, we have outlined the scope, initial results, and plans for sustainability in pages 10-15 of this report.

Quality Improvement Activity to Reduce Rates of Blood Stream Infections (BSI)

Goal for Change	Decrease the rate (episodes/100 pt. months) of blood stream infections (BSIs) by ≥ 5% based on the semi-annual pooled mean rate as reported in the National Healthcare Safety Network (NHSN). Baseline is Quarters 1-2, 2015 and re-measurement is Quarters 1-2, 2016.
Provider Participants	We selected 112 in-center hemodialysis facilities for this project based on medium-high BSI rates for Q1-2, 2015. These facilities serve approximately 5,700 dialysis patients.
Focused Interventions	• Educated dialysis personnel on both short-term and long-term implementation of the Centers for Disease Control (CDC) audit and infection prevention tools • Monitored and reviewed CDC audit results monthly to ensure early identification of problems and promote rapid cycle improvement • Convened monthly coaching calls to share concerns and successes
Patient Contributions	People on dialysis contributed to safety culture in the participating units by promoting hand washing, following infection control practices, and promoting permanent vascular access. Patient subject matter experts served as faculty on webinars and advised throughout the project, particularly on working with patient care technicians.
Results	Bloodstream infections in the target dialysis facilities decreased by 37%, far exceeding the 5% goal.



Quality Improvement Activity to Reduce Rates of Blood Stream Infections (BSI)

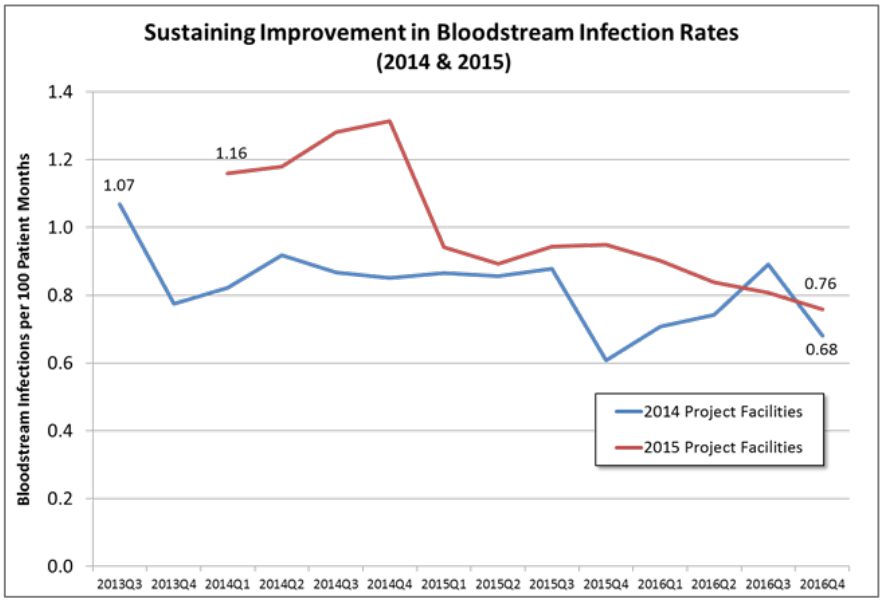
Initial Impact

The cohort of 112 dialysis units in this project cut their BSI rate in half (from a baseline of 1.3 to 0.82 episodes/100 patient months). Twenty-five (23%) dialysis units of the 2016 cohort achieved a zero BSI rate at the end of the project.

- One hundred fifty-four fewer BSIs occurred.
- An estimated $2,440,900 was saved. BSIs cost $3,700 to $28,000 per episode, an average cost of $15,850. (CDC, 2011)

Sustainability

- The 2014, 2015, and 2016 cohorts reduced BSIs by 4%, 29%, and 37% respectively, and facilities have sustained these results for 1-2 years.



- Dialysis units are now routinely performing CDC audits.
- Senior leaderships are committed to safety culture and infection control practices.
- Patients are participating in hand washing and safety culture.

Lessons to Apply

- Dialysis facilities performing CDC core interventions achieve significant decreases in their BSI rates.
- It is important to integrate CDC core interventions into standard practice given high dialysis staff turnover (4-5 personnel changes per month).
- Centralized NHSN data entry was associated with local dialysis units having less familiarity with NHSN use and reports.

Quality Improvement Activity to Reduce Long-term Catheters (LTC)

Goal for Change

Decrease the percent of patients dialyzing with a long-term catheter (LTC) from 16.1% in September 2015 to 14.1% in September 2016, a 2% decrease. LTC is defined as a catheter in use for ≥ 90 days in dialysis units with LTC rate of > 10%.

Provider Participants

We identified 220 dialysis facilities, serving 2,147 patients, with LTC rate >10% for the following specific interventions.

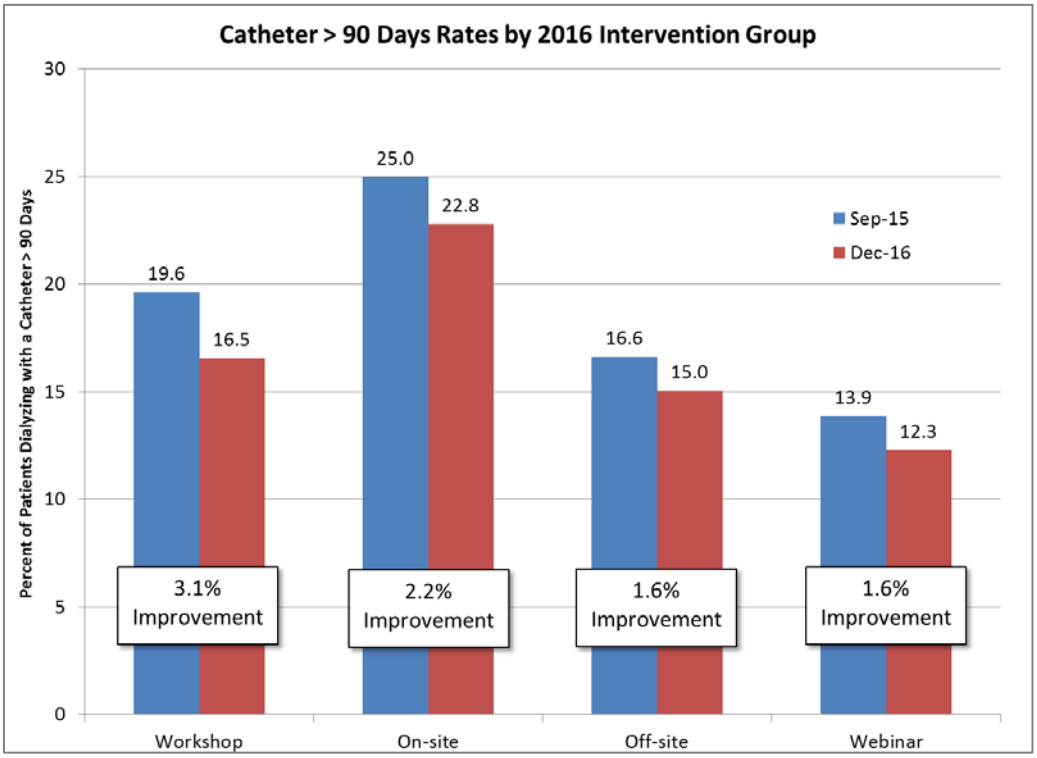
Focused Interventions

Tier	#Dialysis units	LTC%	Interventions in 2016
4	154	10-14%	Webinar on best practices and patient perspectives
3	41	>15%	Webinar plus off-site record review Letter with recommended actions to reduce catheters Facility-specific bimonthly follow up calls
2	18	10-38%	Webinar plus workshops for each regional chain
1	7	>25%	Webinar plus root cause analysis and on-site visit: Quality improvement plan review Interdisciplinary team meetings Medical Director input Monthly follow up calls

Patient Contributions

The 15 Consumer Committee members serve as advisors on this project, and patients shared their experiences with the various vascular access types.

Results



Quality Improvement Activity to Reduce Long-term Catheters (LTC)	
Initial Impact	• Two hundred sixty-four fewer patients have an in-use catheter ≥ 90 days. • Decreases in LTC rates can also be associated with decrease in infection, hospitalization, and mortality. • An estimated $4 million was saved by avoiding LTC complications. (264 x $15K per patient year = $4 million) (USRDS, 2012)
Sustainability	• Vascular access managers in dialysis units assist patients through the process of getting a permanent vascular access. • Facilities have implemented vascular access tracking tools to identify and take action for patients with long-term catheters. • Patients that initiate with a catheter are educated early regarding the benefits of internal access and referred for evaluation/placement of permanent access. • Engaged senior leadership commits to reducing long term catheters.
Lessons to Apply	• Monthly comparative feedback reports drive improvement. • Involving nephrologists from the Medial Review Board helps to engage Medical Directors. • Each intervention type was associated with decreased LTC in use rates.

Quality Improvement Activity to Increase Referral to Home Dialysis and Decrease Racial Disparity

Goal for Change

1. Increase the percent of patients referred to home dialysis by at least 5%
2. Decrease the African American vs. white disparity by at least 1%
3. Integrate attributes for improvement including rapid cycle improvement, customer focus, sustainability, innovation, boundarilessness, and unconditional teamwork.

Provider Participants

We selected 24 dialysis facilities serving about 1,900 in-center dialysis patients, representing 7% of the dialysis population served in the ESRD Network 11 region. Dialysis facilities selected were from a large dialysis organization in one state.

Focused Interventions

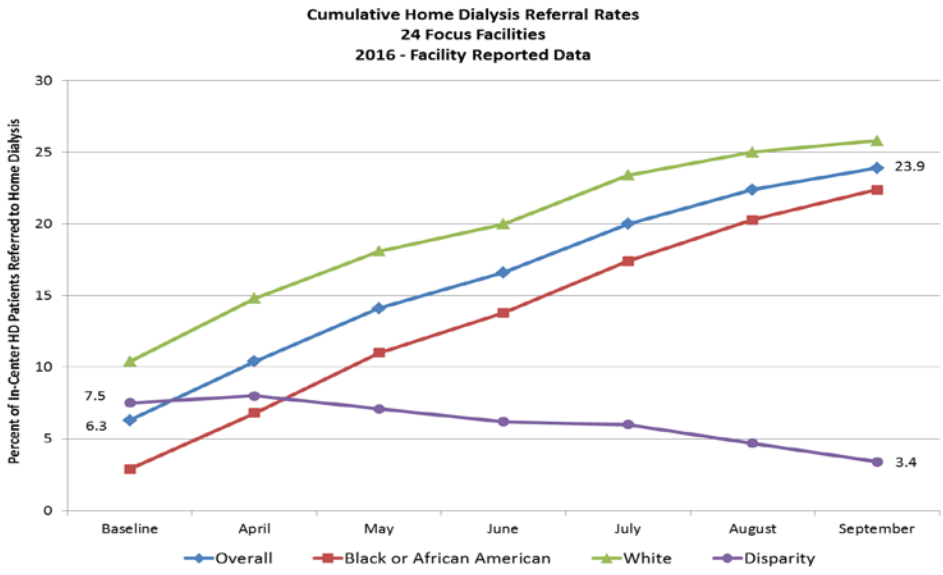
1. Each facility conducted a root cause analysis to determine barriers
2. We interviewed patients to identify barriers influencing equity by race
3. Convened educational webinars to share challenges and share successes
4. Distributed monthly comparative data reports
5. Compiled and shared a slide deck of patient success stories
6. Identified detailed steps to home dialysis and shared in a slide deck

Patient Contributions

Patients told us why they chose and why they did not choose home dialysis. Patients that overcame challenges to dialyze at home shared their success stories. The wife of a patient dialyzing at home shared her experience as a home dialysis partner. We integrated these experiences into interventions.

Results

Referral to home dialysis increased by 17.6% and the disparity decreased 4.1%, both exceeding the goals. Network 11 successfully integrated the 6 attributes into its project each month.



Quality Improvement Activity to Increase Referral to Home Dialysis and Decrease Racial Disparity	
Initial Impact	• Four hundred seventy-three patients were referred to home dialysis during the course of the project. Of these, 280 (59%) were African American. • Nearly $10 million is saved if each patient progresses to home dialysis. Home dialysis costs $20,800 less per patient year than in-center dialysis, so 473 x $20,800 = $9.8 million, USRDS 2012 Annual Report. • Patient dialyzing at home report more independence, better quality of life, and better health outcomes.
Sustainability	• Using the home dialysis steps, facility personnel will discuss home dialysis more frequently than annually. Specifically, home dialysis discussions are encouraged to occur before starting in-center dialysis, at times of care changes, at times of life changes, during care plans, and during Quality Assessment and Performance Improvement meetings. • Incorporating home dialysis patient-success stories into dialysis staff in-services and patient education, will help to identify and overcome challenges for dialyzing at home. • Senior leadership is committed to increasing their home dialysis programs.
Lessons to Apply	• Monitoring and sharing monthly progress is important for meeting goals to increase home dialysis referral and decrease racial disparity. • African American patients and dialysis staff shared beliefs that nothing about race limits dialyzing at home. Rather, meeting challenges often requires additional resources for equitable referral to home dialysis. • Root cause analyses revealed that patients and dialysis staff had misconceptions about home dialysis candidacy. Participants shared experiences of identifying and overcoming challenges. At one point in the project, one nurse acknowledged, *"As dialysis staff, sometimes we are the barrier when we don't give patients the option to explore peritoneal dialysis or home hemodialysis options."*

Facilities that Consistently Failed to Cooperate with Network Goals

In 2016, no one facility was cited for failing to meet goals of the Midwest Kidney Network. However, many dialysis facilities were still struggling to meet the goal for having long-term catheter rates ≤ 10%.

Two hundred and twenty (43%) dialysis facilities received intensive and individualized technical assistance in 2017. This technical assistance included off site medical record reviews, on site visits to the dialysis facility, workshops, and meetings with regional and corporate offices.

Recommendations for Sanctions

Midwest Kidney Network monitors ESRD facilities in this region against measures described in the goals section of this report. Based on review, the Network did not recommend any sanction or alternative sanction in 2016.

Recommendations to CMS for Additional Services or Facilities

Background

For people who are eligible for Medicare only because of permanent kidney failure, Medicare ends 36 months after the month that the patient received a kidney transplant. After the 36 months, Medicare will not pay for any services or items, including immunosuppressant medications, for patients who are no longer eligible for Medicare.

The Institute of Medicine (IOM) report *Extending Medicare Coverage for Preventive and Other Services*, addresses the burden of kidney disease; effective treatments available; benefits of drugs outweigh harms; burden of disease from non-compliance; coverage effectiveness in reducing non-compliance; and benefits of coverage outweigh harms.

This IOM report concludes, "Given this evidence and the existing Medicare policy of supporting organ transplants, the rationale for eliminating the current time limits for coverage of immunosuppressive drug coverage for all solid organ transplant recipients is strong." (Institute of Medicine, 2000)

Recommendation

The Midwest Kidney Network serves over 48,000 people with kidney disease and 20,000 (42%) of these have functioning kidney transplants. We concur that extending Medicare benefits for kidney transplant recipients would be an additional service to benefit people with kidney disease.

Contributions to the Professional Literature

Midwest Kidney Network collaborated with many partners on the NOTICE Project[1] (National Opportunity to Improve Infection Control in ESRD.) The safety culture in hemodialysis facilities was assessed, and results were published in 2016. Jan Deane, RN, Quality Improvement Director, a member of American Nephrology Nurses Association, served as an advisor and was instrumental in advising and reviewing the following article.

Author(s): Kristina K. Davis, Kathleen G. Harris, Vrinda Mahishi, Edward G. Bartholomew, and Kevin Kennard

Title: *Perceptions of Culture of Safety in Hemodialysis Centers*

Name of journal: Nephrology Nursing Journal

Volume and issue: March-April 2016, Vol. 43, No. 2.

Page numbers: 119-126 and 182

[1] http://www.hret.org/quality/projects/improving-infection-coontrol-practices-ESRD-facilities.shtml

Grievances and Access to Care

The Network responds to grievances filed by or on behalf of ESRD patients in its service area. In 2016, the Network responded to 71 grievances. Of these, zero involved issues related to access to care.

Table D. Grievance Data for Calendar Year 2016

Category	Number
Number of Grievance Cases Opened by the Network in Calendar Year 2016	71
Number of Grievance Cases Involving Access to Care	0
Number of Grievance Cases Involving Involuntary Transfer	0
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	27
Number of Non-Grievance Cases Involving Involuntary Transfer	1
Number of Non-Grievance Cases Involving Involuntary Discharge	22
Number of Non-Grievance Cases Involving Failure to Place	4
Total Number of Grievance and Non-Grievance Cases Involving Access to Care	27
Number of Grievance Cases Closed by the Network in Calendar Year 2016	71
Number of Non-Grievance Access to Care Cases Closed by the Network in Calendar Year 2016	27

Source of data: Patient Contact Utility

Grievance Cases Referred to State Survey Agencies

Midwest Kidney Network refers grievance cases and other concerns (such as issues related to staff safety, fraud, and compliance with the ESRD Conditions for Coverage) to the appropriate State Survey Agency. In 2016, we referred 27 non-grievance access-to-care cases to State Survey Agencies due to concerns related to the Conditions for Coverage for involuntary discharge.

Midwest Kidney Network contacts the local State Survey Agency whenever there is an involuntary discharge to alert the state to the situation and to ensure that the dialysis facility is communicating with the State Survey Agency as required by the Medicare Conditions for Coverage. In addition, cases involving involuntary discharges are discussed during the bimonthly calls held with the Network, CMS, and the State Survey Agencies.

Emergency Preparedness Activities

Background

Due to changes in the source water for the city of Flint, MI, officials discovered that the Flint city water system contained high levels of lead due to corrosion at the water plant. We investigated to assess whether or not there was an impact on the water supply used for dialysis.

Actions Taken

Three corporate dialysis providers have affiliated dialysis units in Flint MI and its surrounding areas. Midwest Kidney Network contacted each of these corporations. In addition, we communicated with the Michigan Division of Emergency Preparedness and Response, the Kidney Community Emergency Response (KCER), and CMS.

Findings

- Dialysis facilities affiliated with two of the corporations use water that comes from Flint Township, not the city water supply. Flint Township water is from Detroit Lake Huron, which was not contaminated. Patients living in the city of Flint were provided filters for their home water supply to prevent drinking water concerns.
- Dialysis facilities affiliated with the third corporation did use Flint city water for dialysis. They checked their water system and tested for contamination on a more frequent (weekly rather than monthly) basis, and they did not detect any contamination.
- Accordingly, no dialysis-related ramifications were identified or reported.
- Because of drinking water concerns, the State of Michigan activated an emergency due to water quality in Flint MI. The State of MI asked for federal assistance. The State of Michigan focused on providing drinking water to residents, providing water filters for homes, and screening for infants. The following link was provided for more information.

  http://michigan.gov/deq/0,4561,7-135-3313_3675_73946---,00.html

Works Cited (APA 6th Edition)

CDC. (2011, March 4). *Vital Signs: Central Line Associated Blood Strem Infections*. Retrieved April 7, 2017, from www.cdc.gov: https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6008a4.htm

Institute of Medicine. (2000). *Extending Medicare Coverage for Preventive and Other Services*. Washington DC: The National Academies Press.

USRDS. (2012). *USRDS 2012 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States*. Bethesda: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases.

List of Tables