IPRO

End-Stage Renal Disease
Network of the Ohio River Valley

2019 Annual Report

Columbus, Ohio

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ESRD DEMOGRAPHIC DATA

The IPRO End-Stage Renal Disease (ESRD) Network of the Ohio River Valley (Network 9) is funded by the federal government to promote the provision of healthcare that is safe, effective, efficient, patient-centered, timely, and equitable for all ESRD patients in Indiana, Kentucky, and Ohio. To achieve this goal, Network staff members work with patients, providers, and other stakeholders to conduct activities consistent with the framework established by the Department of Health and Human Services' (HHS) National Quality Strategy, the HHS Secretary Priorities, and the Centers for Medicare & Medicaid Services (CMS) goals.

Network 9's service area comprises the states of Indiana, Kentucky, and Ohio. The largest population of patients in our Network service area reside in Ohio, which has approximately three times the patient population of our smallest state, Kentucky.

In 2019, 13 new Medicare-certified dialysis facilities opened in our Network service area, increasing the net number of facilities to 656. Since 2016, the number of Medicare certified dialysis facilities in the Network's service area has increased by over 50 facilities, an 8% growth rate. The Network 9 service area also includes 12 Veterans Affairs (VA) hospitals and 14 transplant centers.

The Network 9 service area has the third largest number of ESRD facilities in the nation, with approximately 60 facilities less than the largest Network, but ranks fourth in patient census. As of December 31, 2019, the Network 9 service area had a total of 49,256 ESRD patients with 34,235, of those patients being prevalent dialysis patients. The Network experienced an average 2.5 percent growth rate in prevalent ESRD patients over the past four years.
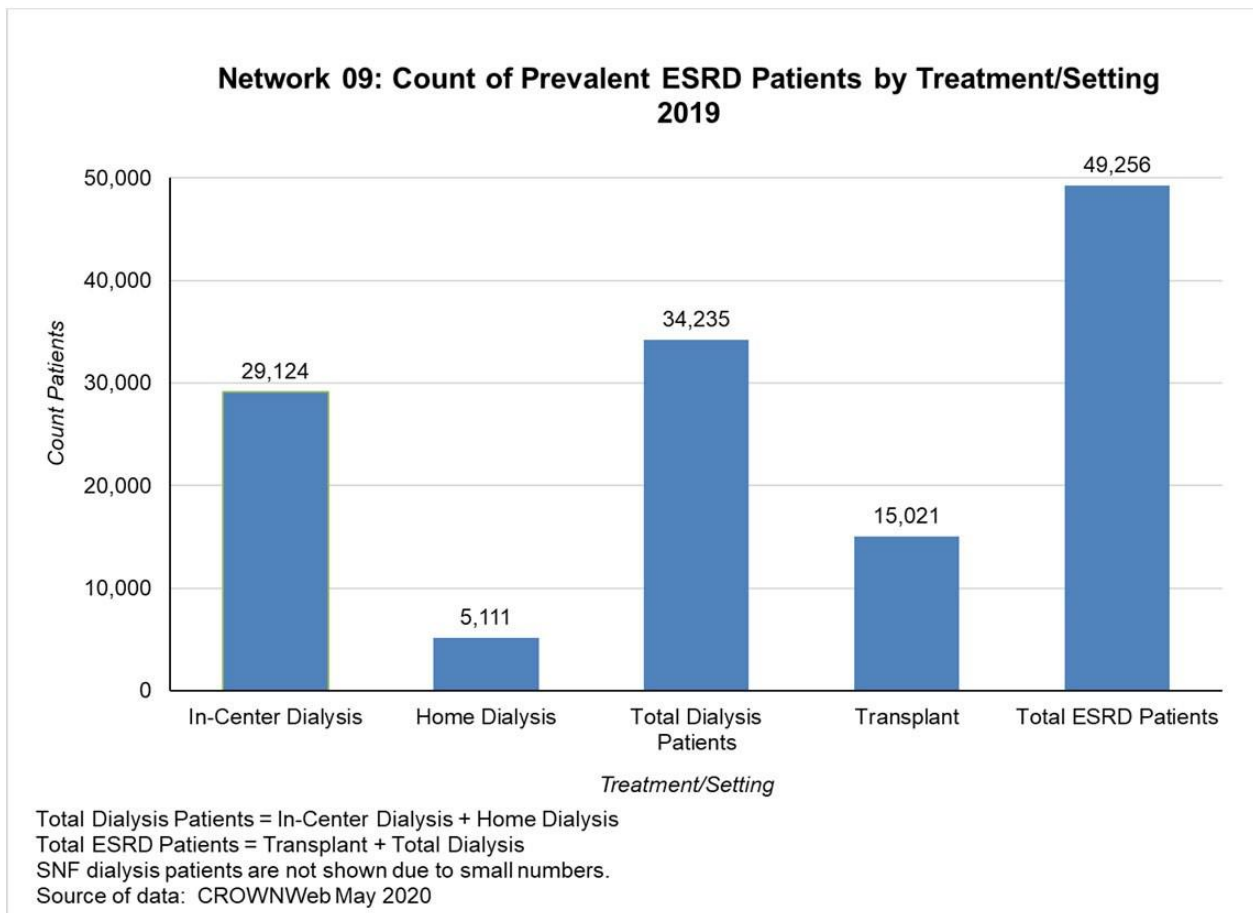
An ongoing characteristic of the Network 9 service area is its high number of facilities, which results in a lower average patient census per facility than most other ESRD Networks. This continues to provide the patients in the region with more options for selecting a facility, dialysis provider, treatment modality and schedule, and medical care. Conversely, the Network observes that the larger number of facilities can lead to staff shortages, leadership transition issues, and need for frequent retraining due to continual staff turnover and recruitment for new facilities. These issues create challenges for the Network as we work to establish continuity in care and to sustain practices for optimal outcomes.

The Advancing American Kidney Health Initiative signed into legislation in July, 2019 focuses on increasing ESRD patient access to transplant and home dialysis, based on the scientifically proven improvement in quality of life, mortality, and morbidity for ESRD patients using these modes of renal replacement therapy, as opposed to in-center hemodialysis. ESRD Networks are charged with increasing the number of ESRD patients offered and receiving these renal replacement modalities. ESRD Network 9 has seen a number of interesting shifts in data aligning with this initiative since 2016 but our most dramatic shift was noted this year.

In 2019 Network 9 has, for the first time in four years, saw a reduction in the number of patients dialyzing in-center, with only 29,124 such patients reported this year. The growth in prevalent patient census has occurred exclusively within the treatment modalities of home and transplant. Network 9 has experienced a 10% increase in the number of patients dialyzing on a home therapy and a five percent increase in the number of patients who have received a kidney transplant. Currently our overall percentage of patients dialyzing in-center represents only 60% of our population, with the number of patients receiving home treatment increasing to 10% and transplant accounting for 30% of our prevalent patient population

The Network will continue to work to drive the increased use of these modalities as preferred choices in renal replacement therapy and to decrease the use of in-center hemodialysis (ICHD) as the primary option for care. In the past four years we have been able to shift the census to 40% dialyzing within a preferred modality. Our goal within the next four years is to completely flip the model to achieve a better than 60% use of home therapy or transplant within our prevalent patient population.

Network 9 works to correct disparities in care where they exist, with our overall goal to improve the care delivered to all ESRD patients in our region. Tables which include the overall demographic data for the Network 9 service area are found on the next four pages.

Network 09: Count of Prevalent ESRD Patients by Treatment/Setting 2019

Total Dialysis Patients = In-Center Dialysis + Home Dialysis
Total ESRD Patients = Transplant + Total Dialysis
SNF dialysis patients are not shown due to small numbers.
Source of data: CROWNWeb May 2020

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Network 09: Count of Incident ESRD Patients by Initial Treatment/Setting 2019

Count Patients

- In-Center Dialysis: 7,864
- Home Dialysis: 1,245
- Kidney Transplant: 302
- Total Incident Patients: 9,411

Initial Treatment/Setting
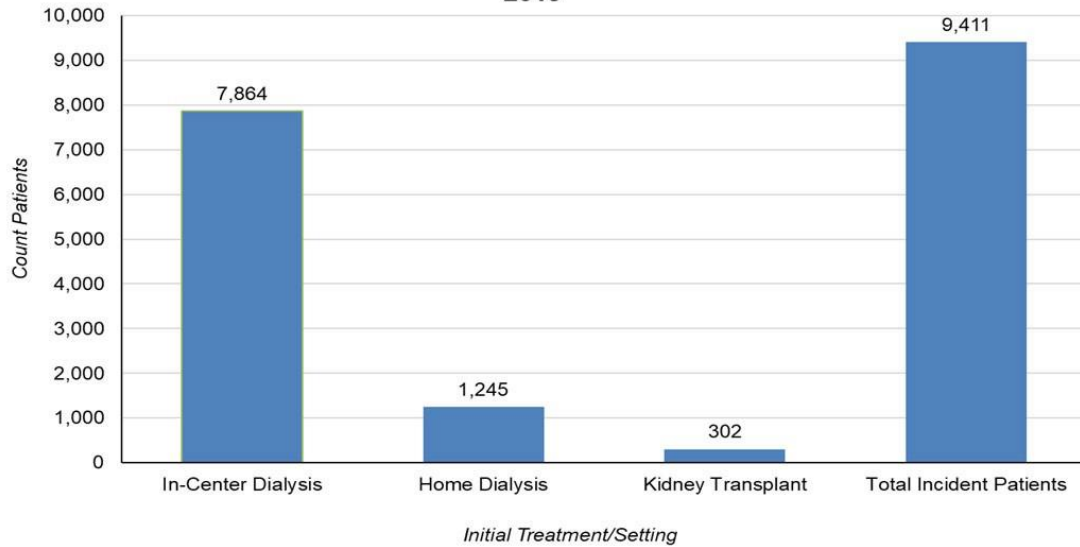
Total Incident Patients = In-Center + Home + Kidney Transplant
Source of data: CROWNWeb May 2020

Network 09: Count of Medicare-Certified Facilities by Treatment/Setting 2019

Count Facilities

- Transplant: 14
- In-Center and Home Dialysis: 266
- In-Center Only: 343
- Home Dialyisis Only: 47
- Total Dialysis Facilities: 656
- Total ESRD Facilities: 670

Treatment Modality
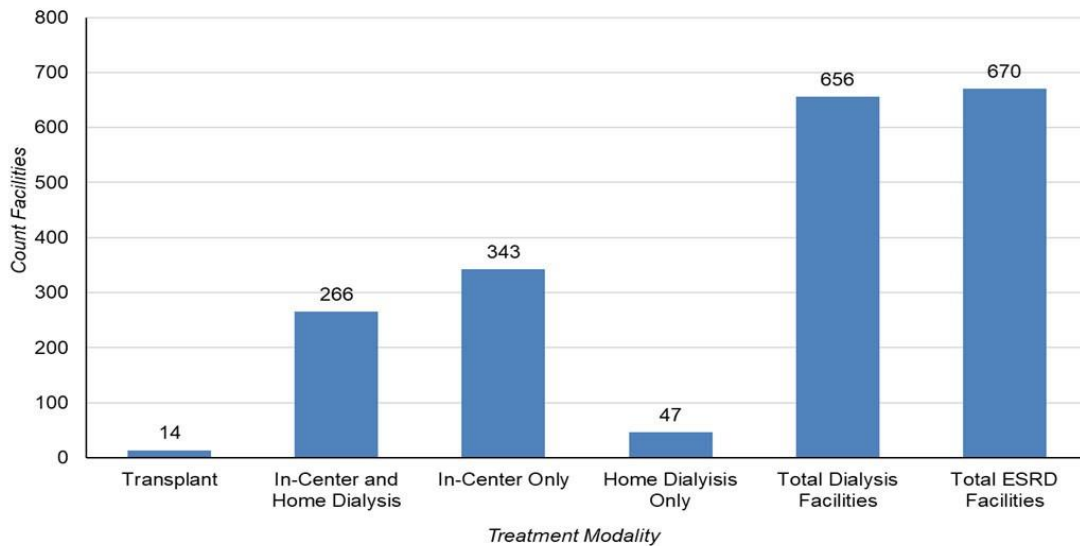
Total Dialysis Facilities = In-Center and Home Dialysis + Home Dialysis Only + In-Center Only
Total ESRD Facilities = Transplant + Total Dialysis Facilities
Source of data: CROWNWeb May 2020

Percent of National Incident Dialysis Patients by ESRD Network 2019

Percent of National

Network	Percent
01	3.1%
02	6.2%
03	4.0%
04	4.1%
05	5.3%
06	8.7%
07	6.8%
08	5.3%
09	7.2%
10	4.0%
11	5.9%
12	3.6%
13	4.1%
14	9.9%
15	5.2%
16	3.1%
17	5.2%
18	8.3%
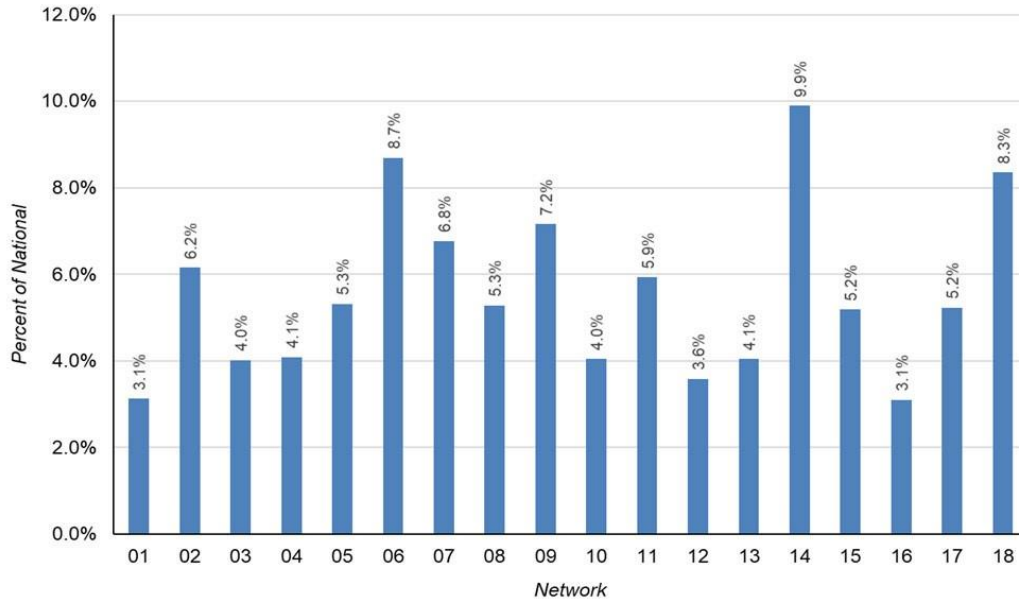
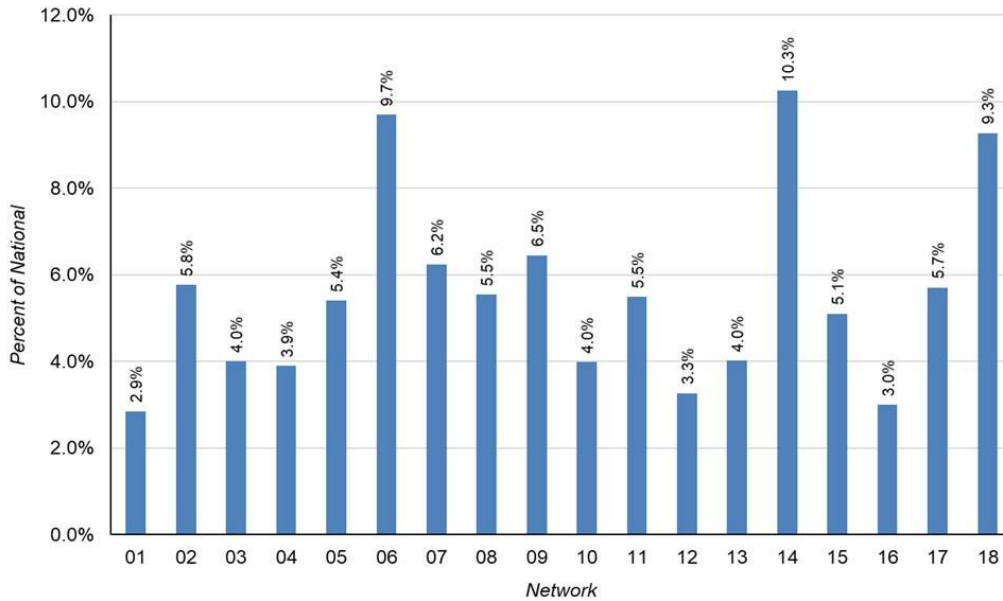National total incident patients: 131,326
Source of data: CROWNWeb May 2020

Percent of National Prevalent Dialysis Patients by ESRD Network 2019

Percent of National

Network	Percent
01	2.9%
02	5.8%
03	4.0%
04	3.9%
05	5.4%
06	9.7%
07	6.2%
08	5.5%
09	6.5%
10	4.0%
11	5.5%
12	3.3%
13	4.0%
14	10.3%
15	5.1%
16	3.0%
17	5.7%
18	9.3%

National total dialysis patients: 530,311
Source of data: CROWNWeb May 2020

Percent of Medicare-Certified Dialysis Facilities by ESRD Network
2019

Chart: Percent of National by Network (01–18)

Network	Percent
01	2.7%
02	4.2%
03	3.3%
04	4.7%
05	5.9%
06	10.2%
07	6.5%
08	6.3%
09	8.5%
10	4.5%
11	6.7%
12	4.5%
13	4.5%
14	9.8%
15	4.9%
16	3.0%
17	4.2%
18	5.7%
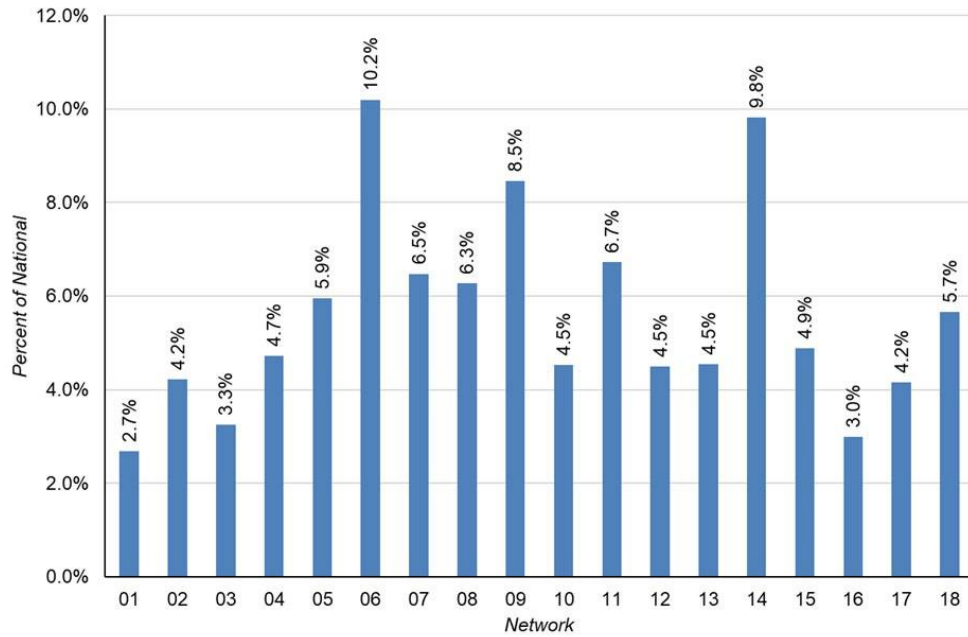
National total ESRD Medicare-certified dialysis facilities: 7,752
Source of data: CROWNWeb May 2020

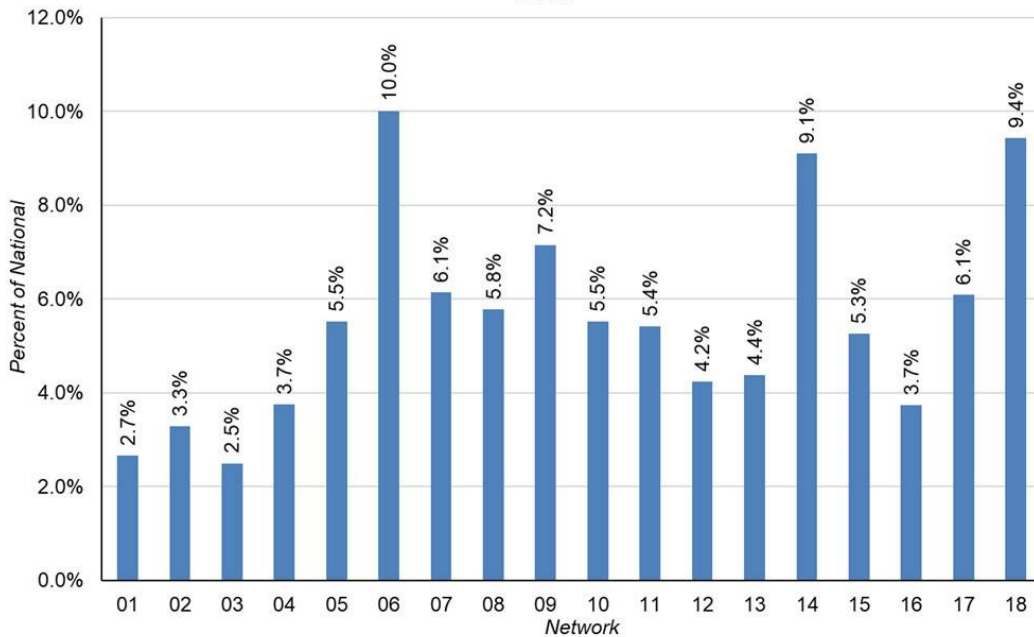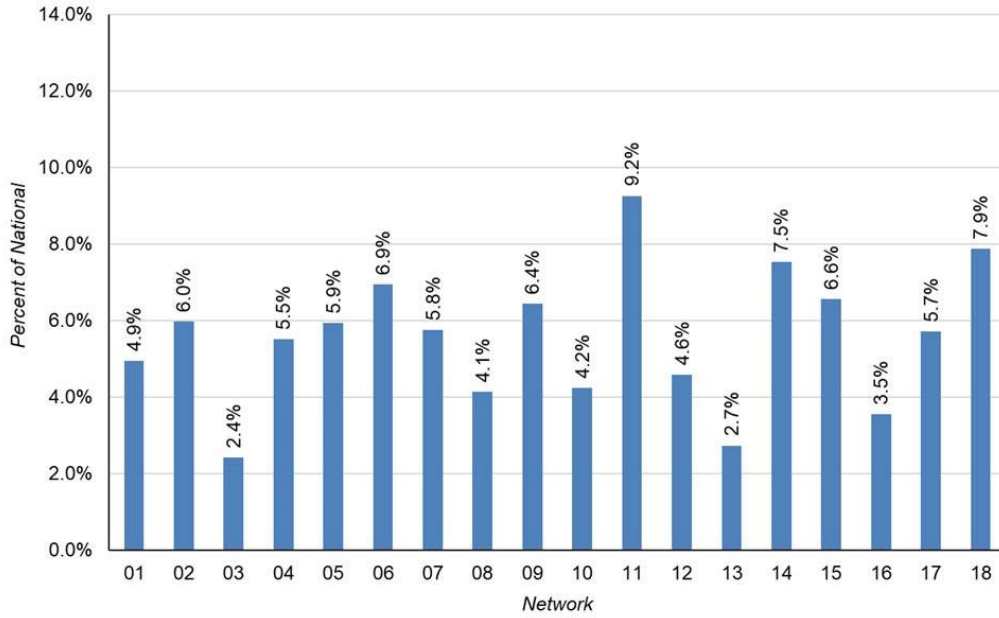## Percent of National Home Hemodialysis and Peritoneal Dialysis Patients by ESRD Network
2019

Chart: Percent of National by Network (01–18)

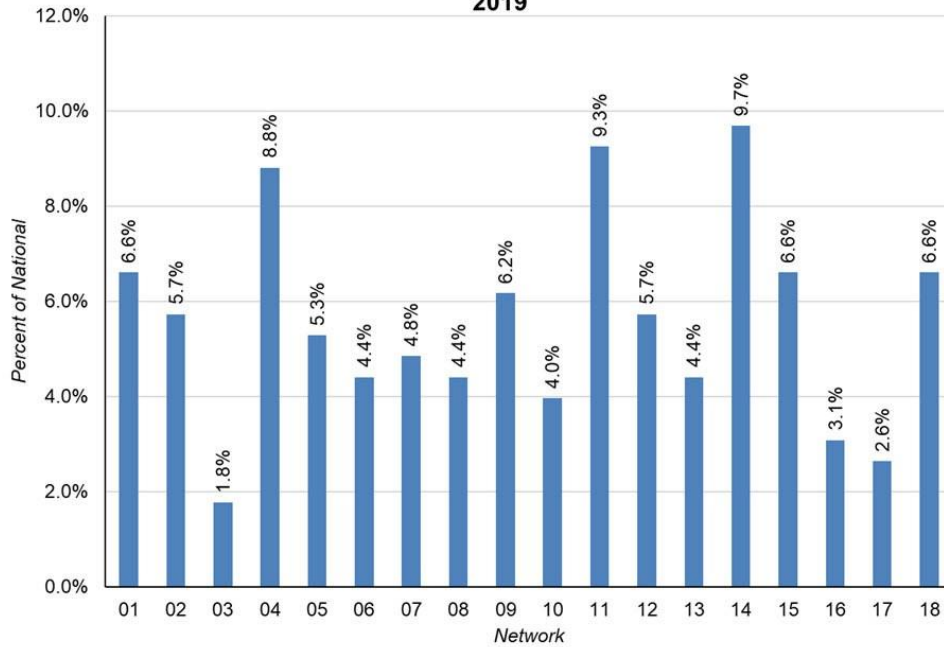| Network	Percent
01	2.7%
02	3.3%
03	2.5%
04	3.7%
05	5.5%
06	10.0%
07	6.1%
08	5.8%
09	7.2%
10	5.5%
11	5.4%
12	4.2%
13	4.4%
14	9.1%
15	5.3%
16	3.7%
17	6.1%
18	9.4%

National total home hemodialysis and peritoneal dialysis patients: 71,408
Source of data: CROWNWeb May 2020

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Percent of National Transplant Patients by ESRD Network
2019

Chart — Percent of National (y-axis, 0.0% to 14.0%) by Network (x-axis, 01 to 18):

Network	Percent
01	4.9%
02	6.0%
03	2.4%
04	5.5%
05	5.9%
06	6.9%
07	5.8%
08	4.1%
09	6.4%
10	4.2%
11	9.2%
12	4.6%
13	2.7%
14	7.5%
15	6.6%
16	3.5%
17	5.7%
18	7.9%

National total transplant patients: 233,650
Source of data: CROWNWeb May 2020

Percent of Medicare-Certified Kidney Transplant Facilities by ESRD Network
2019

Chart — Percent of National (y-axis, 0.0% to 12.0%) by Network (x-axis, 01 to 18):

Network	Percent
01	6.6%
02	5.7%
03	1.8%
04	8.8%
05	5.3%
06	4.4%
07	4.8%
08	4.4%
09	6.2%
10	4.0%
11	9.3%
12	5.7%
13	4.4%
14	9.7%
15	6.6%
16	3.1%
17	2.6%
18	6.6%

National total ESRD Medicare-certified kidney transplant facilities: 227
Source of data: CROWNWeb May 2020

ESRD NETWORK GRIEVANCE AND ACCESS TO CARE DATA

In 2019, 90 grievances were reported to the Network by patients and/or patient representatives. This represents a 42% increase from the previous year. The most reported areas of concern were related to the patient's treatment and quality of care (scheduling and transportation issues, physician's orders, and policy and procedures); staff and interpersonal related conflicts (professionalism, clinical competency, staff/patient ratio, and communication); and the facility's physical environment (infestation, sanitary conditions, temperature control). The Network investigated and monitored all grievances using a patient-centered approach.

Interventions and efforts to resolve the grievances included Network mediation, initiating and participating in interdisciplinary conference calls, an intensive review of patient medical records, education on appropriate communication techniques, promoting the improvement of the facility's professional culture, identifying resource materials and trainings for provider participation, seeking clinical input from the Network's quality improvement team, and collaborating with the Network's Medical Review Board.

Throughout the duration of each grievance case, the Network educated patients on their rights and responsibilities, the Network's role in resolving the grievance, and how the grievance process is executed. Resources outlining these topics were given to patients to reference as needed. Exhibit 1 below shows the breakdown of facility concerns versus grievance data in 2019.

There was a slight increase in the number of facilities that discharged patients from their care in 2019, resulting in 49 involuntary discharges (IVDs). Of these IVDs, 28 were related to severe threat or ongoing disruptive behavior. The remaining 21 were split between issues related to failure to pay, facility failure to meet medical needs, and termination of physician services. Eleven of the cases were averted, resulting in the patient continuing to receive treatment at their current facility. Twenty-two cases reported to the Network as failure to place. Nine of those cases were derived from discharges with disruptive and violent behaviors (please see Exhibit 2 for a listing of all incidents captured in the Patient Contact Utility database). Displaced patients have to rely on emergent dialysis therapy, as opposed to being placed at an outpatient dialysis facility. The Network responded to these cases by developing a resource toolkit and a "second chance" program aimed at assisting hospital systems, dialysis providers, and patients in achieving placement at an outpatient facility for continuity of care.

Continuing from the previous year, the Network helped facilities to address issues related to non-adherent patients and patients at risk for access to care concerns. In total, the Network provided technical assistance and guidance to address 145 facility concerns that included non-compliance with treatment, scheduling and managing the disruptive patient population. (Note: four of these cases converted to actual access to care cases, and one converted to a general grievance case). Facilities were encouraged to look at all dimensions of patient care to determine the root cause for patients' disruptive behavior. It was observed that a patient's unresolved grievance could be the gateway to his or her dissatisfaction, leading to frustration, which could lead to patient/staff conflicts. The Network worked to enhance patient education, with a focus on encouraging patients to become more engaged and active in their care as a strategy to improve patient understanding and acceptance. The Network provided resources to help build patients' participation in planning all aspects of their care, engaging in local support groups, and becoming involved in their facility's quality planning through monthly QAPI meetings. Resources added to complement this educational push included the *10 Tips to Help You Become Active in*

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Your Care, a *Facility Guide for Participation in QAPI, the AAKP Support Group Guidebook, Patient Grievances: A Guide for ESRD Patients* pamphlet and *Grievance Process Guide* outlining the Network's role in the grievance process, and the *Patient Rights and Responsibilities* flyer from the ESRD NCC. The Network continued to provide a variety of resources to educate facilities and enhance their skills in addressing disruptive patients. These included *Preventing the Involuntary Discharge of Dialysis Patients Facility Guide and Checklist,* the *Voluntary Discharge Procedure* promoted by the Network and CMS, *Decreasing Patient Conflict: Pathway to Resolution* algorithm, and the case comparison chart, which differentiates the procedures for a "lost to follow-up," voluntary discharge or discontinuation, and involuntary discharge.

The Network works one-on-one with all patients who call in with concerns or access to care issues, often serving as a mediator between the facility and patient. We also educate and promote the use of *The Patient Grievance Toolkit* issued by the ESRD Forum's Patient Advisory Committee (PAC) to assist patients with communicating and managing concerns with their care.

The Network has made these tools available on its website, creating a family of materials accessible by patients and providers at their convenience. The Network's goal continues to be to prevent grievances through enhanced communication and problem solving between patients and the facility staff. Only through improving the experience of care and assisting facilities in managing disruptive patients can we seek to lower the number of potential and actual access to care issues. The Network has found that a key strategy to achieve this goal is to encourage the ESRD patient to become an active member of his or her care team; which is a constant focus of our Network activities.

Exhibit 1

Source of data: Patient Contact Utility (PCU)

Exhibit 2

Source of data: Patient Contact Utility (PCU) accessed November 2019
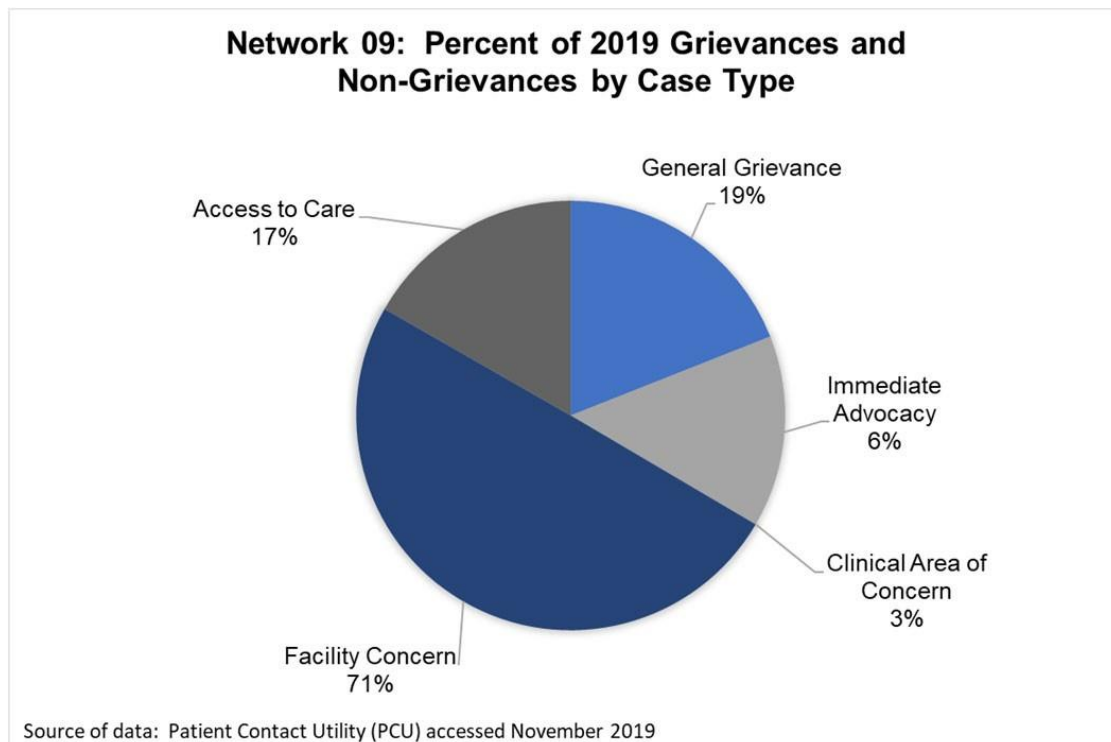
ESRD NETWORK
QUALITY IMPROVEMENT ACTIVITY DATA

The Network worked closely with ESRD patients, family members and caregivers, nephrologists, dialysis facilities, advocacy organizations, and other stakeholders to improve care for ESRD patients in its service area. In 2019, the Network conducted quality improvement activities (QIAs) focused on improving care for ESRD patients through initiatives that targeted:

- Promoting patient- and family-centered care;
- Responding to grievances about ESRD-related services filed by, or on behalf of, ESRD patients;
- Supporting improvement in patients' experience of care;
- Working with dialysis facilities to ensure that all dialysis patients have access to appropriate care;
- Increasing patients referral to and use of vocational rehabilitation services;
- Improving transplantation coordination leading to increased wait listing numbers;
- Increasing home modality referrals;
- Promoting best practices in vascular access management;
- Helping dialysis facilities reduce the incidence of healthcare-associated infections (HAIs);
- Assisting dialysis facilities to enroll in electronic health information exchange (HIE); and
- Supporting the use of the National Health and Safety Network (NHSN) as required by the Centers for Disease Control and Prevention (CDC).

Empowering Patients

In 2019 the Network focused its quality improvement efforts integrating the patient voice and goal setting into their care. We have seen great advancements in creating a culture of patient-centered care through the inclusion of a patient facility representative as a team member or advisor and, in some cases, as a project lead.

The Patient Facility Representative was a role introduced into all QIAs in 2018, known as Patient Ambassadors. The Network renamed the role to build awareness of the need for a representative within each facility participating in a QIA. Within our QIAs in 2019, we engaged 237 active Patient Facility Representatives (PFR), which included 50 patient Subject Matter Experts (SMEs). Their tasks included assisting the facility with distributing project materials, serving as peer mentors for other patients, participating in facility quality assurance and performance improvement (QAPI) meetings to report QIA progress, and participating in lobby days or other promotional activities.

The Network's Patient Advisory Committee (PAC) was re-structured into a three tier program to allow patients the opportunity to participate at whatever level of commitment they felt comfortable. Members could participate as Subject Matter Experts within the PAC who could advise the Network on resources and education, as well as participate in network and national calls; Patient Facility Representatives who help as patient SMEs as well as become actively involved in QIA activities at their facility ; or as PAC advisors, demonstrating the highest level of commitment by working with the Network concurrently as Subject Matter Experts, Patient Facility Representatives as well as board members and on ad hoc working groups.

The PAC is composed of active dialysis patients, transplant recipients, care partners, and family members who volunteer within their facilities or throughout the community to promote communication between patients and staff; inform patients about the ESRD Network and its programs and resources; and serve as a link between dialysis patients and the Network. PAC members' efforts also focus on engaging their peers, sharing educational materials, and assisting the Network in planning and releasing tools and resources to their peers.

The Network works continuously to expand and engage PAC membership. In 2019, the Network recruited and engaged a record number of active PAC members in total, the Network recruited 273 patient volunteers at 193 unique facilities resulting in active patient representation in 29% of the dialysis facilities in the Network service area.

Additionally, in 2019, the Network recruited six new patient Subject Matter Experts (SMEs) who provide the patient voice in all Network QIAs at the national level by serving as Network representatives to the Forum of ESRD Networks and the ESRD National Coordinating Center (NCC) and Kidney Community Emergency Response (KCER) program.

Long Term Catheter (LTC) Quality Improvement Activity

Background
Patients with LTCs are defined as those prevalent patients with a long term catheter in use for dialysis treatments for 90 days or longer. Network 9 data corroborates the CDC's 2013 findings indicating that 80% of the incident population, i.e., patients who initiated hemodialysis within the past 90 days, began their treatment with a catheter. Research on the increased morbidity and mortality associated with the use of a long term catheter is well known in the ESRD community. Network efforts to lower LTC rates have primarily focused on improving processes within the ESRD facility. While these efforts are important, a paradigm shift is necessary to decrease the number of patients who present to an ESRD facility with a LTC. Network 9 worked with the ESRD Forum's Medical Advisory Board to request data available on the 2728 admission form specifying access at the time of new patient admission and whether the patient had a history of ESRD care. This request was presented to CMS, and the data was provided through the ESRD National Coordinating Center to each Network. From that data Network 9 has created Incident Access Reports by facility and nephrologist that benchmark these two entities. The goal is to identify outlier facilities or nephrologists to support their collaborative efforts to lower the number of incident patients presenting to dialysis with a catheter.

The work of the LTC reduction QIA is to drive improvement in access placement practices. This improvement would be demonstrated by the increased number of ESRD patients initiating dialysis with a permanent access and a decreased rate of LTC use in the prevalent patient population. The Network has shown a consistent reduction in long term catheter rates since 2016; with a 3.2% reduction in LTC rates across the Network's service area (from16.43% to 13.2%).

Targeted Facilities
The Network worked with 63 facilities and 3,126 patients in its service area to implement the QIA. Each facility targeted was listed on the National Health and Safety Network (NHSN) Excessive Infection Report with an infection rate in the top 20% of facilities in the Network's service area (NSA). In addition, each targeted facility had an LTC rate in their prevalent patient population of greater than 15%, as reported in the September 2018 Fistula First Catheter Last (FFCL) data

provided by the ESRD NCC. By combining the target goal of this QIA to those facilities with high LTC rates and infection rates the Network worked to reduce both LTC use and, in turn, infections within this group of facilities.

Goals and Outcomes

The project baseline LTC rate of 19.82% was derived from September 2018 ESRD NCC FFCL data. An intervention period of seven months (January 2019–July 2019) was established, with final data available in September 2019.

The primary project goal was to reduce the rate of LTCs by two percentage points. A secondary goal was to achieve a 95% reporting rate for these facilities in CROWNWeb, the ESRD national data base.

The 63 participating facilities achieved a 2.25% reduction in LTC use, reducing the overall average LTC rate to 17.57%, surpassing CMS' goal of a 2% reduction. These facilities demonstrated a greater than 95% reporting rate in CROWNWeb.

Interventions

The Network initiated a number of interventions to achieve the project goal including, but not limited to:
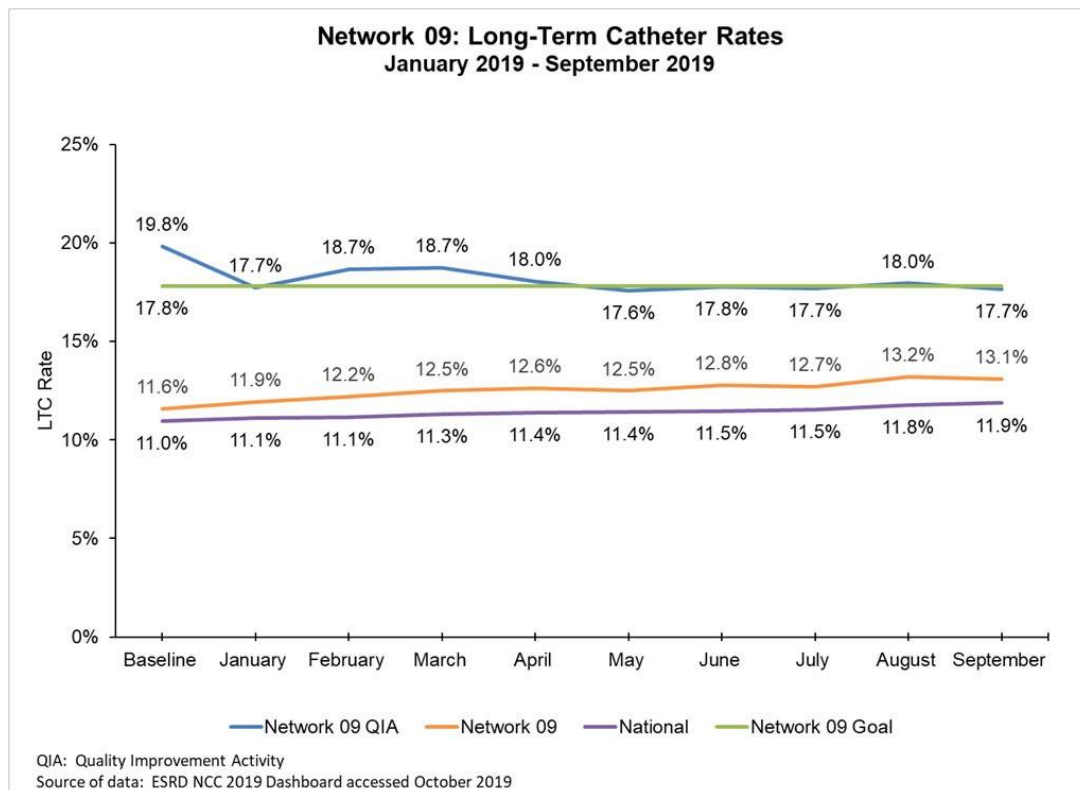
- Identifying and engaging a **lead facility contact and Patient Facility Representative (PFR)** in each targeted facility to assist in implementing opportunities for education, communication, and interventions;
- Sharing **educational materials and resources** from access management specialists within the Network community and from national resources;
- Sharing **best practices** identified through the Plan-Do-Study-Act (PDSA) process;
- Creating a **knowledge portal** of compiled resources;
- Developing and providing a **template for root cause analysis (RCA)** of LTC usage at the facility level to assist providers in identifying and implementing interventions to decrease catheter usage;
- Educating **providers on the use of CROWNWeb reports** to promote accurate reporting of patient primary access;
- Providing **ongoing data surveillance and communication** of progress toward accomplishing goals through September 2019;
- Created and distributed monthly Incident Access Reports to facilitate benchmarking within facilities and individual nephrologist practices related to access admissions
- Shared data quarterly from FFCL CROWNWeb database on facility standing in relation to national, state and Network performance metrics.
- Facilitated Learning and Action Network activities, including inviting managers of facilities that accept ventilator tracheostomy ESRD patients to share best practices for reducing the use of LTCs in this vulnerable population. This resulted in an average 16% reduction in LTC rate.
- Performed site visits with five facilities enrolled in the LTC and Bloodstream Infection (BSI) QIA for the past three years, to perform root cause analyses and provide assistance in developing sustainable facility-specific interventions to reduce both LTC and bloodstream infections.
- Continued use of the individualized intervention models to work with groups of clinics in targeted regions that have high LTC and BSI rates to develop regional-specific interventions, which were shown to sustain improvement in 2018.

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Best Practices Spread to Achieve Goals
- Development of an individual plan of care for each patient with an LTC to move them toward permanent access placement;
- Benchmarking to promote improvement in outlier facilities or physician practices in terms of permanent access placement;
- Early patient education to promote timely scheduling of access procedures;
- Engagement of a vascular access manager to promote decreased catheter and increased fistula rates;
- Nephrologists and dialysis facilities developing new referral patterns for more timely vascular access intervention and creation; and
- Recruited and engaged a Patient Facility Representative to educate patients with an LTC on permanent access placement.

Noted Barriers in Achieving Goals
- Medical directors were often reluctant to obtain vascular access consults outside of their practice groups despite poor service and increased wait times for permanent access.
- Delays in permanent access placement in late-stage CKD patients within certain nephrologist practices and groups.
- Facilities did not have a specified vascular access manager, creating difficulties in following up on the planning of permanent access placement for patients with LTCs.

Network 09: Long-Term Catheter Rates
January 2019 - September 2019

QIA: Quality Improvement Activity
Source of data: ESRD NCC 2019 Dashboard accessed October 2019

Reduce Bloodstream Infection Quality Improvement Activity

Background
Dialysis patients are at higher risk than the general population for acquiring healthcare-associated infections (HAIs)—specifically, bloodstream infections (BSIs)—due to the regular and frequent use of catheters and other forms of access to their bloodstream while dialyzing. The physical and emotional toll of such infections on patients and their care partners/families is immeasurable, and the financial cost is staggering. The Direct Cost Report of Healthcare Associated Infection paper published on CDC.gov estimates that HAIs are responsible for more than $28 billion in yearly national healthcare expenditures.

The Network has demonstrated a decrease in the semi-annual pooled means (# of infections/100 patient months), within the reporting periods of January to June, annually since 2016. This decrease represents a reduction in our Network service area's infections. Each year the Network has worked with 120 to 130 target facilities to reduce bloodstream infections. While the number of target facilities remains consistent each year, the amount of infections over the CDC expected rate of infections per facility has lowered, and the Network has been able to graduate out up to 68% of the participating facilities, continually lowering the number of facilities needing intervention.

Targeted Facilities
The Network worked with 20% of facilities in its service area that reported the highest BSI rates in NHSN. Based on our comprehensive analysis of this data, the Network selected 127 facilities that reported infection rates ranging from 5 to 5.59 infections per 100 patient months and with between one and 10 BSIs in the first and second quarters of 2018.

Goals and Outcomes
The goal of this QIA was to increase awareness and reporting of BSIs in 20% of the NHSN reporting facilities with the highest reported infection rate per the NHSN Excess Infection Report, while decreasing rates of dialysis events, specifically BSIs. Baseline metrics were taken from NHSN BSI data for the first and second quarters of 2018. The six-month intervention period was from January 2019–June 2019. The objective was to achieve a 20% relative reduction in the pooled mean BSI rate in the targeted facilities (calculated by number of infections divided by 100 patient months in the target facilities) by re-measurement in June 2019.

The Network's interventions were successful in decreasing the pooled mean BSI rate from 1.214% at baseline to 0.639% at re-measurement, yielding a 47.35% relative reduction in BSIs.

Interventions
Prior to designing QIA interventions, the Network worked with targeted facilities to complete an RCA examination for each infection identified during the baseline period of January 2018–June 2018 The information gained through these analyses determined the focus of interventions based on cause categories and guided the selection of appropriate CDC Core Interventions. The Network collected best practices, barriers, and information related to intervention implementation on a bi-monthly basis via Redcap survey, a HIPAA compliant electronic data platform. Additionally, the Network collected patient participation and feedback on all interventions shared across the Network service area. This feedback was utilized to develop and fine-tune resources and educational activities.
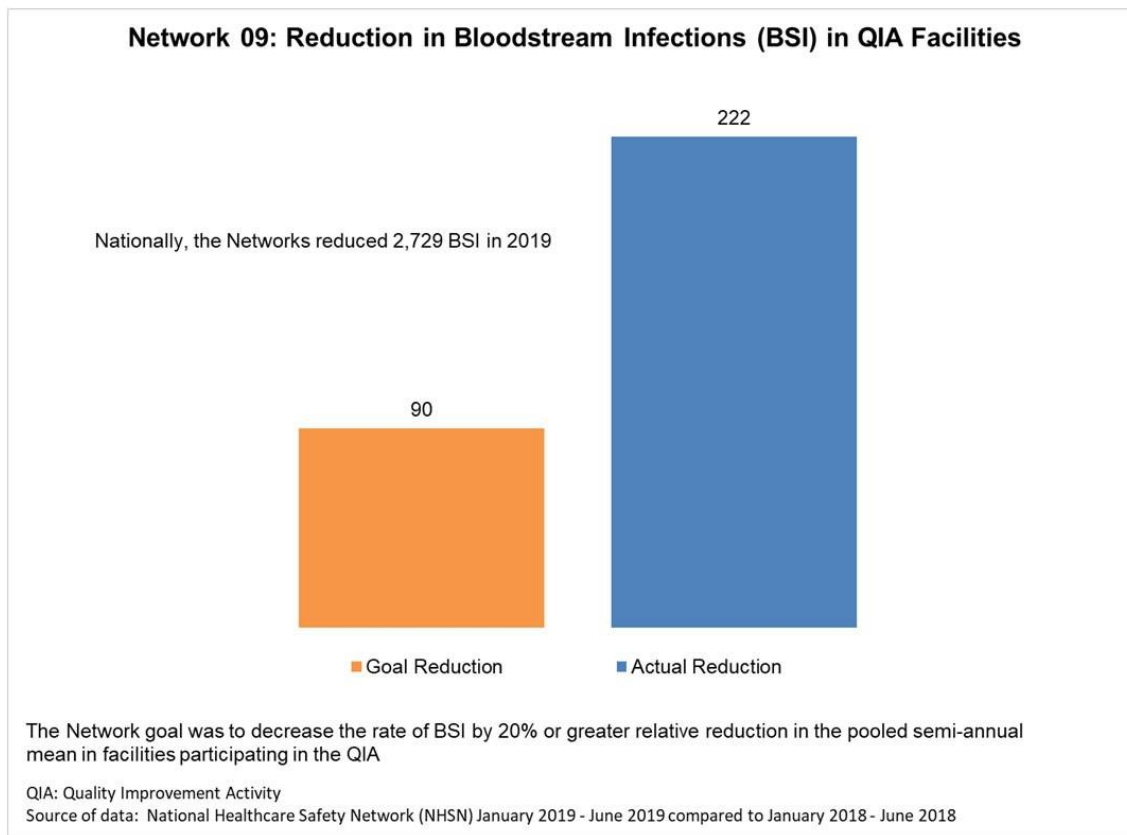
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The interventions focused on:

- Promoting the exchange of knowledge, use of CDC educational resources, and spreading of best practices through the HAI Learning and Action Network (LAN);
- Site visits with five facilities that had been participating in the LTC and BSI QIAs for the previous three years to create sustainable improvement processes. (All five facilities met their goals at project completion);
- Identifying and capitalizing on opportunities to promote facility-specific BSI education; and
- Working with each facility to establish and engage lead facility contacts and PFRs to:
    - Gain buy in with leadership,
    - Create auditing tools and educational programming to promote patient involvement, and
    - Provide a template for evaluation of BSIs at the facility level to assist in the implementation of CDC tools and resources.

Best Practices Spread to Achieve Goals

- Virtual and onsite visits with low performing facilities to design and deploy clinic-specific interventions;
- Use of PFRs to educate on the topics of infection and sepsis, and to conduct CDC Core Intervention audits;
- Promotion of a regional collaboration with corporate leadership teams in 28 facilities participating in both the LTC reduction and HAI BSI QIAs, with a goal to coordinate their efforts with QAPI teams and LDO leadership;
- Sharing of best practices using a WebEx platform;
- Development of patient hand hygiene audits to promote enhanced compliance with patient hand washing within the dialysis facility;
- Development of a patient facing surface disinfection audit tool to support patient surveillance of surface disinfection processes;
- Encouraging patient reporting of observations from audits in facility quality improvement meetings.

Noted Barriers in Achieving Goals

- Facility staff lacked knowledge related to reporting in NHSN;
- Multiple changes in facility leadership hindered progress to achieving goals;
- Aggregated infection rates were skewed by including non-dialysis related BSIs;
- Two of the CDC Core interventions are not utilized in a majority of dialysis facilities due to financial and process constraints;
- Lack of understanding related to dialysis event reporting within hospitals and dialysis facilities.
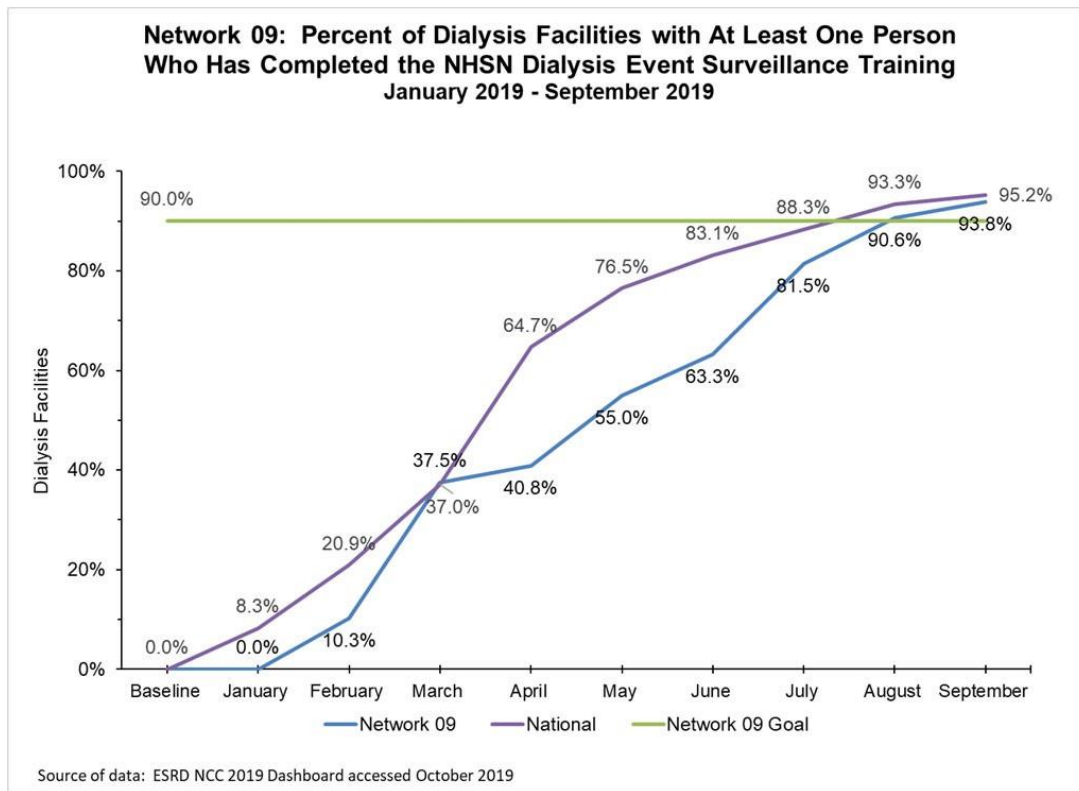
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Network 09: Reduction in Bloodstream Infections (BSI) in QIA Facilities

Nationally, the Networks reduced 2,729 BSI in 2019

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90

■ Goal Reduction   ■ Actual Reduction

The Network goal was to decrease the rate of BSI by 20% or greater relative reduction in the pooled semi-annual mean in facilities participating in the QIA

QIA: Quality Improvement Activity
Source of data: National Healthcare Safety Network (NHSN) January 2019 - June 2019 compared to January 2018 - June 2018

Additional Quality Improvement Activities to Reduce Bloodstream Infection Rates
Lowering blood stream infections takes a coordinated approach that requires the direct actions of the facilities with high BSI rates as well as ongoing education of the ESRD provider community and good communication processes in transitions of care. In order to support those two processes CMS requested that ESRD Networks conduct two other activities within the BSI QIA as described below.
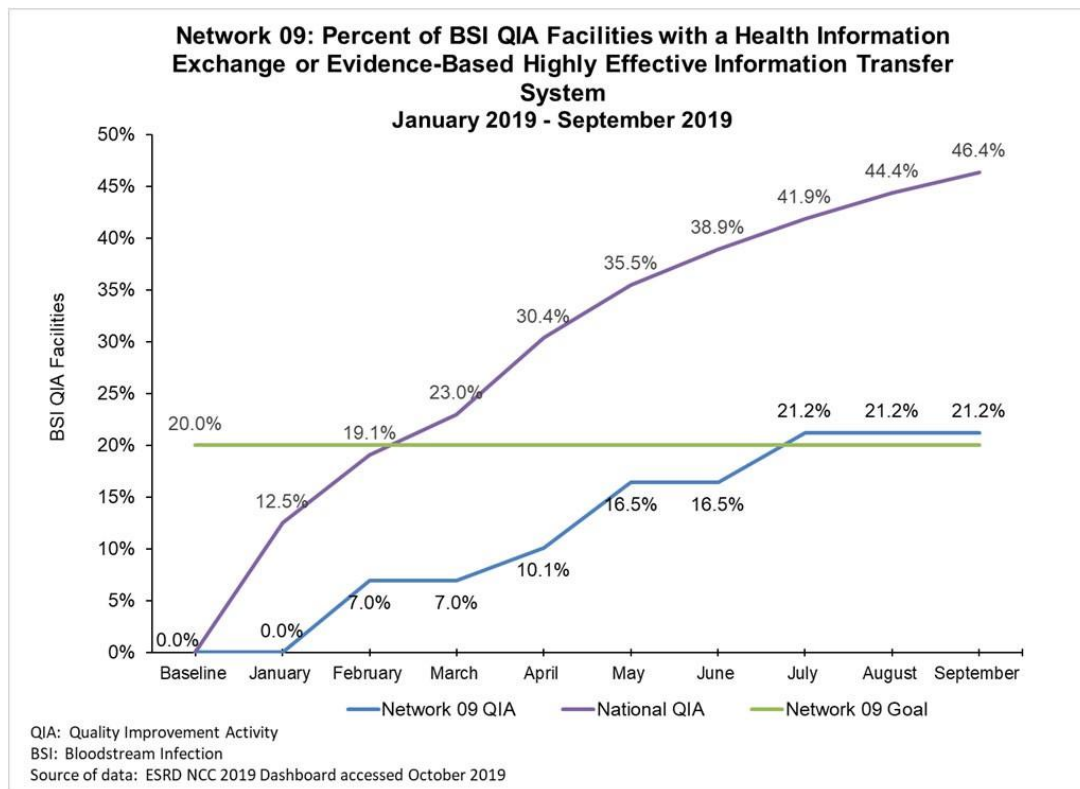
Documenting Facility Annual Completion of NHSN Dialysis Events Surveillance Training
The National Health Surveillance Network (NHSN) is the CDC infection reporting database. Appropriate data entry to capture infection related data is mandatory to effectively managing a reduction in BSIs. Not all facilities in the Network are required to participate in NHSN; those excluded are facilities that have been in operation less than six months, home-only, pediatric, and Veterans Affairs dialysis centers. Each participating facility is required to complete Annual Dialysis Event Surveillance training to ensure accurate documentation and reporting of infection events. The Network was requested by CMS to obtain documentation to ensure a training completion rate of 90% of all eligible facilities. The Network surpassed this goal with a final completion rate reported in September of 2019 of 92.82%.

Network 09: Percent of Dialysis Facilities with At Least One Person Who Has Completed the NHSN Dialysis Event Surveillance Training
January 2019 - September 2019

Source of data: ESRD NCC 2019 Dashboard accessed October 2019

Increasing Enrollment in a Health Information Exchange (HIE)

Effective communication between chronic and acute facilities during transitions of care is critical to track the origin of a blood infection. At CMS' request, the Network worked with facilities that had the highest BSI rates, and that were not already enrolled in an HIE, to increase participation in an effective electronic information transfer system. Facility participation promotes increased communication between care partners related to BSI information and improves continuity of care. CMS tasked the Network to enroll 20% (or 127) of the NHSN eligible facilities in an HIE. The Network was successful in enrolling 21.9% (or 133) of the targeted facilities.

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Network 09: Percent of BSI QIA Facilities with a Health Information Exchange or Evidence-Based Highly Effective Information Transfer System
January 2019 - September 2019

QIA: Quality Improvement Activity
BSI: Bloodstream Infection
Source of data: ESRD NCC 2019 Dashboard accessed October 2019

Transplant Waitlist Quality Improvement Activity: Improve Transplant Coordination

Background

The Executive Order signed on July 10, 2019, titled Advancing American Kidney Health Initiative challenges the ESRD community to increase access to transplant through improved coordination between transplant centers and ESRD facilities as well as through increased access to organ offers and use of living donation. The order seeks to double the amount of kidneys available for transplant by 2025 and to ensure that 80% of all new dialysis patients are either placed on a home modality or receive a transplant, rather than receive in-center hemodialysis. The IPRO ESRD Network of the Ohio River Valley was already focused on creating a culture in the community that embraced the bold goals of the Executive Order to further our work.

According to the 2017 United States Renal Data System (USRDS), kidney transplantation rates increased while the number of patients being waitlisted for a kidney transplant continued to decline across the country. The 2008 CMS Conditions for Coverage for ESRD Facilities require dialysis providers to educate their patients about treatment modalities, including transplant. Despite this requirement, many facilities in the Network continue to operate with a lower than expected number of patients on a transplant waitlist.

A patient's eligibility for transplant varies depending on the transplant center, the patient's health status, the physician's perception of the patient's eligibility for transplant, and the patient's financial status. The evaluation process for transplant is further hindered by numerous barriers and process changes that require improved communication between the dialysis facilities, transplant centers, and patients.

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The goal of this quality improvement activity was to increase the aggregate number of waitlisted patients by two percentage points in 30% (190) of the Network's facilities that demonstrated the lowest number of patients added to the transplant wait list.

Targeted Facilities

The Network's evaluation of transplant waitlist data in the United Organ Sharing Databases revealed that, of the 33,703 patients in its service area, only 4,184 (12.4% of the patient population) were on the transplant waitlist. The Network identified 190 facilities for inclusion in the project with a total combined census of 10,450 patients. Selection was based on potential for improvement, patient impact, and proximity to strong transplant programs to promote growth and change.

Goals and Outcomes

The goal was to support the addition of 323 patients within the QIA's 190 targeted facilities to the transplant waitlist. The participating facilities achieved 60% of the goal, with 220 patients added to the transplant waitlist, falling short of the CMS target of a two percentage point increase over the previous five year natural trend.
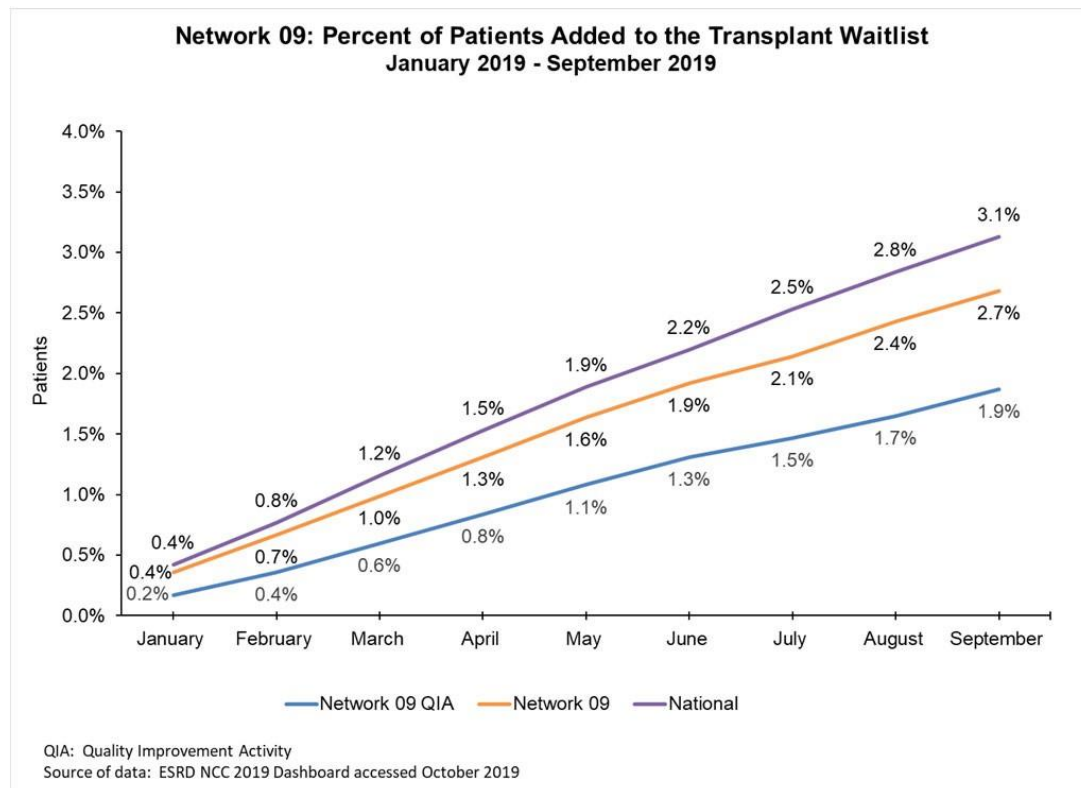
Interventions and Tools

Network 9's prior work with transplant coordination consistently identified the issue of communication and education barriers between the ESRD Facilities, patients and Transplant Centers. To overcome this barrier, the Network initiated a Transplant Coalition. The Coalition was formed to bring all stakeholders in the transplant process together to work collaboratively through barriers and share best practices. The group was convened in February of 2019 and initiated work immediately, offering shared best practice calls on a quarterly basis and having in- person educational sessions to develop the working agenda for future collaborative work. The Network also implemented a number of interventions and tools to engage ESRD facility staff. This included initiating a small test of change (STOC) intervention model whereby we identified a low performing geographic region and conducted on site as well as virtual visits that involved facility staff, medical directors**,** LDO regional operations managers and transplant outreach coordinators. During those meetings an RCA was performed to identify and address barriers and create unit-specific interventions to reduce transplant waitlist rates and create sustainable changes in practices in areas characterized by low wait listing. Additional facility staff focused interventions included:

- Educating staff through site visits, brochures, and other informational materials;
- Use of the *Transplant Center Specific Selection Criteria* grid;
- Utilizing goal and participation progress reporting to drive improvement and engage facilities;
- Offering best practice education through the Transplant Coalition;
- Development of an algorithm for ESRD facilities to use to assess previously denied patients for reconsideration;
- Use of patient testimonials to promote living donation and paired kidney exchange;
- Collaboration with organ procurement organizations to promote living donation;
- Establishing PFRs in each target facility;
- Created and released the *Transplant Center Wait List* report for dialysis facilities and transplant centers to improve bi-directional communication and vet data by both parties

- Establishment of Ohio River Valley Transplant Coalition which:
  - Collaborates to understand mechanisms and practices around challenging issues faced by transplant centers, ESRD facilities, and patients;
  - Supports sharing of processes and practices across the region for centers and institutions to gain a better understanding of their own practices based upon the practices of other institutions;
  - Identifies specific interventions that can be developed to overcome barriers;
  - Collaborates with other coalitions to create a nationwide framework focused on improving transplantation rates in ESRD; and
  - Develops best practices to spread throughout the region.

The Network also deployed patient-facing interventions and tools, including:

- Educating patients through site visits, brochures, patient testimonials, and educational materials;
- Soliciting advisory committee input and feedback;
- Providing transplant education tools from known sources;
- Use of PFRs in each target facility to educate patients on transplant wait-listing; and
- Input of patient SMEs in the development of patient education toolkit materials.

Network 09: Percent of Patients Added to the Transplant Waitlist
January 2019 - September 2019

QIA: Quality Improvement Activity
Source of data: ESRD NCC 2019 Dashboard accessed October 2019

Best Practices Spread to Achieve Goals
- Improved communication between transplant centers and dialysis facilities in selected geographic regions, utilizing a small test of change model;
- Use of decision-making algorithm to identify eligible patients as well as to reassess previously denied patients for transplant referral;
- Use of patient testimonials and PFRs within the facility to promote transplant and discuss living donation and paired kidney exchange;

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- Shared best practices through educational events offered by the Transplant Coalition
- Continued focus on use of data about absolute and relative criteria to match patients for transplant evaluation with applicable transplant centers in our area;
- Educating dialysis facility staff to assist patients in identifying a living donor; and
- Increasing self-referrals by disseminating transplant contact information.

Noted Barriers in Achieving Goals
- Lack of consistency in wait listing guidelines;
- Lack of communication between transplant centers and dialysis facilities on the transplant workup process;
- Varying levels of patient assistance thought the transplant workup process;
- Transplant center benchmark of one-year kidney graft survival leads to risk aversion in transplant centers regarding wait listing of less desirable candidates;
- Lack of accessible and affordable dental care;
- Lack of a required support person for each transplant candidate;
- Difficulty scheduling transplant workup appointments around other medical and dialysis appointments; and
- Lack of education and promotion of transplant prior to initiation of dialysis.

Home Therapy Quality Improvement Activity

Background

Home hemodialysis and peritoneal dialysis are alternate forms of renal replacement therapy available to patients with ESRD. There is a growing body of evidence supporting the benefits of home dialysis including improved clinical outcomes, higher quality of life, decreased mortality and morbidity, and improved transplantation rates, which in turn lowers healthcare costs (Meceier-Kriesche, Ojo, Port, Arndorfer, Cibrik, D. M., & Kaplan, 2010; Wolfe, et al., 1999).

The Executive Order signed on July 10, 2019, titled Advancing American Kidney Health Initiative (AAKHI), recognizes these benefits and challenges ESRD professionals to promote home modalities, either peritoneal (PD) or home hemodialysis (HHD), as the preferred treatment option until the patient receives a transplant. The ultimate goal is for 30% of the prevalent ESRD population to receive home dialysis in the year 2025; and for 80% of patients new to ESRD renal replacement to receive a transplant or start on a home therapy.

In 2019, CMS directed ESRD Networks to focus one of their main QIA efforts on improving the number of patients who initiated a home therapy. The goal of the QIA was to increase the target facilities' aggregate number of patients who initiated home modalities by a two percent relative improvement above the previous five year natural trend (October 2013- 2018) or initiate 1,146 additional patient on home therapies

Targeted Facilities
The Network identified 190 facilities for inclusion in the project with a total combined census of 10,450 patients. Selection was based on the facilities' potential for improvement, patient impact, and

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proximity to strong home training facilities.

Goals and Outcomes

The Network's target facilities were successful in converting 1,243 ESRD patients, or 108% of the CMS goal, to home therapies. The Network 9 program demonstrated the largest number of home initiations in the nation, exceeding other top performing Networks by greater than 500 patient initiations.

Interventions and Tools

The Network's primary intervention was to align goals for growth in home dialysis with the participating facilities and to support shared goal achievement targets. Structured interventions were introduced to ensure that providers understood the importance of home therapy and patient selection in initiating home therapies. Regionally focus groups were created to address area-specific obstacles and provide individualized solutions with the goal of creating interventions leading to sustained changes in area home initiation rates. The Network identified a low performing geographic region and conducted on site as well as virtual site visits which involved facility staff, medical directors, and LDO regional operations managers. Working together, Network staff performed RCA to identify and remove barriers and created facility-specific interventions to increase the use of home therapies.

Additional facility staff facing interventions and tools included:
- Use of goal setting and performance progress reporting to benchmark and discuss outcomes;
- Sending facilities a letter to celebrate success as intermediate and long term goals were reached;
- Providing staff education through virtual site visits and distribution of brochures and other informative materials;
- Providing education on appropriate home candidate selection;
- Establishing PFRs who were activated in each target facility to help support education and communication on home modalities;
- Providing patient SME testimonials;
- Establishing home champions to lead processes in the QIA; and
- Providing education on accurate home initiation documentation in CROWNWeb.

Patient-facing interventions and tools included:
- Patient education through the distribution of brochures, patient testimonials, and educational materials;
- Soliciting Advisory Committee members for input and suggestions;
- Using PFRs to share information and connect patients in a facility with Home Modality program leads;
- Use of national resources aimed at removing myths and providing facts about home therapies.as well as to offer education on modality choice; and
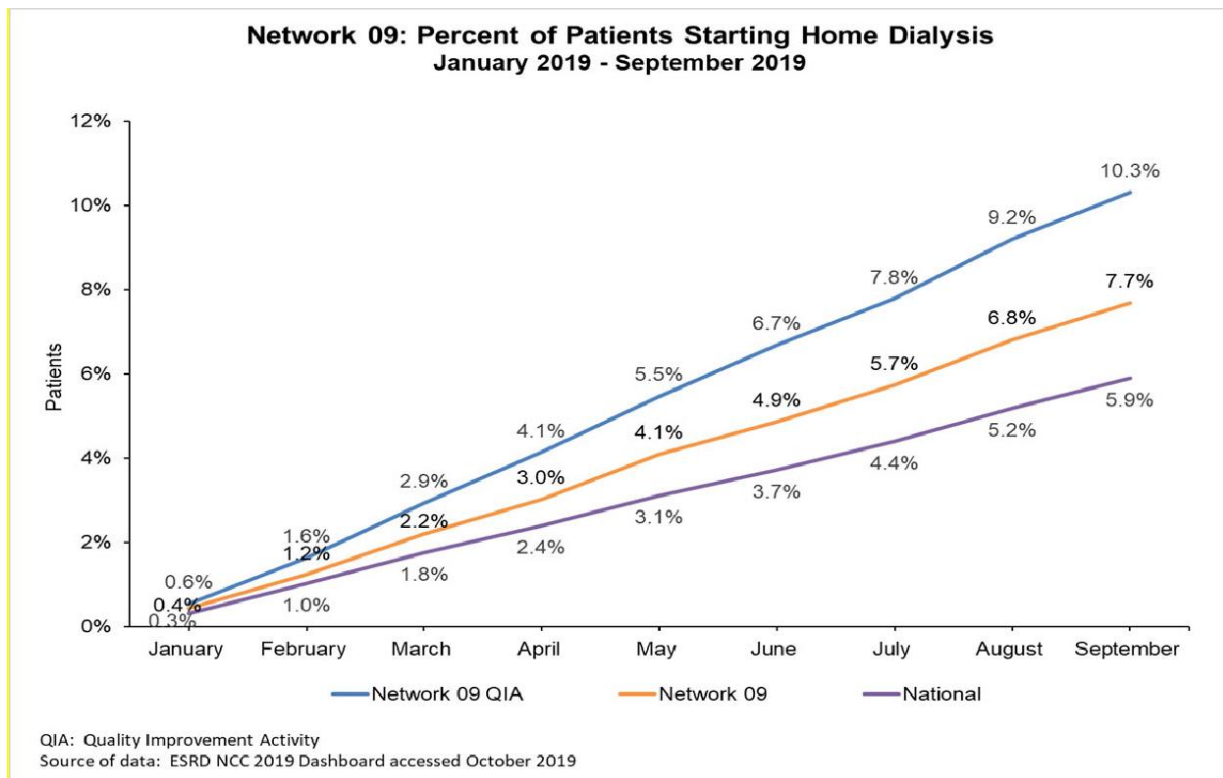- Growing patient support groups to discuss modality options and choices.

Best Practices Spread to Achieve Goals
- Incident patient education on home modalities through CKD programming;

- Promotion of the use of home champions;
- Promotion of transitional care models;
- Physician education on home modality candidate selection and dialysis prescription;
- Development of professional education for chairside staff;
- Positive reinforcement and encouragement of high performing facilities;
- Goal alignment in work with dialysis organization's and regional leadership to achieve outcomes; and
- Working within regional areas to support systems that have a strong home initiation infrastructure.

Noted Barriers in Achieving Goals
- Lack of infrastructure to support home program growth;
- Lack of physician buy in;
- Limited understanding and promotion of home therapies by in-center hemodialysis staff;
- Failure to reach patients about modality choice at the point patient is ready to receive this information;
- Lack of back up for home modality when situations like respite care is needed or the ability to convert to an alternate home modality when the first modality begins to fail.

Network 09: Percent of Patients Starting Home Dialysis
January 2019 - September 2019

QIA: Quality Improvement Activity
Source of data: ESRD NCC 2019 Dashboard accessed October 2019

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Population Health Focus Pilot (PHFP) Project Quality Improvement Activity

Background

The Life Options Rehabilitation Program published a *Renal Rehabilitation Report -- Dialysis and Employment: Examining Issues*, *Exploring Ideas,* in which it was recognized that not every dialysis patient may be able to work. They state, however, that healthcare professionals should continue efforts to identify those with a desire and potential for employment. The publication also notes that patients who remain engaged in life minimize debilitation, depression, and detachment from society. Creating processes that refocus patients about the ability to obtain employment could lead to kidney patients experiencing an improved perception of their overall quality of life, ultimately leading to higher rates of employment within this group.

The QIA Support Gainful Employment of ESRD Patients is designed to ultimately increase overall referrals to employment networks and vocational rehabilitation (VR) services and increase the number of patients utilizing those services, while reducing an identified disparity in the referral process. The Network's first step was to identify barriers associated with low VR referrals. Participating facilities were requested to conduct an RCA using the Vocational Rehabilitation RCA Algorithm created by the Network and the Five Whys Analysis, followed with a plan do study act (PDSA) to test processes put in place to overcome those barriers.

The Network encouraged participating facilities to engage and educate patients on the benefits of working with a vocational rehabilitation/employment network agency (VR/EN). Through the RCA and PDSA model, facilities identified the barriers keeping patients from pursuing vocational rehabilitation.

Targeted Facilities

Sixty-four facilities (10% of the Network population) were selected to participate in this project. The ESRD NCC supplied the baseline data to the Network. Review of the data between October 2017 and June 2018 determined facility selection. Targeted facilities were those with a census of twenty or greater patients between the ages of 18 to 55 that demonstrated a low percentage of patients currently receiving VR services.

Goals and Outcomes

The primary goal of the project was to increase the referral rates to VR/EN agencies by ten percentage points or more in the 64 targeted facilities, and to achieve a five percentage point increase in the number of patients receiving VR/EN services in those facilities. Network interventions led to the following outcomes, which exceeded CMS' targets:

- Referrals increased from 0.0% to 29.4%.
- Patients who received VR/EN services in the targeted facilities increased from 0.0% to 6.72%.
- 100% of eligible patients were screened for services.

Interventions and Tools

To overcome barriers discovered by RCA and facilitate progress toward the patient elicited VR goals, the Network implemented the project interventions listed below:

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- Provision of contact information for VR and EN services specific to the state and county for the selected facilities within the project;
- Distribution of educational materials about vocational rehabilitation/employment networks to facilities;
- Provision of education on the work incentives and benefits patients can earn if participating in VR/EN services highlighting the Red Book Guide provided by social services;
- Promotion of the increased transplant benefits offered to patients who seek vocational rehabilitation as an important factor in supporting this form of rehab leading to transplant;
- Provision of education to facilities outlining a clear definition of the referral process with the VR/EN agencies;
- Discussion of the CROWNWeb guidelines for documentation of patients receiving VR/EN services, and work with CROWNWeb leads at the facility level to improve timely data entry;
- Support from the ESRD NCC PHFP LAN in sharing national information and best practices;
- Employing a patient representative approach to build facility awareness and initiate conversations (peer-to-peer) or small group setting about vocational rehabilitation; and
- Serving as a liaison between the ESRD facilities and Employment Networks or Vocational Rehabilitation organizations to maximize patient education and facilitate on site visits.

Best Practices Spread to Achieve Goals
- Having patient representatives share success stories about the VR process;
- Working with patient representatives and target facilities to identify and implement solutions to barriers identified during the RCA using the PDSA cycle to test and determine effectiveness;
- Facilitating access to VR resources at the state and national levels;
- Implementing a monthly reporting tool to track progress with referrals and utilization rates
- Assisting facilities as needed with implementing a streamlined process for reporting in CROWNWeb; and
- Curating a sustainable VR toolkit for facilities to utilize when assessing eligible patients.

**Noted Barriers in Achieving Goals**
- Gaining and sustaining patient interest in VR services;
- Overcoming the patient's fear of loss of benefits; and
- Encouragement of facilities to upkeep CROWNWeb data for patient VR status.

Network 09: Percent of Eligible Patients Referred to an Employment Network or a Vocational Rehabilitation Agency
February 2019 - September 2019
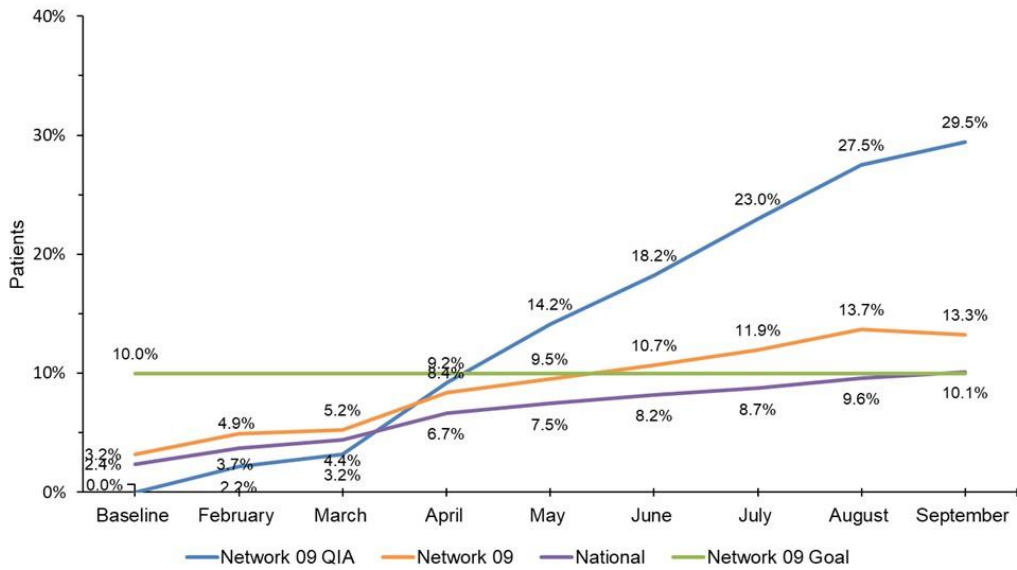
QIA: Quality Improvement Activity
Source of data: ESRD NCC 2019 Dashboard accessed October 2019

Network 09: Percent of Referred Patients Receiving Services from an Employment Network or Vocational Rehabilitation Agency
February 2019 - September 2019
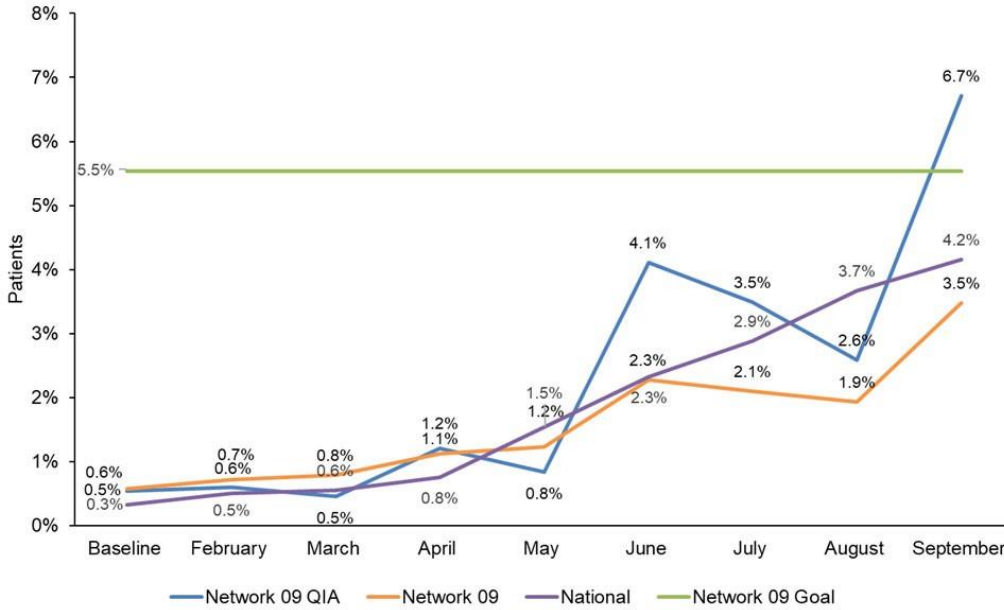
QIA: Quality Improvement Activity
Source of data: ESRD NCC 2019 Dashboard accessed October 2019

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ESRD NETWORK RECOMMENDATIONS

The IPRO ESRD Network of the Ohio River Valley did not have any services or facilities that they recommended for sanctions in 2018.

ESRD NETWORK SIGNIFICANT EMERGENCY PREPAREDNESS INTERVENTION

For individuals who have been diagnosed with ESRD, missed dialysis treatments can have serious adverse health effects. This makes the ESRD patient population especially vulnerable during emergencies and disasters. The Network relies on longstanding partnerships with state and city health departments, offices of emergency management, and emergency preparedness coalitions to ensure safety and continuity of care for ESRD patients throughout the Network 9 service area.

In 2019, Network 9 reported three significant emergency incidents within the region. The reports involved severe winter storms and a tornado. A total of ten facilities reported altered schedules. Seven of the facilities had to temporarily close due to damage. No facilities were affected permanently, and all patients were accounted for throughout the events. Facilities communicated with the Network on a daily basis either via phone or reporting their status electronically. Additional follow up was provided to facilities as needed.

ACRONYM LIST APPENDIX

This appendix contains an acronym list created by the KPAC (Kidney Patient Advisory Council) of the National Forum of ESRD Networks. We are grateful to the KPAC for creating this list of acronyms to assist patients and stakeholders in the readability of this annual report. We appreciate the collaboration of the National Forum of ESRD Networks especially the KPAC.