

2023

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





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



Table of Contents

Table of Contents	ii
List of Data Tables	iii
Introduction	1
ESRD Network Program	2
ESRD Quality Reporting System Overview	2
Data Quality	2
Veterans Health Administration and Transplant Facility Data	3
Regulatory Aspect	3
Emergency Preparedness	3
Contributions to the ESRD Community	4
Areas for Expanded Services	5
Patient Population and Dialysis Facility Overview	6
ESRD Patient Population	
Health Equity	6
Facility Characteristics	7
Impact of Network Quality Improvement Projects	8
Highlighted Successes – Home Dialysis and Transplantation	8
Focused Summary of Network Activities and Outcomes by OKR	9
Goal 1 – Improve Behavioral Health Outcomes	9
Goal 2 – Improve Patient Safety and Reduce Harm	10
Goal 3 – Improve Care in High-Cost/Complex Chronic Conditions	10
Goal 4 – Reduce Hospital Admissions, Readmissions, and Outpatient Emer	gency
Visits	13
Goal 5 – Improve Nursing Home Care in Low-Performing Providers	14
Goal 6 – Provide Targeted Quality Improvement (QI) Responses	14
Data Quality	15
Focused Patient and Family Support Provided by the Network	16
Patient and Family Engagement Activities	16
Grievances and Access to Care	16
Grievances	16
Non-Grievances	17
Education for Patients and Caregivers	17
Health Equity	18
Special Projects	19
National Coordinating Center	19
Kidney Community Emergency Response	
Technical Assistance, Quality Improvement, and Learning (TAQIL) ESRD Tre	atment
Choices Learning Collaborative (ETCLC)	20
Supplement A – Program Funding & Network Service Areas	
Supplement B – Data Tables	22



List of Data Tables

Table 1. National ESRD Patient Data Overview – Calendar Year 2023

Table 1A. National ESRD Patient Data Overview – Network Performance Year May 2023–April 2024

Table 2. Medicare-Certified Facilities – Modality Type – Calendar Year 2023

Table 2A. Medicare-Certified Facilities – Modality Type – Network Performance Year May 2023–April 2024

Table 3. Grievances and Non-Grievances by Case Type, Number, and Percent – Network Performance Year May 2023–April 2024



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 the ESRD Network Program activities, "in support of achieving national quality improvement goals and statutory requirements." Specifically, their work meets the demands, "outlined in section 1881 of the Social Security Act and the Omnibus Budget Reconciliation Act of 1986."

The 18 ESRD Networks carry out healthcare quality improvement activities that align with the CMS National Quality Strategy and strategic priorities designed to improve the care of individuals with ESRD. This report details the activities performed by the Networks from May 1, 2023, through April 30, 2024, Option Period 2 of a five-year contract cycle. These activities included providing resources, education, and data-driven technical assistance (TA) to individuals with ESRD and their families, ESRD providers, and other parties interested in improving the quality of care of individuals with ESRD.

The major task areas for the Networks' contract period supported the goals listed in their Statement of Work:

- Goal 1 Improve Behavioral Health Outcomes: Depression Treatment
- Goal 2 Improve Patient Safety and Reduce Harm (i.e., hemodialysis catheter infection rate in patients receiving care in nursing homes)
- Goal 3 Improve Care in High Cost/Complex Chronic Conditions (i.e., increase home dialysis, increase transplantation, increase vaccination)
- Goal 4 Reduce Hospital Admissions, Readmissions, and Outpatient Emergency Visits
- Goal 5 Improve Nursing Home Care in Low-Performing Providers (i.e., reduce blood transfusions)
- Goal 6 Provide Targeted Quality Improvement (QI) Response(s)

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



ESRD Network Program

The ESRD Networks serve all individuals with ESRD and support all ESRD in-center and home dialysis providers and kidney transplant providers across the United States and its territories.

ESRD Quality Reporting System Overview

The ESRD Quality Reporting System (EQRS) is the centralized data management system the Network Program uses to obtain and track data on incident and prevalent patients with ESRD, including age, sex, ethnicity, race, primary diagnosis, and treatment modality, among other characteristics.

EQRS supports data collection for three primary CMS ESRD forms:

- ESRD Medical Evidence Report: Medicare Entitlement and/or Patient Registration (CMS-2728)
- ESRD Death Notification (CMS-2746)
- 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. Facility staff also use EQRS to enter clinical data on all dialysis patients and to report administrative information on facility personnel and dialysis services. Since January 2023, transplant centers can log into EQRS to enter 2728 and 2746 forms for newly admitted patients.

Data Quality

The ESRD Network Program uses EQRS data to inform QI interventions, strengthen outreach efforts, document demographic trends, and assess disparities in ESRD care. In 2023, the Networks and the ESRD National Coordinating Center (NCC) collaborated to refine and evolve data reports and the ESRD Performance Dashboard. The dashboard, presented in an interactive, customizable, and secure format, provided monthly results for each goal, comparable between Networks, by cohort, and against a national trend.

Networks supported data quality by:

- Informing the ESRD NCC of 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 quality improvement activities. Further, the Networks assisted in enhancing the accuracy and completeness of data reported in EQRS.

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

Veterans Health Administration and Transplant Facility Data

In 2023, Veterans Health Administration dialysis facilities and transplant facilities were not required to use EQRS for data submission. To assist these organizations with the timely processing of forms, the Networks accepted paper copies of the ESRD Medical Evidence Report: Medicare Entitlement and/or Patient Registration (CMS-2728), ESRD Death Notification (CMS-2746), and ESRD Facility Survey (CMS-2744) forms and dialysis patient tracking forms. The Networks then manually entered the data into EQRS for the facilities.

Regulatory Aspect

The 18 ESRD Networks did not recommend sanctions of dialysis facilities.

Emergency Preparedness

CMS maintained its enhanced focus on emergency management practices and requirements for the Networks. The Kidney Community Emergency Response (KCER) Program responded to 37 events in 2023 that resulted in changes in facility status, including closures and altered schedules. Also, the KCER team submitted to CMS over 58 incident reports related to the events.

For individuals with ESRD, missed dialysis treatments can have serious adverse health effects. Networks partnered with state and city health departments, offices of emergency management, and regional and national coalitions to ensure safety and continuity of care for patients with ESRD during emergencies when this population was especially vulnerable.

Network responsibilities related to emergency preparedness and response include the following:

- Developing a comprehensive emergency management plan
- Providing information to educate facilities and patients on actions to take during emergency situations.
- Reporting open and closed facilities, alterations in dialysis facility schedules, and unaccounted patients during incidents.

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



Contributions to the ESRD Community

The ESRD Networks are essential partners in the ESRD community. Through community coalitions and activities specific to each Network's service area, they contributed to quality and equitable care for those living with ESRD. Specifically, the Networks promoted meaningful interventions for providers and advanced progress in the field. For example, together with the American Kidney Fund, Home Dialyzors United, and the Chronic Kidney Disease Champions, select Networks shared best practices in health equity and treatment modalities at a symposium for more than 80 patients and care partners. Other examples of the Networks' contributions to the community were monthly updates at a state-level renal professional association and a presentation focused on a multidisciplinary forum to improve quality care access.



Areas for Expanded Services

Based on feedback from patients and providers, the Networks recommended that CMS provide enhanced benefits related to:

- Transportation services, especially for individuals who are ineligible for Medicaid but cannot afford private transportation. Such services would improve beneficiaries' access to transplant centers for assessments and follow-up appointments and help prevent missed treatments and unplanned hospitalizations.
- Reimbursement for in-home staff assistance in dialysis and in-center self-care dialysis, which would support those who need additional support or a bridge to home dialysis.
- Access to transplant and home dialysis services for individuals living in rural areas.
- Greater outpatient dialysis availability for stable higher-acuity patients (e.g., individuals on ventilators).
- Reimbursement to dialysis dens in skilled nursing facilities (SNFs) to support treating
 patients with acute kidney injury in the SNF versus the hospital setting.
- Modifications to regulations regarding nursing oversight and training for home dialysis, especially in rural areas. For example, allowing home dialysis nurse trainers to train patients at the patient's primary facility that is not certified for home dialysis.



Patient Population and Dialysis Facility Overview

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 2023, the prevalence of CKD in the United States was estimated at 14% of the adult population, or 35.5 million individuals affected.² This is attributable in part to high rates of diabetes and hypertension.

ESRD Patient Population

The Networks reported a 1% (2,750) increase in the patient population for a total of 513,225 in the prevalent dialysis population (i.e., the total number of patients receiving care from Medicare-certified dialysis facilities as of the last day of 2023 as compared to the last day of 2022). Considerable variation in ESRD prevalence was present across the 18 ESRD Networks as of April 30, 2024. Network 1—the New England region, which covers Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont—had the fewest patients (14,603). Network 14, which covers the state of Texas, had the most patients (55,260). Information on prevalent patients is drawn from the EQRS database that identifies all patients alive and on dialysis as of December 31. (See Table 1: National ESRD Patient Data Overview – Calendar Year 2023 in Supplement B. Also included in Supplement B is Table 1A: National ESRD Patient Data Overview – Network Performance Year May 2023–April 2024.)

Health Equity

Significant health inequities persist for individuals from minority communities who experience unmet health-related social needs (e.g., lack of access to a vehicle), impacted by social drivers of health (e.g., access to healthcare or food). These individuals are less likely to be waitlisted for a kidney transplant, wait longer for a kidney transplant, and are even less likely to receive a kidney transplant.

Individuals with ESRD residing in rural regions have reduced access to healthcare due to the availability of dialysis facilities, transplant centers, nephrologists, and primary care physicians (PCPs). They also experience transportation challenges that have been reported to be a major barrier to care, leading to rural health inequities, including higher hospitalization and unplanned hospital readmission. The average distance patients travel to their dialysis facilities is 14.3 miles with the average distance by Network ranging from nine to 32 miles.

Populations vulnerable to low health literacy include older adults, people with lower socioeconomic status or education, and people with limited English proficiency.

² Centers for Disease Control and Prevention (CDC). Chronic Kidney Disease Initiative. Chronic Kidney Disease in the United States, 2023. Available at: https://www.cdc.gov/kidney-disease/php/data-research/?CDC_AAref_Val=https://www.cdc.gov/kidneydisease/publications-resources/ckd-national-facts.html. Accessed September 23, 2024.



Currently, close to a quarter of the patients with ESRD (255,787) are ages 65 or above, and 48,409 individuals with ESRD are living in the top 10% of most disadvantaged neighborhoods, as determined by the Area Deprivation Index. Of the total ESRD population (826,032), which encompasses individuals on dialysis and those who have received a transplanted kidney, 156,746 individuals are Hispanic. They often report greater barriers to care due to language issues.

Facility Characteristics

Fifty-one percent (3,967) of facilities provided only in-center hemodialysis (ICHD), 41% (3,265) offered both ICHD and at least one home modality (peritoneal dialysis or home hemodialysis), and 8% (598) offered only home dialysis. (See Table 2: Medicare-Certified Dialysis Facilities – Modality Type – Calander Year 2023 in Supplement B. Also included in Supplement B is Table 2A: Medicare-Certified Dialysis Facilities – Modality Type – Network Performance year ending April 2024.)

In 2023, 201 facilities closed for various reasons. Of the 201 closed facilities, 14% (28) were defined as rural, while 86% (173) were urban.



Impact of Network Quality Improvement Projects

Each Network conducts data analysis to develop QI strategies focused on the Network goals and collaborates with facilities in its service area to improve targeted outcomes. These QI activities enriched the lives of kidney patients through a mix of clinical initiatives, quality-of-life improvements, and efforts to enhance continuity of care.

Highlighted Successes – Home Dialysis and Transplantation

The ESRD Network Program is meaningfully impacting patient outcomes and reducing costs associated with care. Network QI activities involving more than 513,264 patients with ESRD at 7,730 dialysis facilities were conducted to increase the use of home dialysis, patients on the transplant waitlist, and patients receiving a kidney transplant. Analysis of impacts showed an increase of 8,789 patients using home dialysis, an increase of 2,085 patients on the transplant waitlist, and an increase of 1,338 patients who received a transplanted kidney.

Home Dialysis: The number of eligible patients using home dialysis grew from 44,591 in Option Period 1 (May 2022–April 2023) to 53,380 in Option Period 2 (May 2023–April 2024), representing a 19.7% increase. Home peritoneal dialysis—the most common modality in the home setting—was estimated to save \$13,586 per year per person in 2023 dollars.³ Past analysis of data from EQRS indicates that patients who transitioned spent approximately 83% of days on dialysis in the home setting in the following year. Based on these data, the NCC estimated that the home transitions observed among patients in facilities engaged in QI activities saved approximately \$602 million in the year after transition.

Transplant: The number of patients who received a transplant increased from 21,361 in Option Period 1 (May 2022–April 2023) to 22,699 patients in Option Period 2 (May 2023–April 2024), representing a 6.3% increase. The HHS Office of the Actuary used a risk-adjusted analysis of Medicare expenditures to estimate the cost savings of transplants compared to dialysis.⁴ Using calculations based on inflation, the analysis found that costs over a 5.5-year period were \$93,000 less in 2017 dollars for a patient who received a transplant than for a patient on dialysis. Assuming a Consumer Price Index (CPI)⁵ inflation factor of 1.24, this amounts to \$115,718 or \$21,040 per year in 2023 dollars. Based on these numbers and the 5.5-year time window analyzed by the

³ U.S. Renal Data System. *USRDS 2023 Annual Data Report*. End Stage Renal Disease: Chapter 9. Healthcare Expenditures for Persons with ESRD. Bethesda, MD: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases; 2023. Available at: https://usrds-adr.niddk.nih.gov/2023/end-stage-renal-disease/9-healthcare-expenditures-for-persons-with-esrd. Accessed October 21, 2024.

⁴ DHHS. Office of the Actuary. Savings Estimate for Kidney Transplant Model. CMS Memorandum [internal document]. June 3, 2016.

⁵ U.S. Bureau of Labor Statistics. CPI Inflation Calculator. Available at: https://www.bls.gov/data/inflation calculator.htm. Accessed October 17, 2023.



Office of the Actuary, it was estimated that the transplants in Option Period 2 saved approximately \$477 million per year.

Additional Impacts: In addition to projects related to home dialysis and transplantation, the Networks drove improvements related to vaccinations (e.g., influenza, COVID-19), hospital utilization (e.g., readmissions, emergency department visits), telemedicine, and dialysis care in the nursing home. The impacts extended beyond those measurable direct outcomes. Changes in processes and policies and increased education for facility staff made a positive impact on all patients dialyzing in those centers.

Focused Summary of Network Activities and Outcomes by OKR.

The following sections highlight the work of the Networks associated with each quality improvement area of focus by Objective and Key Result (OKR). The Networks provided educational materials to patients and dialysis facility staff, maintained collaborative relationships, and offered data-driven TA for ESRD Network QI activities. These efforts focused on increasing screening and referral for depression, improving dialysis care in nursing homes, increasing home dialysis utilization, supporting transplantation, increasing vaccinations, and decreasing hospitalizations. The Networks implemented interventions to address these goal areas from May 1, 2023, through April 30, 2024.

Goal 1 – Improve Behavioral Health Outcomes

<u>Depression Treatment</u>

Research indicates that poor quality of life and higher levels of mortality contribute to high rates of depression among patients with ESRD.⁶ The Networks worked toward the goal of improving behavioral health outcomes. Goal 1 focused on increasing depression treatment by 10% over baseline; however, depression treatment decreased by 4.8% compared to baseline.

The Networks promoted the following best practices and promising strategies:

- Providing consistent, easy-to-understand education that links emotions and nontraditional symptoms (e.g., difficulty making decisions) to the concept of mental health.
- Using positive language and resources when discussing mental health issues to increase patient comfort and normalize seeking mental health support.
- Developing a "warm list" of mental health providers for facilities whose patients had difficulty scheduling appointments.

⁶ Shirazian S, Grant CD, Aina O, Mattana J, Khorassani F, Ricardo AC. Depression in chronic kidney disease and end-stage renal disease: Similarities and differences in diagnosis, epidemiology, and management. *Kidney Int Rep.* 2016 Sep 20;2(1):94–107.



Goal 2 – Improve Patient Safety and Reduce Harm

Dialysis Care in the Nursing Home: Hemodialysis Catheter Infection Rate

Patients who require dialysis in the nursing home setting are a vulnerable population, especially related to infection and anemia. Goal 2 focused on reducing long-term catheter infections by 6%, alternative catheter infections by 14%, and peritonitis by 3%, while Goal 5 focused on reducing blood transfusion events. The Networks and ESRD providers identified and executed best and promising practices that resulted in reduced catheter infections by 13.7%, reduced alternative catheter infections by 37%, and reduced peritonitis by 61.2% during Option Period 2.

The Networks identified this best practice and promising strategy:

Supporting implementation of monthly audits on patient care, infection control
practices, and hand hygiene. The Networks communicated this practice to facilities
via email and one-on-one discussions with staff and EQRS leads. Facilities reported
that this support helped to ensure accurate patient records and reduce inaccuracies
related to incidents of infection and transfusions.

Goal 3 – Improve Care in High-Cost/Complex Chronic Conditions

The ESRD Networks conducted interventions to promote home dialysis, increase the number of patients on the transplant waitlist and receiving kidney transplants, and increase COVID-19, influenza, and pneumococcal vaccinations.

Home Dialysis

Home dialysis is defined as either peritoneal dialysis or home hemodialysis. It is expected that more patients will continue to choose home dialysis as their modality, as it has been linked to better clinical and psychosocial outcomes. In comparison to in-center hemodialysis, home dialysis has established benefits to patient's length of life^{7,8} and the potential to reduce the cost of treatment, as well as overall costs to the health system.⁹

The ESRD Networks aimed to promote referral to home dialysis modalities, identify and mitigate barriers to timely referral, and determine steps that patients and providers can take to improve referral patterns. Because home dialysis modalities are proven to increase quality of life and many patients have experienced better outcomes, the Networks continued implementing QI strategies to transition patients from in-center hemodialysis to home hemodialysis or peritoneal dialysis. In collaboration with the renal

⁷ 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.

⁸ 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

⁹ 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/.



community and other stakeholders, the Networks identified barriers and implemented solutions to increase utilization of home dialysis, including patient education and choice of modality at treatment initiation.

The Networks and ESRD providers identified and executed best and promising practices that resulted in a national total of 23,822 incident patients initiating dialysis on a home modality plus 29,558 prevalent patients moving from in-center to a home modality. Examples include:

- Identifying nuanced barriers and health equity gaps to the greater adoption of home dialysis through data analysis. One-on-one meetings between dialysis facilities, Networks, and patients focused on overcoming barriers and closing the gaps through health literacy training, sharing best practices, and community connections.
- Having a CKD educator work with patients to increase awareness of the benefits of home dialysis. The Network shared best practices and resources, such as the American Kidney Foundation course, Kidney Health Coach, which offered continuing education credits and helped participants develop a CKD education program.
- Partnering with NxtStage, state health departments, and dialysis providers to recruit
 facilities to offer the Experience the Difference program. This involves in-center
 dialysis patients treating on a home dialysis machine and with a home prescription
 (more treatment days and shorter treatment). Patients can learn about the home
 modality, then see how they would feel while using it to inform their decision. Three
 programs were started during the contract period, and more are scheduled for the
 next year.

<u>Transplant</u>

Patients receiving a kidney transplant have better outcomes than those remaining on dialysis, including higher five-year survival rates. 10,11 The Networks were tasked with increasing the number of patients on the transplant waitlist. The Networks' 2023 QI interventions focused on moving patients to the transplant waitlist to achieve transplantation for more patients. Networks planned, developed, and implemented QI concepts and strategies, including 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 Networks and ESRD providers identified and executed best and promising practices that resulted in a national total of 28,702 patients added to the waitlist and 22,699 patients receiving a kidney transplant. Examples included:

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.
 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.



- Having certified transplant surgeon designees lead transplant activities at dialysis centers, ensuring that patients receive education early and regularly and maintaining communication between dialysis centers and transplant facilities.
- Using resources developed collaboratively with other Networks. Specifically, the Kidney Transplant Checklist and Kidney Transplant Road Map met previously unmet needs for patients and visual learners.
- Providing financial resources to cover costs such as travel and housing for transplant evaluations or help with medical expenses. Help Hope Live (https://helphopelive.org/) is an organization that offers grants to patients to cover such needs.

Vaccination

Infections are the leading cause of morbidity and mortality with individuals with ESRD.¹² Therefore, several vaccines are generally recommended to those with ESRD to prevent known causes of infection, such as by communicable diseases.¹³

This task focused on immunizing facility staff and patients for influenza and COVID-19. For patients only, this task provided recommended vaccinations for pneumococcal pneumonia (i.e., PCV13, PCV15, PCV20 and PPSV23). The vaccination goals were: influenza—90% of patients and staff; pneumococcal—7% increase for patients; and COVID-19—80% of the patients and 95% of the staff to be up to date. The results for influenza showed a 78.3% vaccination rate for patients and 48.6% for staff; for pneumococcal, a 5.7% increase; and for COVID-19, a rate 3.7% for staff and 6.2% for patients. Due in part to their efforts, 390,935 individuals with ESRD received their influenza vaccine, 259,122 received their pneumococcal vaccine, and 31,398 received their COVID-19 vaccine during Option Period 2.

The Networks identified these best practices and promising strategies:

- Developing training to identify and troubleshoot errors in batch submission to the new EQRS Vaccination Module.
- Using an interdisciplinary team approach to implement a plan for vaccination season and track vaccination uptake through systematic monitoring, while reviewing patientspecific data and discrepancies in data reporting through individual coaching calls with facility staff.

¹² Dalrymple LS, Go AS. Epidemiology of acute infections among patients with chronic kidney disease. *Clinical Journal American Society of Nephrology*. 2008 Sep;3(5):1487–93.

¹³ ESRD NCC. 2024 Research of Most Appropriate Vaccinations for Dialysis Patients. 2024. Available at: https://esrdncc.org/contentassets/7e0bea19238a458d84815ff2a2c2344e/resmostappvax_dialysispts_508.pdf



• Offering "Office Hours" webinars and quarterly national calls that allow facilities to learn from high-performing counterparts in a format that encourages people to ask questions and share ideas.

Telemedicine

The goal was to increase the number of rural patients with ESRD using telemedicine to access a home modality by 3%. The Networks and ESRD providers identified and executed best and promising practices that resulted in a 2.8% increase. They:

- Distributed the ESRD NCC Telemedicine Toolkit to all home dialysis units.
- Convened TA calls to a variety of facilities in all projects and incorporated the opportunity and availability of telehealth for patients in their area.
- Promoted the value of telemedicine for both urban and rural patients by sharing the Telemedicine Tip Sheet.

Goal 4 – Reduce Hospital Admissions, Readmissions, and Outpatient Emergency Visits

Hospitalization

Multiple health conditions in addition to kidney disease impact the care and well-being of patients with ESRD, including anemia, cardiovascular disease, and diabetes. Some health deficits may also be related to patient behavior (e.g., high fluid intake) or health-related social needs (e.g., transportation, healthy diet). The Networks' hospital utilization goals focused on reducing the following ESRD-related metrics by 4%:

- Inpatient admissions
- 30-day unplanned readmissions
- Emergency department visits

The Networks and ESRD providers identified and executed best and promising practices that resulted in reduced ED visits nationally by 4.8%; however, hospital inpatient admissions increased by 1.7% and 30-day unplanned readmissions increased by 6.6%. Examples of best and promising practices included:

- Educating dialysis facility staff about clinical metrics and practices correlated with hospitalization, such as proper weighing and regular reviews for patient dry weight management, enhancing patient education, and scheduling additional treatments.
- Developing a health literacy course individualized to dialysis facility professional roles.
 The curriculum featured the teach-back method in an interactive component that
 emphasized empowering patients to actively participate in their healthcare decisions.
 Administering the course uncovered a need for the Network to produce a new patient
 resource, "What Type of Care Do I Need?"



 Providing resources addressing the root causes of missed treatments, such as managing thirst, fluid overload, infection prevention, medication adherence, and the renal diet. An example of an effective resource was a post-hospitalization checklist focused on dry weight management and effective communication between dialysis facilities and hospital discharge planners.

Goal 5 – Improve Nursing Home Care in Low-Performing Providers

Reduce Blood Transfusions

Goal 5 focused on reducing blood transfusion events by 3%. To avoid anemia and treatment with blood transfusions, residents who receive dialysis in the nursing home setting require coordinated care, staff knowledge, and effective operational systems. The Networks and ESRD providers identified and executed best and promising practices that resulted in reduced blood transfusion events by 7.3% during Option Period 2.

The Networks identified these best practices:

- Conducting regular care planning and Quality Assessment and Performance Improvement (QAPI) meetings, including reviewing the goals with nursing home staff and dialysis medical directors.
- Establishing admission policies and procedures that support this goal for the nursing home dialysis program, including reviewing a patient's medical records before admission to the nursing home and dialysis program and setting hemoglobin goals at admission.

Goal 6 - Provide Targeted Quality Improvement (QI) Responses

Distinct from education, TA meets identified needs in an organization through targeted individualized support. The Networks provided data-based TA focused on the goals of the Statement of Work both on-site and virtually to low-performing facilities. The Networks shared learnings from high-performing facilities and community coalitions in addition to the use of plan-do-study-act (PDSA) cycles. TA deployed by the Networks included identification of the primary area for improvement, which included in descending order: QI, consulting on TA tools, development of patient empowerment, health equity analysis, and staff development.

In 2024, a new TA reporting tool was introduced to collect detailed information on the type of TA provided by the Networks, including whether it was on-site or virtual, and the area or OKR related to the measure including area of improvement, reported/observed barriers, and, where applicable, what drivers and/or strategies were used to assist in the TA. Throughout this initial period, TA was provided for every OKR. Notably, hospitalization and transplant were among the top three most frequently reported areas where TA was provided during both months. The tool is able to connect the collected



data to lessons shared by the Networks and help to assess the national progress of the measures.

Data Quality

The Networks also focused on improving timeliness of CMS-2728 and CMS 2746 forms. The Networks were to:

- Achieve a 1% increase in the number of incomplete initial CMS-2728 forms that were over one (1) year old that were completed and submitted. The Networks achieved a 19.5% increase.
- Achieve a 4% increase in the rate of CMS 2728 forms from dialysis facilities submitted within 45 days of the facility's start date. The Networks achieved a 4.2% increase.
- Achieve a 9% increase in the rate of CMS 2746 forms from dialysis facilities submitted within 14 days of the date of death. The Networks achieved a 7.2% increase.



Focused Patient and Family Support Provided by the Network

Patient and Family Engagement Activities

In 2023, the Networks recruited patient and family/caregiver volunteers 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. They also served on the ESRD NCC National Patient and Family Engagement Learning and Action Network (NPFE-LAN), which brought them together with healthcare professionals and others to achieve rapid-cycle improvement, create opportunities for in-depth learning and problem-solving, and harness shared knowledge and skills to achieve specific ESRD Network Program objectives.

Grievances and Access to Care

The 18 ESRD Networks processed 614 beneficiary grievances from May 2023–April 2024, which is a 22% decrease from the previous year time frame of May 2022–April 2023. In 2023, 233 (38%) were addressed using immediate advocacy, 238 (39%) were general grievances, and 143 (23%) were based on a clinical area of concern.

The total number of non-grievance cases from May 2023–April 2024 was 4,993 (89%), a 13.5% increase from May 2022–April 2023. These included 3,050 (61%) facility concerns, 441 (9%) patient concerns, and 1,502 (30%) access to care non-grievances. (See Table 3 in Supplement B 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. For example, a call may be categorized initially as an immediate advocacy grievance but moves to general grievance once other details are revealed. Within the PCU, the user can document a revised case type.

Grievances

- Immediate advocacy: These are cases of a simple nature that generally do not involve clinical quality of care and can be resolved in 10 calendar days or less. Examples are staff issues, scheduling issues, and transportation issues for a patient.
- 2. <u>General grievance</u>: These are more complex cases that do not involve clinical quality of care and cannot be resolved within 10 calendar days. Examples could be a bedbug infestation in a facility or televisions not working.
- 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 <u>QoC</u> cases may be either patient-specific or general. Examples could be a patient's blood loss incident or multiple patients alleging problems with fluid removal and target weight adjustments.

Non-Grievances

- 1. <u>Facility concern</u>: These non-grievances are initiated by a contact from a facility staff member. This person wishes to discuss either a specific or general circumstance(s) about a patient or the facility for which there is insufficient information to meet the grievance criteria or access to care case. Examples are hours of operation questions, transportation issues, an inquiry about Network documentation on the involuntary discharge (IVD)/involuntary transfer (IVT) process, or a facility request for TA on a complex patient/staff incident.
- 2. <u>Patient concern</u>: These non-grievances are initiated by a contact from a patient who wishes to discuss either a specific or general circumstance(s) about a facility for which there is insufficient information to meet the grievance criteria 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 failure to place the patient in an appropriate dialysis facility. The categories for these cases include behaviors, medical needs, nonpayment issues, and facility refusal/failure to place. A patient could have multiple types of access to care events, such as being at risk for an IVD/IVT, proceeding to a confirmed IVD/IVT, then moving to a failure-to-place case in which the patient is having trouble finding a dialysis unit.

Education for Patients and Caregivers

In 2023, Networks partnered with dialysis facilities to strengthen patient and family engagement and to help patients and care partners better understand their rights and responsibilities. An important aspect was helping patients and care partners feel comfortable with the grievance process. The Networks distributed printed materials and published newsletters aimed at patients and facility staff. The Networks also used social media outlets such as YouTube, Facebook, and Twitter (now X) and educational webinars to share tools, resources, and best practices. All approaches addressed the goal of providing educational resources to patients with ESRD and their family members and care partners. Examples included:

- Deploying digital posters highlighting the authentic narratives of individuals on a home modality.
- Using the Kidney Care Advocate, Kidney Smart Educator, and Home Hero programs to educate patients on the home modality early in their journey.



 Sharing educational resources from reputable sources that facilities can use to educate patients and staff during vaccination conversations.

Health Equity

In 2023, Networks addressed gaps in health equity to ensure that every patient with ESRD within a Network service area can attain his or her full health potential and that no one is disadvantaged because of social drivers of health. The Networks employed a variety of methods to address health disparities identified through NCC data analysis. They specifically focused on facilities that performed poorly on the goals and generally in the ESRD community within their service area. Examples of these interventions included:

- Collaborating with the Native American Reservation Health Center and a facility that
 accepted referrals from a reservation to teach dialysis facility staff about the cultural
 traditions of the Native American community. The Network also conducted one-onone meetings with staff at the health center and dialysis facilities to find ways to
 improve care coordination.
- Addressing disparities in access to quality food. The Network disseminated
 resources for facility staff to distribute to patients experiencing food insecurity. The
 Network focused on facilities in neighborhoods with high Area Deprivation Index
 (ADI) scores and in priority ZIP codes identified by CMS. The Network encouraged
 facility staff to offer renal-friendly foods, provided tips on building partnerships with
 food banks and pantries, and disseminated resources to guide patients in healthy
 eating.
- Focusing on facilities with low waitlists and transplantation rates in rural areas. The Network met virtually and on-site with facilities to explore the disparities and identify contributing factors. For example, distance and transportation issues made transplant centers inaccessible to many patients. Facilities received culturally and linguistically appropriate services (CLAS) resources to educate staff about caring for patients in a way that respects their culture and background and responds to individuals' healthcare needs and preferences.



ESRD NCC

COORDINATING

Special Projects

National Coordinating Center

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 QI activities with Networks and facilities, and production of ESRD-related events at the annual CMS Quality Conference. Examples of these activities in 2023 included:

- Leveraging social media to inform patients and providers about educational resources on the ESRD NCC website and key messaging. The NCC's social media had 82,142 impressions on social media pages, profiles, and posts across Facebook, Instagram, and X accounts. The NCC shared 1,835 posts. Followers increased by an average of 24 each month across the accounts.
- Conducting monthly Community of Practice (CoP) calls to discuss interventions and share best practices across the 18 ESRD Network service areas.
- Facilitating 56 Learning and Action Network and Expert Team calls, reaching over 5,000 dialysis professionals. The calls focused on improving access to home dialysis and transplant, access to dialysis care in nursing homes, depression screening, and health equity for people with kidney disease, as well as increasing vaccination utilization and reducing COVID-19 hospitalizations.
- Convening 20 bimonthly patient SME calls focused on creating patient education
 materials to improve access to home dialysis and transplant, increasing depression
 screenings, decreasing hospitalizations and readmissions, and improving
 vaccination rates. Five printable resources were developed in English, Spanish, and
 large print.
- Maintaining a monthly email listserv to inform over 7,600 dialysis providers about the New ESRD Patient Orientation Packet (NEPOP) available online.

Kidney Community Emergency Response

Supporting dialysis facilities and patients in preparing for emergencies remains 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 (N-KPFE) Learning and Action Network (LAN) included 35 patients, family members, and care partner SMEs from across the ESRD community.

During meetings, members discussed unique needs of kidney patients and aspects of emergency preparedness they felt were most important. Between scheduled meetings,



the N-KPFE-LAN encouraged SMEs to use the online platform Basecamp to share ideas and resources. The KCER team used Basecamp to pose questions and discussion topics to members on issues impacting their ESRD community to incorporate the patient voice into KCER activities.

Technical Assistance, Quality Improvement, and Learning (TAQIL) ESRD Treatment Choices Learning Collaborative (ETCLC)

The ETCLC, led by the TAQIL contractor, is responsible for capturing and disseminating best practices, quality improvement insights, and information shared by members. In 2023, the collaborative included 178 transplant centers,

53 OPOs, and 119 donor hospitals focused on three aims: increasing transplantation, decreasing nonuse of KDPI kidneys scored higher than ≥60, and increasing ≥60 KDPI

ETCLGS

ESRD Treatment Choices Learning Collaborative
The CMS/HESA Kidney Donation & Transplant Initiative

kidneys recovered for transplantation. This work began in December 2021 but is described for the first time in this Summary Annual Report, covering the period May 2023–April 2024.

While the Networks and dialysis facilities are not the ETCLC's focus, those entities collaborated on shared goals and tasks that included the following:

- The TAQIL contractor reviewed the who, what, and how of the collaborative with 232 attendees on the ESRD NCC Transplant LAN call. Dialysis center staff shared insights into education gaps at the facility level. Asked how to improve communication with the transplant centers, the TAQIL contractor provided key strategies identified through the ETCLC.
- ESRD NCC SMEs, Networks, and facility staff met quarterly with TAQIL patient and donor family representatives (PFRs) to support cross-collaboration and resource development. Three transplant-related resources were developed in English, Spanish, and large print.
- Monthly Pacing Events brought together ESRD Networks and ETCLC stakeholders
 with patient and donor family representatives and ESRD NCC patient SMEs to
 address quality improvement and outcome cases from the field. Discussions focused
 on improving access to kidney transplantation and reducing the kidney nonuse rate.
- Quarterly Physician and Transplant Administrator calls, facilitated by an industry
 thought leader, engaged a panel of three SMEs from high-performing organizations.
 They discussed topics and successful practices specific to ETCLC donation and
 utilization change packages and building capacity to increase program growth. The
 calls were open to ETCLC stakeholders, ESRD Networks, patients, and donor family
 representatives, and ESRD NCC patient SMEs.



Supplement A – Program Funding & Network Service Areas

CMS funds the ESRD Network Program QI activities and patient and family engagement by withholding \$0.50 from the Medicare composite rate payment for each dialysis treatment. This rate has remained the same since 1989.

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 1). In 2023, the Networks worked to improve healthcare for almost 513,000 patients on dialysis and approximately 307,000 patients receiving kidney transplants.

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	тх
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

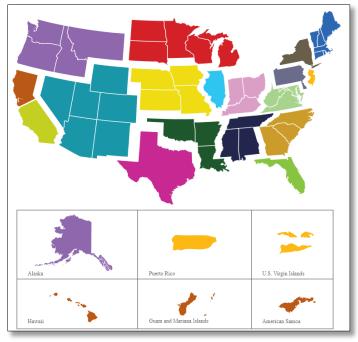


Figure 1. ESRD Network Service Areas



Supplement B – Data Tables

Table 1. National ESRD Patient Data Overview - Calendar Year 2023

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	201	2.57%	15	6.55%	14,603	2.85%	12,236	2,367	2.85%	13,821	4.50%	28,424
2	370	4.73%	14	6.11%	27,743	5.41%	25,190	2,553	3.08%	21,306	6.94%	49,049
3	252	3.22%	5	2.18%	20,213	3.94%	18,039	2,174	2.62%	7,839	2.55%	28,052
4	355	4.53%	18	8.30%	19,391	3.78%	16,222	3,169	3.82%	13,772	4.49%	33,163
5	454	5.80%	13	5.68%	27,817	5.42%	23,092	4,725	5.70%	19,288	6.29%	47,105
6	794	10.14%	12	4.80%	49,857	9.71%	41,828	8,029	9.68%	21,904	7.14%	71,761
7	544	6.95%	10	4.80%	32,983	6.43%	27,517	5,466	6.59%	18,522	6.04%	51,505
8	482	6.16%	10	4.37%	27,486	5.36%	22,901	4,585	5.53%	13,370	4.36%	40,856
9	639	8.16%	13	5.68%	31,804	6.20%	25,486	6,318	7.62%	20,534	6.69%	52,338
10	356	4.55%	9	3.93%	19,472	3.79%	15,349	4,123	4.97%	12,971	4.23%	32,443
11	511	6.53%	21	9.17%	28,386	5.53%	23,731	4,655	5.61%	23,903	7.79%	52,289
12	326	4.16%	12	5.24%	16,420	3.20%	13,038	3,382	4.08%	13,780	4.49%	30,200
13	340	4.34%	9	3.93%	20,607	4.02%	17,113	3,494	4.21%	8,920	2.91%	29,527
14	760	9.71%	24	10.92%	55,260	10.77%	47,062	8,198	9.88%	25,655	8.36%	80,915
15	391	4.99%	15	6.55%	26,884	5.24%	22,265	4,619	5.57%	20,499	6.68%	47,383
16	247	3.15%	7	3.06%	15,451	3.01%	12,371	3,080	3.71%	10,251	3.34%	25,702
17	342	4.37%	6	2.62%	30,602	5.96%	25,613	4,989	6.01%	17,182	5.60%	47,784
18	466	5.95%	14	6.11%	48,246	9.40%	41,208	7,038	8.48%	23,361	7.61%	71,607
NATIONAL	7,830		229		513,225		430,261	82,964		306,878		820,103



Table 1A. National ESRD Patient Data Overview – Network Performance Year May 2023–April 2024

Network	Dialysis Facilities	Percent of Medicare- Certified Dialysis Facilities Nationally		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	198	2.56%	15	6.61%	14,603	2.85%	12,236	2,367	2.85%	14,049	4.49%	28,652
2	364	4.71%	14	6.17%	27,743	5.41%	25,190	2,553	3.08%	21,741	6.95%	49,484
3	248	3.21%	5	2.20%	20,213	3.94%	18,039	2,174	2.62%	7,994	2.56%	28,207
4	350	4.53%	18	7.93%	19,391	3.78%	16,222	3,169	3.82%	13,805	4.41%	33,196
5	447	5.78%	13	5.73%	27,817	5.42%	23,092	4,725	5.69%	19,726	6.31%	47,543
6	777	10.05%	12	5.29%	49,860	9.71%	41,828	8,032	9.68%	22,419	7.17%	72,279
7	542	7.01%	10	4.41%	32,984	6.43%	27,518	5,466	6.59%	18,960	6.06%	51,944
8	477	6.17%	10	4.41%	27,486	5.36%	22,901	4,585	5.52%	13,730	4.39%	41,216
9	625	8.09%	13	5.73%	31,806	6.20%	25,488	6,318	7.61%	20,892	6.68%	52,698
10	346	4.48%	9	3.96%	19,472	3.79%	15,349	4,123	4.97%	13,309	4.26%	32,781
11	512	6.62%	21	9.25%	28,386	5.53%	23,731	4,655	5.61%	24,128	7.71%	52,514
12	321	4.15%	12	5.29%	16,420	3.20%	13,038	3,382	4.08%	14,017	4.48%	30,437
13	332	4.29%	9	3.96%	20,613	4.02%	17,119	3,494	4.21%	9,080	2.90%	29,693
14	755	9.77%	24	10.57%	55,261	10.77%	47,062	8,199	9.88%	26,279	8.40%	81,540
15	389	5.03%	15	6.61%	26,884	5.24%	22,265	4,619	5.57%	20,932	6.69%	47,816
16	243	3.14%	7	3.08%	15,451	3.01%	12,371	3,080	3.71%	10,447	3.34%	25,898
17	340	4.40%	6	2.64%	30,612	5.96%	25,613	4,999	6.02%	17,466	5.58%	48,078
18	464	6.00%	14	6.17%	48,262	9.40%	41,215	7,047	8.49%	23,794	7.61%	72,056
NATIONAL	7,730		227		513,264		430,277	82,987		312,768		826,032



Table 2. Medicare-Certified Facilities – Modality Type – Calendar Year 2023

Network	Network Transplant Centers		In-Center Hemodialysis Only	Home Dialysis Only	Total Dialysis Facilities (Home, In-Center, Both)	Total Facilities (including Transplant Centers)
1	15	113	81	7	201	216
2	14	153	200	17	370	384
3	5	141	105	6	252	257
4	19	168	166	21	355	374
5	13	186	235	33	454	467
6	12	320	414	60	794	806
7	10	278	225	41	544	554
8	10	133	301	48	482	492
9	13	275	313	51	639	652
10	9	110	186	60	356	365
11	21	192	278	41	511	532
12	12	141	166	19	326	338
13	9	134	195	11	340	349
14	25	322	390	48	760	785
15	15	170	204	17	391	406
16	7	140	90	17	247	254
17	6	103	190	49	342	348
18	14	186	228	52	466	480
NATIONAL	229	3,265	3,967	598	7,830	8,059



Table 2A. Medicare-Certified Facilities – Modality Type – Network Performance Year May 2023–April 2024

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	113	80	5	198	213
2	14	151	197	16	364	378
3	5	141	101	6	248	253
4	18	168	161	21	350	368
5	13	186	229	32	447	460
6	12	316	403	58	777	789
7	10	278	223	41	542	552
8	10	133	298	46	477	487
9	13	274	305	46	625	638
10	9	108	180	58	346	355
11	21	192	278	42	512	533
12	12	141	163	17	321	333
13	9	133	189	10	332	341
14	24	322	386	47	755	779
15	15	170	203	16	389	404
16	7	140	88	15	243	250
17	6	103	188	49	340	346
18	14	187	227	50	464	478
NATIONAL	227	3,256	3,899	575	7,730	7,957



Table 3. Grievances and Non-Grievances by Case Type, Number, and Percent – Network Performance Year May 2023–April 2024

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	*	*	*	137	65	*	231	22	3.58%	209	4.19%
2	25	22	19	391	102	53	612	66	10.75%	546	10.94%
3	*	*	*	70	67	*	155	*	1.30%	147	2.94%
4	*	19	*	268	105	28	432	31	5.05%	401	8.03%
5	22	*	16	150	158	11	367	48	7.82%	319	6.39%
6	55	27	23	295	95	34	529	105	17.10%	424	8.49%
7	*	34	19	165	144	18	385	58	9.45%	327	6.55%
8	13	*	*	53	105	23	201	20	3.26%	181	3.63%
9	21	*	*	257	76	14	382	35	5.70%	347	6.95%
10	*	*	*	44	128	11	195	12	1.95%	183	3.67%
11	*	28	*	272	78	27	410	33	5.37%	377	7.55%
12	16	*	*	54	77	*	161	23	3.75%	138	2.76%
13	20	*	*	95	42	*	176	30	4.89%	146	2.92%
14	*	*	*	73	107	70	268	18	2.93%	250	5.01%
15	*	*	*	35	29	*	87	16	2.61%	71	1.42%
16	*	*	*	85	21	*	141	25	4.07%	116	2.32%
17	20	*	*	203	45	14	293	31	5.05%	262	5.25%
18	*	22	*	403	58	88	582	33	5.37%	549	11.00%
National	238	233	143	3,050	1,502	441	5,607	614		4,993	

^{*} Values under 11 suppressed.