ESRD NCC
NATIONAL COORDINATING CENTER

2022

End Stage Renal Disease (ESRD) Network Program Summary Annual Report

This report was prepared by Health Services Advisory Group, Inc., the 2022 End Stage Renal Disease National Coordinating Center (ESRD NCC) contractor.

Centers for Medicare & Medicaid Services Contracting Officer's Representative (COR): Porsche Dorsey.

Suggested citation: Centers for Medicare & Medicaid Services. End Stage Renal Disease (ESRD) Network Organization Program 2022 Summary Annual Report. Baltimore, MD: CMS; 2023.

Additional information: For additional information about the ESRD Network Program or to review prior *Summary Annual Reports*, please visit www.esrdncc.org or contact the ESRD NCC at NCCinfo@hsag.com.

This material was prepared by Health Services Advisory Group, Inc., the ESRD NCC contractor, under contract with the Centers for Medicare & Medicaid Services, an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect the Centers for Medicare & Medicaid Services policy nor imply endorsement by the U.S. government.

Publication Date: April 29, 2024

Table of Contents

Introduction

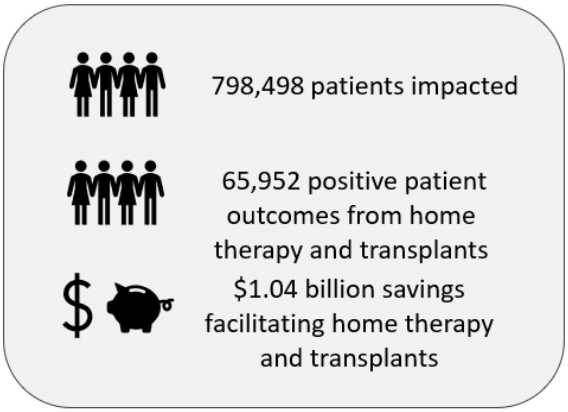
The End Stage Renal Disease (ESRD) Network Program is a national program funded by the Centers for Medicare & Medicaid Services (CMS) to improve the quality of care for individuals with irreversible kidney disease who require dialysis or transplantation to sustain life. Eighteen ESRD Networks conduct ESRD Network Program activities, "in support of achieving national quality improvement goals and statutory requirements as set forth in Section 1881 of the Social Security Act and the Omnibus Budget Reconciliation Act of 1986."[1] The healthcare improvement activities of the 18 ESRD Networks align with the United States Department of Health and Human Services (HHS) National Quality Strategy and CMS strategic priorities designed to improve the care of individuals with ESRD. This report provides an overview of ESRD and renal replacement therapies and details the activities carried out by the Networks from May 2022–April 2023, which was the end of the ESRD Network Statement of Work. These activities included the provision of resources, education, and data-driven technical assistance to patients with ESRD and their families, ESRD providers, and stakeholders related to the COVID-19 pandemic.

[1] CMS. C.1 Purpose of the Statement of Work (SOW). In: CMS. ESRD Network Statement of Work. Baltimore, MD; August 25, 2021.

Impact of Network Quality Improvement Activities

The Networks serve all patients with ESRD and support all ESRD in-center and home dialysis providers as well as kidney transplant providers, across the United States and its territories. Through the development and implementation of Quality Improvement Activities (QIAs), each Network collaborates with facilities in its service area to improve targeted outcomes. Further, each Network conducts data analysis to develop improvement strategies. The QIAs enrich the lives of kidney patients through a mix of clinical initiatives, quality of life improvements, and efforts to enhance continuity of care.

During 2022, the Networks provided educational materials to patients and dialysis facility staff, maintained collaborative relationships, and offered data-driven technical assistance for ESRD Network contract quality improvement activities. These efforts were focused on Objectives and Key Results (OKRs) across five different goals and ran through April 2023.



From May 2022 to April 2023, the ESRD Network Program QIAs included 7,967 dialysis facilities, representing 100% of dialysis facilities in the U.S. and its territories. During this period, Networks supported facilities and patients in improving patient care, directly or indirectly impacting 798,498 patients who experienced the effects of the QIA activities. Specifically, interventions were aimed at increasing the use of home dialysis; and increasing the number of patients on the transplant waitlist and number of patients receiving kidney transplant.

Analysis of impacts on patients in facilities engaged in QIAs showed 65,952 positive patient outcomes (e.g., received a kidney transplant, completed home dialysis training). This impact ranged from home therapy to transplants in the 2022 QIA performance period. For QIAs facilitating the use of home therapy and transplants, for which cost savings estimates were available, improved outcomes represent an anticipated $1.04 billion in savings. The impact extends beyond those direct measurable outcomes. The changes in processes and policies that occurred and the increased education the QIA facilities received touch all patients dialyzing in those centers. The following sections highlight the positive outcomes associated with each quality improvement area of focus.

Increasing Home Dialysis Utilization

Home dialysis is defined as either peritoneal dialysis or home hemodialysis. In comparison with in-center hemodialysis, home dialysis has established benefits to patient length of life[2,3] and potential for reduced cost of treatment and overall costs to the health system.[4]

> 44,591 patients started home dialysis with anticipated savings of $607 million per year

Insight Policy Research and Arbor Research Collaborative for Health estimated the cost difference between home peritoneal dialysis, the most common modality in the home setting, and in-center hemodialysis. The study was based on monthly Medicare expenditures and used a risk model to adjust for differences between patients receiving peritoneal dialysis and in-center hemodialysis. Home peritoneal dialysis was estimated to save $1,367 per month ($16,416 per year) in 2022 dollars.[5]

As a result of education, outreach, and technical assistance activities during the 2022 QIAs, 44,591 patients started home dialysis during the remeasurement period. Past data analysis from the previously used CROWNWeb (Consolidated Renal Operations in a Web-Enabled Network) on home dialysis transitions indicates that patients who transitioned to home dialysis spent approximately 83% of days on dialysis in the home setting in the year following transition. Based on these data and the cost savings study, we estimate that home transitions observed among patients in the QIA facilities saved approximately $607 million in the first year following transition.

---

[2] Walker RC, Howard K, Morton RL. Home hemodialysis: A comprehensive review of patient-centered and economic considerations. *ClinicoEconomics and Outcomes Research: CEOR*. 2017;9:149–161. doi: 10.2147/CEOR.S69340.

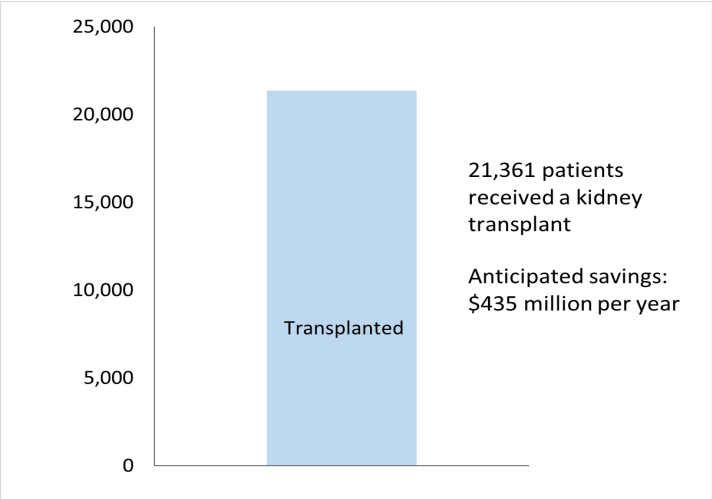
[3] Mehrotra R, Chiu Y-W, Kalantar-Zadeh K, Bargman J, Vonesh E. Similar outcomes with hemodialysis and peritoneal dialysis in patients with end-stage renal disease. *Arch Intern Med*. 2011 Jan 24;171(2):110–118. Published online 2010 Sep 27. doi: 10.1001/archinternmed.2010.352.

[4] Ishani A, Slinin Y, Greer N, et al. Comparative effectiveness of home-based kidney dialysis versus in-center or other outpatient kidney dialysis locations – a systematic review. Executive Summary. Washington, DC: Department of Veterans Affairs (US); 2015 Apr. Available at: https://www.ncbi.nlm.nih.gov/books/NBK344417/.

[5] The United States Renal Data System 2022 Annual Data Report (ADR).

Increasing Patients Receiving a Kidney Transplant

Patients receiving a kidney transplant have better outcomes than those remaining on dialysis, including higher five-year survival rates.[6,7] The Networks' 2022 QIA interventions focused on moving patients to the transplant waitlist with the goal of achieving transplants for these patients.



Patients added to waitlists, expected transplants, and cost savings as a result of 2022 QIAs.

The HHS Office of the Actuary used a risk-adjusted analysis of Medicare expenditures to estimate the cost savings of transplants compared to dialysis.[8] The Office of the Actuary, using inflation-based calculations, found that costs over a 5.5-year period for a patient who received a transplant were $93,000 less in "2017 dollars" than for a patient on dialysis. Assuming a Consumer Price Index (CPI)[9] inflation factor of 1.20, this is $111,965 or $20,357 per year in 2022 dollars.

With the Networks' efforts, 21,361 patients received a kidney transplant during the remeasurement period. Based on these numbers and the five-and-a-half-year time window analyzed by the Office of the Actuary, it was estimated that these transplanted patients saved approximately $435 million per year.

[6] Tonelli M, Wiebe N, Knoll G, Bello A, Browne S, Jadhav D, Klarenbach S, Gill J. Systematic review: Kidney transplantation compared with dialysis in clinically relevant outcomes. *Am J Transplant*. 2011 Oct;11(10):2093–109.

[7] U.S. Renal Data System. *USRDS 2018 Annual Data Report: Epidemiology of Kidney Disease in the United States*. Bethesda, MD: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases; 2018. Available at: https://www.usrds.org/atlas12.aspx.

[8] HHS. Office of the Actuary. Savings Estimate for Kidney Transplant Model. CMS Memorandum [internal document]. June 3, 2016.

[9] U.S. Bureau of Labor Statistics. CPI Inflation Calculator. Available at: https://www.bls.gov/data/inflation_calculator.htm. Accessed on: October 17, 2023.

Summary

The ESRD Network Program is meaningfully impacting patient outcomes and reducing costs associated with care. Quality improvement activities to increase the use of home dialysis and increase the number of patients on the transplant waitlist and number of patients receiving a kidney transplant were conducted. Specifically, those QIAs affected more than 7,800 dialysis facilities involving more than 798,000 patients. Overall, analysis of the QIA results suggests that more than 63,000 positive patient engagements occurred, and these improved outcomes represent an anticipated $1.04 billion in savings. In addition to these projects, the Networks drove improvements related to vaccinations (e.g., influenza, COVID-19), hospital utilization (e.g., reducing hospital readmissions, ED visits), data quality reporting (e.g., timeliness of 2728 forms), telemedicine, and dialysis care in the nursing home.

Report Highlights

Dialysis Prevalence

The Networks reported a 1.2% decrease in the prevalent dialysis population. That is, the total number of dialysis patients receiving care from Medicare-certified facilities as of 2022's last day as compared with 2021's last day. As also experienced in 2020, this decrease in prevalent dialysis patients may be largely related to COVID-19. Specifically, more than 10,316 excess deaths in patients with ESRD were identified during the pandemic's earliest months.[10] Considerable variation in ESRD prevalence was present across the 18 ESRD Networks' geographic areas as of December 31, 2022. Network 1, which covers the New England region, including the states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont, had the fewest patients (14,512). Network 14, which covers the state of Texas, had the largest number of patients (54,233).

Home Dialysis

The number of eligible dialysis patients using home dialysis grew from 15.3% in 2021 to 15.8% in 2022 representing an additional 1,389 patients. It is expected that more dialysis patients will choose home dialysis as their modality in the future, as it has been linked to better clinical and psychosocial outcomes.

Grievances and Non-Grievances

The 18 ESRD Networks processed 791 beneficiary grievances in 2022, which is a 14.0% decrease from the previous year. Of the 791 grievance cases processed, 277 (35.0%) were addressed using Immediate Advocacy, 321 (40.6%) were General Grievances, and 193 (24.4%) were based on a Clinical Area of Concern. The total number of non-grievance cases in 2022 was 4,398 (8.7% increase from 2021). These included 2,634 Facility Concerns, 438 Patient Concerns, and1,326 Access to Care non-grievances. See Table 2 for Network-specific data.

Networks enter grievances (Immediate Advocacy, General Grievance, and Clinical Quality of Care) and non-grievances (Facility Concern, Patient Concern and Access to Care) into the EQRS Patient Contact Utility (PCU). Cases can change types during the review process. For example, a call may be categorized initially as an Immediate Advocacy grievance, but once other details are revealed, the case could change to General Grievance. Within the PCU, the user can document a revised case type.

[10] Ziemba R, Campbell KN, Yang TH, Schaeffer SE, Mayo KM, McGann P, Quinn S, Roach J, Huff ED. Excess Death Estimates in Patients with End-Stage Renal Disease - United States, February-August 2020. *MMWR Morb Mortal Wkly Rep*. 2021 Jun 4;70(22):825-829. doi: 10.15585/mmwr.mm7022e2.

Grievances

1. Immediate Advocacy: These are cases of a simple, generally non-quality of care nature that can be resolved in 10 calendar days or less. Examples include grievances involving staff issues, scheduling issues, and transportation issues for the patient if they can be resolved within 10 calendar days.
2. General Grievance: These are cases of a more complex nature that do not involve clinical quality of care issues and that cannot be resolved within 10 calendar days. Examples of General Grievances could include a bedbug infestation in the facility or televisions not working.
3. Clinical Quality of Care (QoC) Grievance: These are circumstances in which the grievant alleges that an ESRD service received from a Medicare-certified provider did not meet professionally-recognized standards of clinical care. Clinical Quality of Care cases may be either: 1) a patient specific Clinical QoC case in which the care impacted a specific patient; or 2) a general Clinical QoC case in which two or more patients at a facility were affected. Examples of Clinical QoC grievances could be a patient's blood loss incident or multiple patients alleging problems with fluid removal and target weight adjustments.

Non-Grievances

1. Facility Concern: These non-grievances are initiated by a contact from a facility staff member who wishes to discuss either a specific or general circumstance(s) about a patient or the facility. The non-grievance is one for which there is insufficient information to meet the criteria for a grievance or Access to Care case. Examples are hours of operation questions, transportation issues, facility employee inquiring about Network documentation on the involuntary discharge (IVD)/involuntary transfer (IVT) process, or a facility requesting technical assistance on a complex patient/staff incident.
2. Patient Concern: These non-grievances are initiated by a contact from the patient who wishes to discuss either a specific or general circumstance(s) about a facility. The non-grievance is one for which there is insufficient information to meet the criteria for a grievance or Access to Care case. Examples are hours of operation questions, transportation issues, outreach, or resource documents for the patient.
3. Access to Care (IVD/IVT/Failure to Place): These are cases involving IVDs, IVTs, or failures to place the patient in an appropriate dialysis facility. The categories for these cases include Behaviors, Medical Needs, Non-payment Issues or Facility Refusal/Failure to Place. The patient could have multiple types of access to care events: He or she could be at risk for an IVD/IVT, then proceed to a confirmed IVD/IVT, and then evolve to a failure to place case in which the patient is having trouble finding a dialysis unit.

Patient Engagement

In 2022, the Networks recruited new and previous volunteer patient and family/caregiver representatives to provide input on Network activities and ensure that their perspectives were incorporated into all Network-developed patient educational resources. Patient subject matter experts (SMEs) and caregiver SMEs helped to promote and provide peer-to-peer education within the dialysis units. Patient SMEs and caregiver SMEs also served at the national level as part of the ESRD NCC National Patient and Family Engagement-Learning and Action Network (NPFE-LAN). The NPFE-LAN brings together healthcare professionals, patients, and other stakeholders to achieve rapid-cycle improvement, create opportunities for in-depth learning and problem solving, and harness participants' shared knowledge and skills to achieve specific ESRD Network Program-wide objectives.

Emergency Management

During 2022, CMS continued its enhanced focus on emergency management practices and requirements for the Networks, especially related to the COVID-19 pandemic. The Networks' response to the pandemic included activities to improve patient and dialysis staff COVID vaccination rates nationwide and continued focus on needs assessment and distribution of current information and resources; collaboration with local, state, and federal public health agencies; and data-targeted technical assistance. On a national level, the Kidney Community Emergency Response (KCER) Program amplified its partnerships with CMS emergency management professionals, the HHS Office of the Assistant Secretary for Preparedness and Response (ASPR), and the U.S. Public Health Service. On regional, state, and local levels, the Networks continued to engage in enhanced outreach, training, and technical assistance activities to help ensure that the needs of patients with ESRD would be met in emergency situations. During 2022, the KCER Program responded to a total of 43 events (20 events more than in 2021) that resulted in changes in facility status, including closures and altered schedules, and the KCER team submitted over 70 event-related incident reports to CMS.

ESRD Program Funding and Definition of Service Areas

CMS funds the ESRD Network Program by withholding $0.50 from the Medicare composite rate payment for each dialysis treatment received by an ESRD patient. This rate has remained the same since 1989. These withheld funds support ESRD Network Program activities related to quality improvement and patient and family engagement.

The 18 ESRD Networks serve the 50 states, the District of Columbia, and the U.S. territories of Puerto Rico, the Virgin Islands, American Samoa, Guam, and the Northern Mariana Islands (see Figure 4). In 2022, the Networks worked to improve healthcare for almost 510,000 dialysis patients and approximately 288,000 kidney transplant patients.

Network	Geographic Area
1	CT, MA, ME, NH, RI, VT
2	NY
3	NJ, PR, VI
4	DE, PA
5	DC, MD, VA, WV
6	GA, NC, SC
7	FL
8	AL, MS, TN
9	IN, KY, OH
10	IL
11	MI, MN, ND, SD, WI
12	IA, KS, MO, NE
13	AR, LA, OK
14	TX
15	AZ, CO, NM, NV, UT, WY
16	AK, ID, MT, OR, WA
17	American Samoa, Guam, HI, Northern California, Northern Mariana Islands
18	Southern California

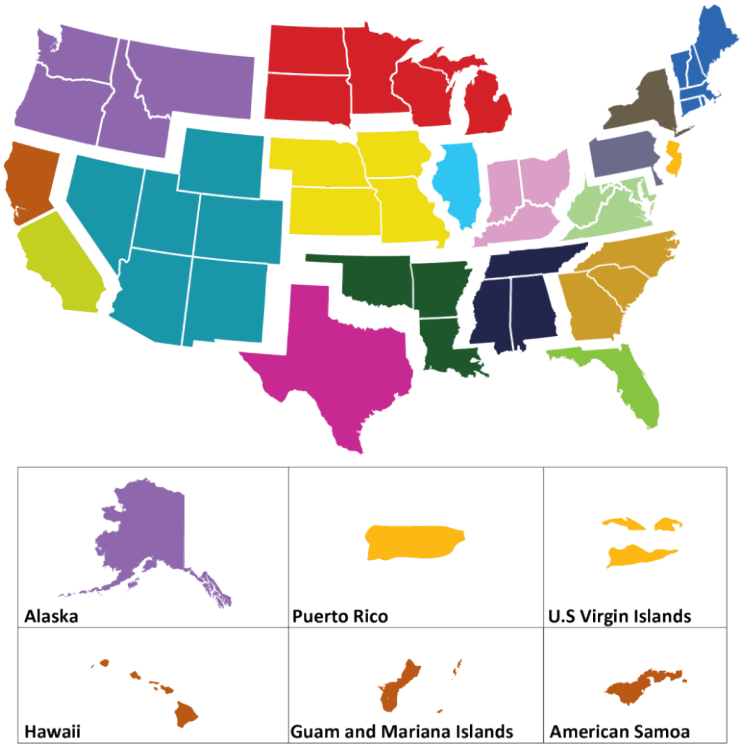


Figure 4. ESRD Network Service Areas

Network Requirements

The activities of the Network contractors are guided by the ESRD Network Statement of Work (SOW). The activities in the SOW align with the priorities of the HHS Secretary and CMS to improve the care of individuals with ESRD. The 2022 calendar year was the second year in a 5-year SOW (June 2021–April 2026) for the ESRD Networks.

For 2022, the CMS goals for the ESRD Network Program included:

- Improve Behavioral Health Outcomes
- Improve Patient Safety and Reduce Harm
- Improve Care in High Cost/Complex Chronic Conditions

- Reduce Hospital Readmissions
- Improve Nursing Home Care in Low-Performing Providers, and Provide Targeted Quality Improvement Response

The Networks are charged with promoting positive change relative to the CMS goals, as well as quickly adapting to the evolving needs of patients with ESRD and the renal community. The Networks also are tasked with addressing cross-cutting focus areas, including vulnerable populations and disparities, rural health, and patient and family engagement.

Network Staffing

Network staff members provide support to patients with ESRD and their families, dialysis and transplant providers, and health professionals. Network contract activities support almost 8,000 dialysis facilities and 229 transplant centers across the U.S. and its territories (Table 1 in the Data Tables section of this document). CMS requires each Network to employ an Executive Director to oversee administration of all contract requirements and overall operation of the Network. The Executive Director is responsible for maintaining professional relationships within the ESRD community, administration of the CMS contract, management and supervision of staff, and fiscal oversight of the Network.

Network staff with experience in program planning and implementation, data analysis, and evaluation conduct activities and assume responsibilities outlined in the Network contracts and other CMS directives. CMS also requires each Network to employ a registered nurse with nephrology experience and a social worker with a master of social work degree with experience in case review. Job titles, specific responsibilities, and the number of support staff vary from Network to Network.

Network Governance

Each of the 18 ESRD Networks must establish and maintain a Network council (NC), corporate governing body (CGB), medical review board (MRB), and a group of SMEs, sometimes called a patient advisory committee (PAC). Networks have the option of establishing additional committees, as necessary. The responsibilities and composition of each mandatory board or committee are as follows:

- The NC must include at least two patient representatives as well as representatives from dialysis and transplantation providers located in the Network area. The NC meets at least annually to provide input on Network activities and serve as a liaison between the Network and providers.
- The CGB must include at least one patient representative; it sets overall policy and direction for the Network and retains oversight responsibility. The CGB also reviews and approves any recommendations from the MRB for sanctions to be imposed on ESRD facilities prior to submission of these recommendations

to CMS.

- The MRB is made up of at least two patient representatives and a mix of ESRD professionals who are qualified to evaluate the quality and appropriateness of renal care—typically nephrologists, surgeons, physician assistants, nurses, social workers, and dietitians. The MRB serves as an expert panel on patient quality of care issues.
- Patient SMEs ensure that the patient perspective is incorporated into all Network activities, including the development of informational and educational materials for patients and families/caregivers. The members represent various demographics, primary diagnoses, and treatment modalities to reflect the Network service area's ESRD population diversity.

The dialysis and transplant providers in each Network area are invited to recommend patient representatives to the Network boards and committees, and practitioners are encouraged to participate in Network-organized committees. Participants in these organizations offer their time on a volunteer basis and provide invaluable hours of service to the Networks. The contributions of these members play a critical role in the effective functioning of the Networks and the success of the ESRD Network Program.

Patient Profile

Patients and Facilities

As of December 31, 2022, the EQRS database data shows that the ESRD Network Program covered 510,475 prevalent dialysis patients and 7,967 dialysis facilities. Network 6, which spans the states of Georgia, North Carolina, and South Carolina, served the largest number of dialysis facilities (816). Network 1, which includes the New England region states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont, had the fewest facilities (219).

Understanding Patient Characteristics

CMS defines ESRD as "permanent kidney failure treated with dialysis or a transplant." ESRD is the final stage on the spectrum of chronic kidney disease (CKD). In 2022, the CKD prevalence in the U.S. adult population was high, with an estimate of more than 14% of the adult population, or 35.5 million, adults affected.[11] This is attributable, in part, to high rates of diabetes and hypertension in the adult population. Information about the number of prevalent dialysis patients (i.e., total dialysis patients at a given point in time) is highlighted in the following section.

Prevalent Dialysis Patients

Information on prevalent dialysis patients is drawn from the EQRS database that identifies all patients who are alive and on dialysis as of December 31 of a given year. At the end of 2022, 510,475 patients were receiving dialysis in the U.S., according to the Networks' Annual Reports. This represents a decrease of 6,454 patients (1.3%) since December 31, 2021.

[11] Centers for Disease Control and Prevention (CDC). Chronic Kidney Disease Initiative. Chronic Kidney Disease in the United States, 2021. Available at: https://www.cdc.gov/kidneydisease/publications-resources/ckd-national-facts.html. Accessed on: October 18, 2023.

Quality Improvement Activities (QIAs)

During the 2022 calendar year, the Networks addressed depression, home dialysis, transplantation, vaccination, hospitalization, and dialysis care in nursing homes. Quality improvement efforts utilized root cause analysis, rapid cycle improvement, evidenced-based practices, data-driven technical assistance, community coalitions, and advisory groups to advance change.

Transplant Waitlist & Transplanted QIA (May 2022–April 2023)

In follow-up to the QI project regarding increasing the number of patients on the transplant waitlist, the Networks expanded its transplant efforts. Specifically, the Networks also improved the number of patients receiving a kidney transplant. Networks planned, developed, and implemented QI concepts and strategies. These efforts included the mitigation of health equity issues and education targeted to patients about the choice of high Kidney Donor Profile Index (KDPI) or expanded donor criteria kidneys.

The Transplant QIA implemented from May 2022–April 2022 included two goals:

- Increase the number of patients added to a kidney transplant waiting list by 5%.
- Increase the number of patients receiving a kidney transplant by 6%.

The Networks and ESRD providers identified and executed the best and promising practices that resulted in a national total of 26,617 patients added to the wait list and 21,361 patients receiving a kidney transplant. Examples included:

- Overcoming the region's top-reported barriers to wait-list and transplant using Facility Performance Report Cards and a Transplant Improvement Dashboard.
- Conducting transplant center focus groups to examine health system barriers and incorporate information about transplant into CKD education.
- Distributing robust educational tools, identifying transplant centers that offer specialized services, and implementing pro-transplant culture strategies.
- Conducting virtual and in-person education for dialysis staff and patients regarding transplant evaluation, workup, living donation, and high-KDPI kidneys.
- Identifying each transplant center’s criteria and requirements for wait-listing and best method (e.g., online portal) for communication for referrals, appointments, and updates.

Home Therapy QIA (May 2022–April 2023)

Based on 2744 data, in the U.S. in 2021, 80,460 (15.8%) of the total 510,475 dialysis patients utilized a home renal replacement therapy, which is an additional 1,389 patients over the previous year. The purpose of this QIA was to promote referral to home dialysis modalities, identify and mitigate barriers to timely referral, and determine steps patients

and providers can take to improve referral patterns.

Because home dialysis modalities are proven to increase quality of life, many also have experienced better quality outcomes, the Networks continued to implement QI strategies to transitions in-center hemodialysis to home hemodialysis or peritoneal dialysis. This new SOW also included efforts to support patient education and choice of modality at treatment initiation. In collaboration with the renal community and other stakeholders, the Networks identified barriers and implemented solutions to increase utilization of home dialysis.

The Home Therapies QIA implemented from May2022–April 2024 included two goals:

- Achieve a 20% increase in the number of incident patients that start dialysis using a home modality.
- Achieve a 6% increase in the number of prevalent patients that move to a home modality.

The Networks and ESRD providers identified and executed the best and promising practices that resulted in a national total of 20,315 incident patients initiating dialysis on a home modality plus 24,276 prevalent patients moving from in-center to a home modality. Examples included:

- Implementing transitional care units and funneling new admissions through the home program, which included a trial period where the patient dialyzed one-on-one in the home program area of the facility, received modality education, and was assessed for needs and home dialysis suitability.
- Recruiting facilities to participate in a year-long Extension for Community Healthcare Outcomes (ECHO) project with the local chapter of the National Kidney Foundation (NKF).
- Conducting roster reviews and routine data checks to ensure correct reporting of patient modality in EQRS.
- Promoting communication between physicians and in-center and home dialysis program staff to provide early education to patients regarding home modalities.
- Sending an introductory letter to the CKD educators of small dialysis organizations (SDO) and independent facilities to support and refine initiatives.

Influenza QIA (May 2022–April 2023)

The ESRD population is considered a high-risk group and can develop serious flu complications, which may result in hospitalizations and even death. To reduce risks from flu and related complications in patients on dialysis, the Network provided technical assistance and education to increase influenza rates as well as other vaccinations recommended by the Centers for Disease Control and Prevention (CDC). The primary goal of the QIA was to:

- Achieve a minimum of 90% of patients with ESRD receiving an influenza vaccination.

The Networks and ESRD providers identified and executed best and promising practices that resulted in 78.0%% of patients with ESRD nationally being vaccinated for influenza. Examples included:

- Working with facility interdisciplinary teams (IDT) and patients and families to create a pro-"flu shot" culture including the implementation of lobby days, huddle boards, and patient facility representatives (PFRs).
- Partnering with local universities and library science organizations to help drive health literacy to reducing vaccine hesitancy and dispelling misinformation.
- Tracking and reviewing facility progress toward vaccination goals with the IDT and medical director during Quality Assessment and Performance Improvement (QAPI) meetings using the Network's *QAPI QIA Monitoring Form*.
- Developing a report for missing vaccination to enable poor-performing facilities to easily identify which patients and staff were missing vaccinations, conduct chart audits, and follow-up with corporate data leaders.

COVID-19 Vaccinations Patients and Staff (May 2022–April 2023)

In addition to data-driven technical assistance and response to address the COVID-19 pandemic (e.g., cohorting recommendations), ESRD Networks provided technical assistance and education consistent with evolving CDC guidance surrounding all COVID-19 vaccine doses and booster vaccinations. The Networks also encouraged vaccination for patients on dialysis and staff. The QIA focused on the following goals:

- Achieve a COVID-19 patient vaccination rate of 80%.
- Achieve a COVID-19 patient booster vaccination rate of 80%.
- Achieve a COVID-19 staff vaccination rate of 100%.
- Achieve a COVID-19 staff booster vaccination rate of 100%.

Nationally, the Networks and ESRD providers identified and executed the best and promising practices that achieved a COVID-19 patient vaccination rate of 73.4% and a patient booster vaccination rate of 62.3%. For COVID-19 staff vaccinations, a rate of 85.2% was achieved. In addition, a booster rate of 46.0% of patients with ESRD being vaccinated for influenza was achieved. Examples included:

- Making promotional posters and educational sheets visible for staff; notifying patients when COVID vaccines were available; and sending emails from facility leadership encouraging patients and staff to receive the COVID-19 vaccine.
- Holding best practices webinars in English and Spanish, featuring facilities that achieved the highest vaccination rates during the base year period.

- Distributing tools, including the HHS COVID-19 Talking Points for Communicating with Older Adults to address any confusion about the different vaccines available and how to get a vaccine.
- Identifying and spreading health-equity-focused education, such as "The Conversation: Between Us About Us (for the Black Community)."
- Supporting staff resiliency through the promotion of free wellness series' events hosted by the Network and local healthcare system entitled, "Recharging from Pandemic Exhaustion."

Data Quality QIA (May 2022–April 2023)—Admissions, CMS Form 2728, and CMS Form 2746

ESRD Networks collect, validate, and analyze data in support of CMS reports, contract goals, and maintenance of the ESRD patient registry. This includes, but is not limited to, patient admission records, CMS-2728 form, and CMS-2746 form. The Network's Data Quality QIA focused on improving the timeliness of submission in EQRS with goals, including:

- Patient admissions data entered within five business days.
- CMS-2728 forms submitted within 45 business days.
- CMS-2746 forms submitted within 14 days of the date of death.

The Networks assisted ESRD providers with addressing timeliness and accuracy of reporting via technical assistance and educational resources. The Networks achieved a national average for timeliness in 69.6% admissions, 76.2% 2728 forms, and 59.3% 2746 forms. The Networks identified the best and promising practices that included:

- Assigning a primary individual at each facility to complete admissions, 2728 forms, and 2746 forms in addition to a back-up staff member.
- Logging into EQRS on a weekly basis to review outstanding forms requiring submission and sharing the Network-developed step-by-step instruction guide.
- Creating and disseminating tools, such as an EQRS Monthly Checklist, FAQs for the CMS 2728, a caseload form to track patient activity, and a missing / overdue form report with a timeliness summary for the year.
- Developing a customer support portal to streamline the data quality audit process for non-large dialysis organization (LDO) facilities.
- Creating and posting training videos with step-by-step information on how to perform various EQRS-required activities.

Hospitalization—Inpatient Admissions, Emergency Department (ED) Visits, Readmissions, and COVID-19 Admissions (May 2022–April 2023)

Patients with ESRD have multiple health conditions in addition to kidney disease that impact their care and overall well-being, including anemia, cardiovascular disease, and diabetes. Some health deficits also may be related to patient behavior (e.g., high fluid intake) or health-related social needs (e.g., transportation, healthy diet). The Network's

Hospital Utilization QIA focused on reducing the following metrics by 5%:

- ESRD-related Inpatient Admissions
- ESRD-related 30-Day Unplanned Readmissions
- ESRD-related ED Visits

The Networks and ESRD providers identified and executed best and promising practices that resulted in a hospital inpatient admissions national relative decrease of 1.7%, a 30-day unplanned readmissions national relative decrease of 9.8%, and an ED visits national relative decrease of 4.6%. Examples included:

- Implementing interdisciplinary team rounding to allow for routine follow up and timely intervention, effective medication reconciliation, individualized approach to education, and post-hospitalization follow up and support by dialysis staff.
- Hosting one-on-one calls with facilities to assess socioeconomic status, social support, and access to care for patients with high emergency room utilization.
- Providing resources addressing missed treatments, managing thirst, fluid overload, infection prevention, medication adherence, and the renal diet.
- Completing a post-hospitalizations checklist for each patient returning to the facility with a focus on dry weight management and improving communication with hospital discharge planners.

Depression QIA (May 2022–April 2023)

Research indicates that high rates of depression exist among patients with ESRD. Many individuals experience poor quality of life and higher levels of mortality. Due to contract goal adjustments, the Networks worked toward the goals of this quality improvement activity (QIA) but were not evaluated on results. As part of these efforts, the Networks identified the best and promising practices that included the following:

- Piloting a Patient Self-Management Bulletin Board campaign with the goal of addressing the barriers to mental health follow-up.
- Creating resources to address the stigma of depression, including Stop the STIGMA Surrounding Depression and Shatter the STIGMA: Flipping the Facility Culture Frequently Asked Questions.
- Expanding the concept of “mental health provider” as many patients seek mental health support or treatment outside of the traditional office setting (e.g., faith community).
- Providing context for mental health issues by using education that is easy to understand and helps link emotional feelings to non-traditional symptoms (i.e., difficulty making decisions).
- Promoting peer-to-peer support groups as a gateway to mental health treatment acceptance—learning from peers who have experienced mental health concerns and received help.

Nursing Home QIA (May 2022–April 2023)

Nursing home residents also who require and receive dialysis in the nursing home setting are a vulnerable population, especially related to infection and anemia. This QIA focused on reducing long-term catheter infections and peritonitis events as well as blood transfusions. Due to contract goal adjustments, the Networks worked toward the goals of this QIA but were not evaluated on results. As part of these efforts, the Networks identified the best and promising practices that included:

- Hosting a Network professional at nursing home staff education events on dialysis-patient-related topics (e.g., vascular access care, and medications).
- Collaborating with Quality Innovation Network-Quality Improvement Organizations (QIN-QIOs) to develop educational webinars and serve as SMEs related to caring for patients on dialysis.
- Partnering with the local department of health to provide Infection Control Assessment and Responses (ICARs) with guidance and individualized interventions.
- Engaging hospitals to address a patient's anemia prior to discharge.

Telemedicine QIA (May 2022–April 2023)

In support of home dialysis goals, a QIA also was implemented to drive the use of telemedicine for rural patients utilizing home dialysis. The Networks and ESRD providers identified and executed the best and promising practices that resulted in 8,186 rural patients using telemedicine to engage in home therapies. Examples included:

- Utilizing the ESRD NCC Vaccinations Change Package, a comprehensive resource offering guidelines and tools to increase vaccination.
- Providing facilities with a report on its telemedicine use, the telemedicine goal, and progress toward goal as well as steps to document telemedicine within EQRS, and examples of ways to use telemedicine services.
- Sharing information on government programs to ensure connectivity (e.g., Federal Communications Commission's Affordable Connectivity Program), Wi-Fi (e.g., White House Affordable Connectivity Program), and smartphones for those in need (e.g., Lifeline Free Government Phone Program).

Vaccinations—Pneumococcal 13 & 23 and Staff Influenza QIA (May 2022–April 2023)

This SOW also focused on other CDC-recommended vaccinations, including those to address pneumococcal pneumonia (i.e., PCV13, PPSV23) and influenza vaccinations for facility staff. Due to contract goal adjustments, the Networks worked toward the goals of this QIA but were not evaluated on results. As part of these efforts, the Networks identified the best and promising practices that included the following:

- Developing materials, including *Vaccination Talking Tips*, *Pneumococcal Vaccination Decision Tree*, and *Preventing Pneumonia with Vaccination*.
- Assembling a vaccination toolkit with clear information on pneumococcal vaccine schedules, the most current vaccination recommendation for healthcare workers, and instructions for documentation in EQRS.
- Promoting use of updated CDC vaccine schedules for pneumonia, including tools, such as the PneumoRecs Vax Advisor App.
- Sharing resources from the CDC, Immunization Coalition, and the American College of Physicians regarding vaccine administration and confidence.

Ensuring Data Quality

EQRS

The ESRD Network Program used the EQRS data management system to obtain and track data on patient age, gender, ethnicity, race, primary diagnosis, and treatment modality, among other characteristics, for incident and prevalent patients with ESRD. Network staff use these data to inform quality improvement interventions, strengthen outreach efforts, document demographic trends, and assess disparities in ESRD care.

EQRS supports data collection for three primary CMS ESRD forms: the ESRD Medical Evidence Report: Medicare Entitlement and/or Patient Registration (CMS-2728), the ESRD Death Notification (CMS-2746), and the End Stage Renal Disease Medical Information System ESRD Facility Survey (CMS-2744). Dialysis facilities and Networks employ the system to add, modify, and delete information associated with these forms. EQRS also is used by facility staff to enter clinical data on all dialysis patients and report administrative information on facility personnel and dialysis services.

In 2022, the Networks and the ESRD NCC collaborated to refine and evolve data reports and the ESRD Dashboard. The dashboard, presented in an interactive, customizable, and secure format, provided monthly results of each QIA comparable between Networks, by cohort, and against a national trend. The COVID Dashboard shows Patient and Staff Vaccination Rates. The Networks supported these activities by:

- Informing the ESRD NCC on updates to Network data reporting needs, priorities, and perspectives.
- Offering guidance on the requirements for specific reports and dashboard releases.
- Testing data report updates prior to release to the entire community.
- Collaborating to make important data available to facilities (e.g., updates and gap reports) to support Network QIAs. In addition, the collaboration assists in enhancing the accuracy and completeness of data reported in EQRS.

The ESRD NCC utilized feedback to produce updated reports and dashboards throughout the contract year as well as ad hoc requests by CMS.

Veterans Health Administration and Transplant Facility Data

In 2022, the Veterans Health Administration facilities and transplant facilities were not required to use EQRS for data submission. To assist these organizations with timely processing of required CMS forms, the Networks accepted paper copies (instead of digital copies in EQRS) of the CMS-2728, CMS-2746, and Annual Facility Survey (CMS-2744) forms and dialysis patient tracking forms. The Networks then manually entered the data on these forms into EQRS for the facilities.

Patient and Family Engagement

Education for Patients and Caregivers

In 2022, Networks continued to support dialysis facilities throughout the COVID-19 pandemic by sharing resources and patient educational materials. In addition, they provided technical assistance on how to engage patients (e.g., disseminating best practices on how to engage patients in plan of care meetings, QAPI meetings, and support groups). The Networks also used a variety of approaches to engage patients. These included encouraging patient participation in the ESRD NCC's COVID-19 webinar series, asking patients to submit COVID-19-related questions, interacting through helplines, and partnering with PACs and Patient SMEs on COVID-19 materials. In addition, the Networks provided numerous patient resources on a patient portal, websites, and through social media.

The Networks continually partner with dialysis facilities to strengthen patient and family engagement and to help patients and their care partners to better understand patients' rights and responsibilities. An important aspect of this was helping patients and their care partners feel comfortable with the grievance process. The Networks distributed printed materials and published newsletters targeting both patients and facility staff. The Networks also used social media outlets, such as YouTube, Facebook, and X (formerly Twitter), and educational webinars, to share tools, resources, and best practices. All approaches shared the goal of providing educational resources to patients with ESRD and their family members and care partners.

NPFE-LAN

The NPFE-LAN includes patient and care partner representatives drawn from the 18 ESRD Network service areas, representative Network and CMS staff members, and participants from the ESRD NCC. The ESRD NCC works with NPFE-LAN members to ensure that all project goals and objectives are driven by patients' viewpoints and experiences. In collaboration with the Networks, the ESRD NCC supports the NPFE-LAN in giving a voice to ESRD patients and facilitating dialogue between patients and CMS leadership.

The NPFE-LAN was organized into Affinity Groups to improve OKRs areas, including:

- Increase patients accurately screened and treated for depression.
- Increase patients starting dialysis using a home modality and decrease the infection rates in dialysis patients receiving home dialysis at nursing homes.
- Decrease COVID-19 hospitalizations in ESRD patients with ESRD and increase dialysis patients receiving an influenza vaccination.
- Increase patients added to a kidney transplant waiting list and increase the number of patients receiving a kidney transplant.

- Reduce all-cause hospitalizations, readmissions, and ED visits.

Organizing into these focus areas allowed the Affinity Groups to target specific clinical goals and act collaboratively to achieve shared objectives. The groups discussed their interests and identified how they could work to enhance or create new educational materials to inspire and engage others to become actively involved in improving kidney care outcomes. The groups created the following resources related to the Network OKR areas:

- Feelings Flashcard
- Self-help Flashcard
- Caring for Your Mind and Body
- Home Dialysis Poster – Professional
- Home Dialysis Poster – Patient
- Home Hemodialysis May Be the Best Option for You
- Peritoneal Dialysis May Be the Best Option for You
- Transplant Times with a Transplant Recipient – podcast
- 10 Steps to Avoid Hospitalization
- Hospital Discharge Checklist
- Medical Appointment Tracker
- Where Should You Go for Medical Care?

Through the Affinity Group model and continuous collaboration, the NPFE-LAN members created patient-friendly educational tools to support the ESRD NCC and Technical Assistance, Quality Improvement, and Learning (TAQIL) goals. NPFE-LAN members along with members from the ESRD Networks also created two patient-friendly resources, *Questions to Engage PFR's during QI Meetings* and *Tips to Engage PFR in QI Meetings.*

NPFE-LAN SMEs also partners with CMS and Office of Minority Health (OMH) to conduct monthly Health Equity Committee calls. The group developed two resources, *Understanding Health Equity* and *What is Health Literacy?*

These efforts demonstrate the strong leadership NPFE-LAN members provided to their renal communities at the local and national level. Additionally, many NPFE-LAN members contributed to national conferences during the year, including the two virtual Patient Summits held in April and October 2022.

Grievances and Access to Care

Involuntary Discharges Averted

According to the ESRD Conditions for Coverage (CfCs) and the CMS definition of an IVD, an unwanted situation may occur for patients on dialysis. That is, an IVD from a facility may leave a patient on dialysis without an outpatient facility to provide regular dialysis. A patient with ESRD who is unable to dialyze in an outpatient setting must be evaluated in a hospital ED for acute dialysis treatment. This evaluation comes at a substantial increase in cost and at a detriment to the patient's life expectancy.[12] Treating ESRD only in the emergent setting places medically complex patients at a disadvantage for proactive disease management. The Networks are often able to avert an IVD by educating both patients and staff on de-escalation techniques. The Networks also do so by discussing the importance of patients' perceptions, coaching patients through understanding of facility procedures, and through investigation and issue resolution.

From May 2022–April 2023, 892 patients were at risk for an Access to Care event with the Networks successfully averting approximately two-thirds of those cases. From May 2022–April 2023, 892 patients were at risk for an Access to Care event with the Networks successfully averting approximately two-thirds of those cases. More than 400 patients received a 30-day notice and were facing imminent IVD. The Networks averted 12 of these potential IVDs and facilitated admissions to another outpatient facility for an additional 184, allowing continuity of care for these patients.

The Networks are responsible for resolving all patient-appropriate Access to Care cases. Patient-appropriate access to care is determined by the nephrologist working with the patient to identify a clinically appropriate treatment modality that takes into consideration patient choice. Access to Care cases included cases in which patients with ESRD were at risk for an IVD or IVT and cases in which a patient was scheduled for, or had already experienced, an IVD or IVT or did not currently have access to an outpatient dialysis facility.

Evaluation and Resolution of Grievances

The CMS ESRD grievance policy requires that all concerns related to care that does not meet a patient on dialysis' expectations, recognized standards of safety or civility, or professionally recognized clinical standards of care be classified as grievances. Further, the policy dictates that the Networks' procedures for evaluating and resolving grievances be patient-centered. A grievance can be filed with the Network by a patient with ESRD, an individual representing a patient, or another party. It is the Network's responsibility to take all necessary steps to evaluate and resolve these grievances.

Each Network established a system for promoting awareness of all options for filing grievances, including the option of filing grievances anonymously. The Networks

worked to ensure that patients were able to file grievances without fear of reprisal. When a grievance was filed with the Network, the Network reminded the provider and/or practitioner(s) of their responsibility to support the grievant throughout the grievance process and that no reprisal may be imposed because of the grievance. The Networks also advised the patient community about the CMS policy for evaluating, resolving, and reporting patient grievances.

Each Network followed grievance resolution protocols as directed by CMS, including the time frames for investigating and completing an investigation, as well as for notifying patients of investigation outcomes. All correspondence sent to patients and/or to facilities for distribution to patients included language on how to contact the Network to file a grievance.

Grievance Process and Data

In 2022, as in previous years, patients had the option to initiate the grievance process at either the Network or facility level. The Network option allowed patients who had concerns about potential retaliation by facility staff the opportunity to protect their confidentiality. Patient family members, friends, representatives and/or advocates, facility employees, physicians, state auditors (SAs), and other interested parties also submitted grievances.

Grievances regarding care provided at acute care hospitals, in nursing homes, at home, by home care providers, or by physicians also were received by the Networks. When a grievant had concerns outside the scope of the ESRD Network, the Network assisted the grievant in forwarding his or her concern to the appropriate regulatory entity, such as one of two CMS Beneficiary- and Family-Centered Care Quality Improvement Organizations (QIOs). Grievances could be submitted by mail, telephone, or email. As required by CMS, each Network provided a toll-free number for patients' inquiries and grievances. All grievances received by the Networks were entered into the PCU database.

The 18 ESRD Networks processed 791 beneficiary grievances in 2022. Of the 791 grievance cases processed, 277 (35.0%) were addressed using Immediate Advocacy, and 193 (24.4%) were based on a Clinical Area of Concern. See Table 2 for Network-specific data. In 2022, no sanction recommendations were submitted to CMS by a Network.

[12] Cervantes L, Tuot D, Raghavan R, et al. Association of emergency-only vs standard hemodialysis with mortality and health care use among undocumented immigrants with end-stage renal disease. *JAMA Intern Med*. 2018; 178(2):188–195.

Recommendations to CMS for Additional Facilities

The 18 ESRD Networks did not have any formal recommendations for additional facilities or policy in 2022; however, additional services were suggested.

Policy Recommendations

There were no policy recommendations suggested by the 18 ESRD Networks.

Additional Services

- Based on feedback from patients and providers, several Networks recommended that CMS consider how to intervene on patients' behalf for transportation needs. Enhanced benefits for beneficiaries related to transportation services would decrease missed treatments and unplanned hospitalizations and assist patients' access to transplant centers pre- and post-transplant. Transportation barriers include:
    - Medicare patients declined transportation, as the reimbursement rate had not increased relative to the cost of driver income, gas, etc. When a transportation company would decline a Medicare patient, there were often no other alternatives in rural communities.
    - Transplant evaluation work-up for rural patients where the distance to the nearest transplant center often requires several hours of travel round trip.
    - Patients on Medicaid in select sates often are limited to transportation within their own county and the nearest dialysis facility/transplant center may be outside of the county where the patient resides.
    - Patients who are ineligible for Medicaid transportation yet cannot afford private transportation.
- To increase home dialysis, reimbursement was suggested for staff-assisted home dialysis to allow those who do not have a care partner, transportation, motor functions, or may have low literacy, to benefit from home dialysis.
- Some states may benefit from CMS advocating with state regulatory agencies to allow the use of telehealth. Patients in rural areas or who lack transportation services would benefit from the use and reduced burden.
- CMS promotion of in-center self-care to dialysis providers would increase patients' awareness and comfort with transitioning to home dialysis.

The additional services represent important approaches to improving quality of care for patients with ESRD. However, the costs associated with implementing these services may be a significant barrier.

Emergency Preparedness and Response

For patients with ESRD, missed dialysis treatments can have serious adverse health effects. This makes this patient population especially vulnerable during emergencies. Networks partner with state and city health departments, offices of emergency management, and regional and national coalitions to ensure patients with ESRD are safe and experience continuity of care during emergencies. Network responsibilities related to emergency preparedness and response include:

- Development of a Comprehensive Emergency Management Plan.
- Provision of information to educate facilities and patients on recommended emergency-situation actions.
- Reporting of open and closed facilities, alterations in dialysis facility schedules, and unaccounted patients during actual incidents.

For more information about ESRD Network emergency preparedness activities, see the KCER Program overview in this report.

COVID-19

In 2022, the Networks responded to a variety of emergencies with the potential to impact patients with ESRD and providers. These included the continued data-driven response to the COVID-19 pandemic. Highlights of Network-provided support, guidance, education, and technical assistance to providers and patients related to COVID-19 include the following:

- Collaborating with the dialysis provider's data management team leader and Educators/Clinical specialists instead of the clinic administrators. This allows for a wider access to assist and monitor a larger number of facilities.
- Providing localized information to dialysis facilities regarding which transplant centers in their local area required COVID-19 vaccination and groups disproportionately affected by COVID-19.
- Connecting dialysis facilities with department of health offices, healthcare coalitions and county emergency operations centers for training and personal protective equipment needs.
- Collaborating with State Survey Agency leadership regarding complaint investigations and patient placement issues related to COVID-19.

Other Emergencies

In addition to COVID-19, the Networks offered comprehensive support to patients and providers during other emergencies occurring in the 2022 calendar year, including:

- Hurricanes Fiona, Ian, and Nicole
- United States Virgin Islands (USVI) Algae Bloom
- Buffalo Winter Storm

- Multiple no-name winter storms and snow events
- Hermit's Peak and Mosquito wildfires
- Heavy rains, flash flooding, and strong winds
- Tornadoes
- Heatwaves and extreme temperatures
- Planned Public Safety Power Shutoffs and power outages
- Water system and water main breaks

Special Projects

ESRD NCC

The ESRD NCC serves as a coordinator for the 18 ESRD Networks and liaison between the Networks and CMS. Tasks under the NCC contract are varied and include data analytics and delivery, patient outreach, coordination of QIAs with Networks and facilities, and production of ESRD-related events at the annual CMS Quality Conference.

Examples of these activities include:

- Utilized social media to inform patients and providers about educational resources on the ESRD NCC website and key messaging.
- Conducted monthly Community of Practice (CoP) calls to discuss intervention and best practice sharing across the 18 ESRD Network Service areas.
- Facilitated 27 quarterly Expert Team calls reaching over 1,000 dialysis professionals focused on improving access to home dialysis and transplant, improving depression screening, increasing vaccination utilization, reducing COVID-19 hospitalizations, improving access to nursing home dialysis care, and improving health equity for people with kidney disease.
- Convened 30 bi-monthly patient SME calls focused on creating patient education materials to improve access to home dialysis and transplant, increase depression screenings, decrease hospitalizations and readmissions, and improve vaccination rates, including COVID-19.
- Refined the website navigation to identify available tools and resources for providers and patients resulting in increased breadth of website pageviews.
- Developed a monthly email listserv for informing over 7,500 dialysis providers about the New ESRD Patient Orientation Packet (NEPOP). This resource is available online for distribution to all newly diagnosed patients with ESRD each month.

In 2022, in response to the pandemic, the ESRD NCC also:

- Provided analytic support to track and trend confirmed and suspected cases of COVID-19. This included an interactive COVID-19 monthly dashboard that enabled the provision of data-driven technical assistance by the ESRD Networks.
- Conducted COVID-19 vaccination and hospitalization Expert Team meetings with high-performing facilities to identify data-driven case studies that support increasing COVID-19 vaccinations and reducing COVID-19 hospitalizations.
- Interfaced with patient SMEs to discover patient barriers to the COVID- 19 vaccination and boosters.

- Prepared and disseminated resources via social media that supported the benefits of the COVID-19 vaccination and booster shots.

KCER Program

Supporting dialysis facilities and patients in preparing for emergencies continued to be a priority for the ESRD Network Program. KCER provides ESRD national emergency management services and supports the Networks to strengthen their emergency preparedness and response capacities.

The National KCER Patient and Family Engagement-Learning and Action Network (N-KPFE-LAN) was convened. It included 26 patient, family member, and caregiver SMEs from across the ESRD community. During LAN meetings, members discussed the unique needs of patients with kidney disease during emergencies and the aspects of emergency preparedness they felt were most important. The N-KPFE-LAN members worked together to create two patient centered QIA resources called, *Evacuating - Why Dialysis Patients Need to Follow Evacuation Orders* and *How to Appoint a Healthcare Surrogate* (English and Spanish). The two resources were designed to assist patients on dialysis and patients with kidney transplant. Specifically, the resources armed them with vital information in the event of an emergency or disaster. Between scheduled meetings, the N-KPFE-LAN utilized the online platform Basecamp to encourage SMEs to remain engaged in sharing ideas and resources. The Basecamp platform allowed the KCER team to pose questions and discussion topics to the N-KPFE-LAN members on issues impacting the ESRD community to help ensure that the patient voice was incorporated into all KCER activities. Additionally, two N-KPFE-LAN SMEs participated as part of the 2023 KCER Summit session, Dialysis and Kidney Transplant Patient Disaster Preparedness. The fifty-minute session provided the SMEs with an opportunity to share personal stories and best practices on preparing for emergencies or disasters.

KCER continued to be activated through 2022 in response to the COVID-19 pandemic. Throughout that time, KCER coordinated national-level preparedness and response activities, including leading monthly emergency status calls, reporting on COVID-19 patient and staff data, and collaborating with CMS, Networks, dialysis organizations, and other stakeholders to identify and address issues related to COVID-19.

From May 1, 2022–April 30, 2023, the KCER team coordinated eight national COVID-19 KCER Status calls with the ESRD Community. The calls were used as a platform for providers to discuss gaps and unmet needs with KCER, the ESRD Networks, CMS, CDC, and HHS ASPR. In addition to facilitating the calls, the KCER team tracked action items and provided detailed meeting minutes following each call. During this same period, KCER submitted a total of 12 incident reports to CMS related to COVID-19. Additionally, KCER, in coordination with the 18 ESRD Networks and ESRD NCC, provided monthly COVID-19 Emergency Situational Status Reports (ESSRs) to CMS,

CMS EPRO, and HHS ASPR, which included a nationally compiled report of all outpatient dialysis COVID-19 case data from the National Healthcare Safety Network (NHSN) Outpatient Dialysis COVID-19 Module.

During Option Period 1, the KCER Program responded to one additional major event during the COVID-19 pandemic. KCER was activated from September 26 to October 14, 2024, in response to Hurricane Ian. During this time, the KCER Program coordinated national-level preparedness and response activities, including leading daily emergency status calls, reporting on facility operational status and needs, and collaborating with CMS, ESRD Networks, dialysis organizations, and other stakeholders to identify and address patient access-to-care issues.

- During the response and recovery efforts for Hurricane Ian, the KCER Program worked directly with many new and existing stakeholders. Specifically, they worked to improve the overall outcome for the patient population with ESRD. The KCER Program also provided daily reports outlining the status of the incident response and the operational status and needs of dialysis providers.

Hurricane Ian's Impact on ESRD Community	
Dialysis Patients 	*3,500*
Dialysis Facilities 	*110*

- The KCER Program collaborated with an existing partner, Healthcare Ready, to post dialysis facility status information on the RxOpen online platform during the response to Hurricane Ian. The information was updated daily during the response to Hurricane Ian, utilizing the dialysis facility operational status information tracked by the KCER Program.

List of Data Tables

Table 1. Medicare-Certified Dialysis Facilities–Modality Offered–Calendar Year 2022

Network	Transplant Centers	In-Center Hemodialysis and Home Dialysis	In-Center Hemodialysis Only	Home Dialysis Only	Total Dialysis Facilities (Home, In-Center, Both)	Total Facilities (including Transplant Centers)
1	15	120	80	4	204	219
2	14	145	209	15	369	383
3	5	141	112	10	263	268
4	19	181	170	19	370	389
5	13	189	233	33	455	468
6	11	327	422	56	805	816
7	11	276	236	36	548	559
8	10	134	315	45	494	504
9	13	277	334	53	664	677
10	9	110	186	57	353	362
11	21	196	290	38	524	545
12	12	143	176	20	339	351
13	9	142	196	13	351	360
14	25	321	409	42	772	797
15	15	169	208	16	393	408
16	7	140	95	17	252	259
17	6	97	197	48	342	348
18	14	185	234	50	469	483
NATIONAL	**229**	**3,293**	**4,102**	**572**	**7,967**	**8,196**

Table 2. Grievances and Non-Grievances by Case Type, Number, and Percent – May 2022 – April 2023

Network	General Grievance	Immediate Advocacy	Clinical Area of Concern	Facility Concern	Access to Care	Patient Concerns	Total All Case Types	Total Grievance Cases	Percent of National Grievance Cases	Total Non-Grievance Cases	Percent of National Non-Grievance Cases
1	22	11	*	134	42	*	224	43	5.44%	181	4.12%
2	30	23	20	275	61	21	430	73	9.23%	357	8.12%
3	*	15	*	82	40	*	141	16	2.02%	125	2.84%
4	12	37	22	267	68	32	438	71	8.98%	367	8.34%
5	45	11	24	97	156	12	345	80	10.11%	265	6.03%
6	58	28	18	168	40	18	330	104	13.15%	226	5.14%
7	*	27	20	149	102	15	323	57	7.21%	266	6.05%
8	16	*	*	56	98	23	208	31	3.92%	177	4.02%
9	27	*	*	202	70	16	326	38	4.80%	288	6.55%
10	16	*	14	69	162	29	297	37	4.68%	260	5.91%
11	*	26	*	257	101	16	411	37	4.68%	374	8.50%
12	20	*	*	53	79	*	163	27	3.41%	136	3.09%
13	*	16	*	40	48	*	116	25	3.16%	91	2.07%
14	16	11	*	70	90	48	245	37	4.68%	208	4.73%
15	*	*	*	27	34	18	93	14	1.77%	79	1.80%
16	*	*	*	54	19	14	99	12	1.52%	87	1.98%
17	23	*	13	233	43	28	347	43	5.44%	304	6.91%
18	*	28	*	401	73	133	653	46	5.82%	607	13.80%
National	**321**	**277**	**193**	**2634**	**1326**	**438**	**5189**	**791**	--	**4398**	--

* Indicates that there were fewer than 11 cases; therefore, the numbers were suppressed.

Table 3. National ESRD Patient Data Overview 2022

Network	Dialysis Facilities	Percent of Medicare-Certified Dialysis Facilities Nationally	Transplant Facilities	Percent of Transplant Facilities Nationally	Dialysis Patients	Percent of Dialysis Patients Nationally	In-Center Patients	Home Patients	Percent of Home Patients Nationally	Transplant Patients	Percent of Transplant Patients Nationally	Total Dialysis and Transplant Patients
1	204	2.56%	15	6.55%	14,512	2.84%	12,284	2,228	2.77%	13,204	4.58%	27,716
2	369	4.63%	14	6.11%	28,230	5.53%	25,650	2,580	3.21%	19,733	6.85%	47,963
3	263	3.30%	5	2.18%	20,385	3.99%	18,206	2,179	2.71%	7,359	2.56%	27,744
4	370	4.64%	19	8.30%	19,342	3.79%	16,312	3,030	3.77%	13,334	4.63%	32,676
5	455	5.71%	13	5.68%	27,628	5.41%	23,149	4,479	5.57%	18,034	6.26%	45,662
6	805	10.10%	11	4.80%	49,630	9.72%	41,913	7,717	9.59%	20,206	7.02%	69,836
7	548	6.88%	11	4.80%	32,694	6.40%	27,485	5,209	6.47%	17,144	5.95%	49,838
8	494	6.20%	10	4.37%	27,616	5.41%	23,224	4,392	5.46%	12,376	4.30%	39,992
9	664	8.33%	13	5.68%	31,944	6.26%	25,961	5,983	7.44%	19,250	6.68%	51,194
10	353	4.43%	9	3.93%	19,546	3.83%	15,538	4,008	4.98%	11,893	4.13%	31,439
11	524	6.58%	21	9.17%	28,412	5.57%	23,898	4,514	5.61%	23,133	8.03%	51,545
12	339	4.26%	12	5.24%	16,299	3.19%	13,051	3,248	4.04%	13,174	4.57%	29,473
13	351	4.41%	9	3.93%	20,386	3.99%	17,021	3,365	4.18%	8,354	2.90%	28,740
14	772	9.69%	25	10.92%	54,233	10.62%	46,201	8,032	9.98%	23,855	8.28%	78,088
15	393	4.93%	15	6.55%	26,461	5.18%	22,104	4,357	5.42%	18,945	6.58%	45,406
16	252	3.16%	7	3.06%	15,287	2.99%	12,264	3,023	3.76%	9,665	3.36%	24,952
17	342	4.29%	6	2.62%	30,115	5.90%	25,090	5,025	6.25%	16,282	5.65%	46,397
18	469	5.89%	14	6.11%	47,755	9.36%	40,664	7,091	8.81%	22,082	7.67%	69,837
NATIONAL	**7,967**	**--**	**229**	**--**	**510,475**	**--**	**430,015**	**80,460**	**--**	**288,023**	**--**	**798,498**