

Decoding Dialysis: Improving Care Across the Continuum for Patients with Kidney Disease

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Midwest Kidney Network

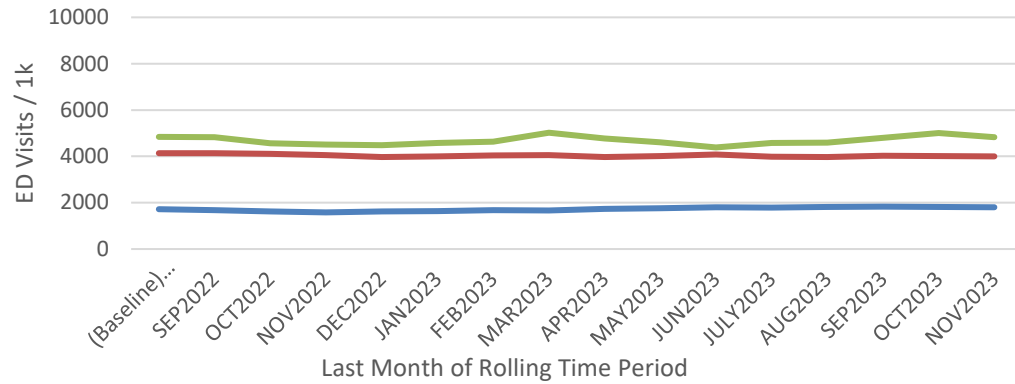


ED Visits per 1,000 Beneficiary-Years among Super-Utilizers

LOWER IS BETTER

Enrollment Reason

- Old age and survivor's insurance (OASI)
- End-stage renal disease (ESRD)
- Disability insurance benefits (DIB)

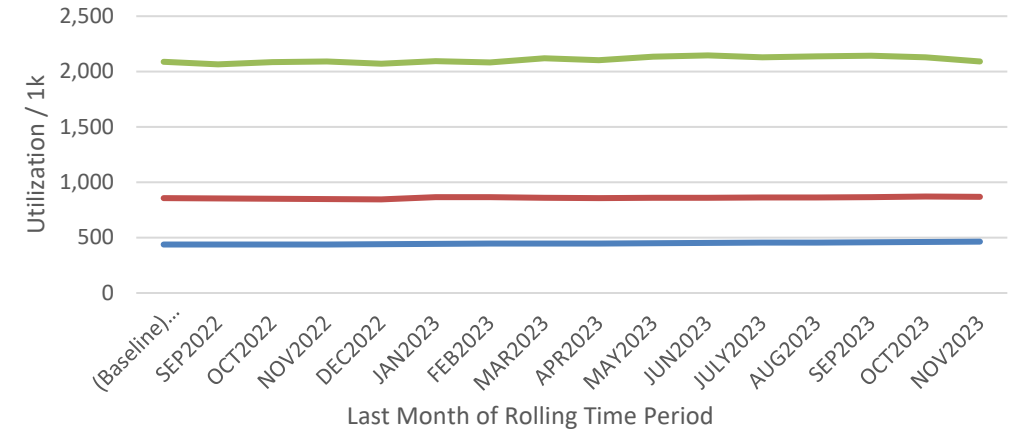


Hospital Utilization per 1,000 Beneficiary-Years

LOWER IS BETTER

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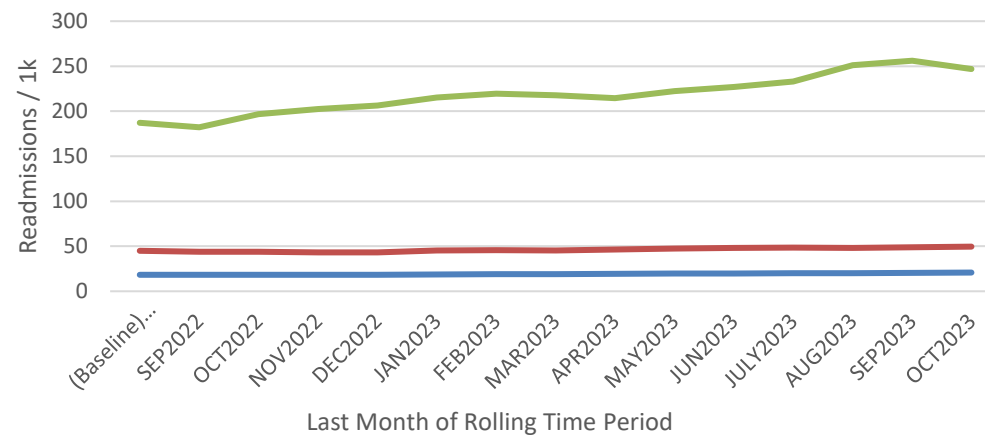


30-Day Readmissions per 1,000 Beneficiary-Years

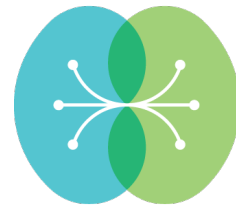
LOWER IS BETTER

Enrollment Reason

- Old age and survivor's insurance (OASI)
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- Disability insurance benefits (DIB)



We can do better!



**Midwest
Kidney Network**

Partnering to improve kidney care

Objectives

1. Describe the health care challenges experienced by dialysis patients
2. Describe the role of the ESRD Network in quality improvement for dialysis facilities
3. Identify opportunities for enhancing care coordination for dialysis patients

First, a poll ...



The Complexities of Kidney Failure

Dialysis Treatment Plan

Medication Regimen

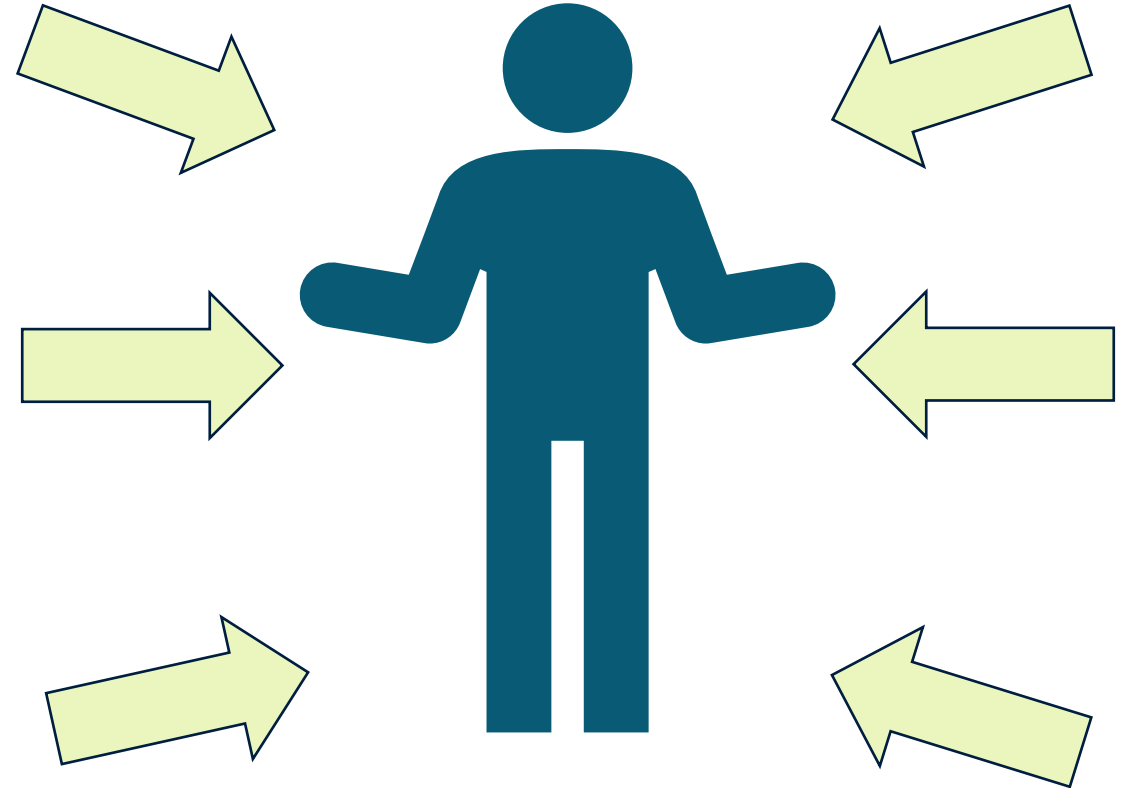
Vascular Access

Fluid and Electrolyte Imbalances

Comorbidities

Social Drivers of Health

Health Literacy



Dialysis Treatment Plan

- Appointment burden and transportation complexities
- For hemodialysis, often three times per week for 3-4 hours
 - Coordination of appointments
- Communication pathway across the care continuum
- In-center versus home therapy

Medications ... and then some



- Phosphate binders
 - PhosLo (calcium acetate), Renvela (sevelamer carbonate), Auryxia, Velphoro, Tums
 - TAKE WITH THE MEAL
 - Can change frequently in dosage and type
- Potassium binders
 - Veltassa (patiromir), Lokelma
 - Newer, may be used in some dialysis patients with higher potassium; more frequently used in CKD
 - Interactions?

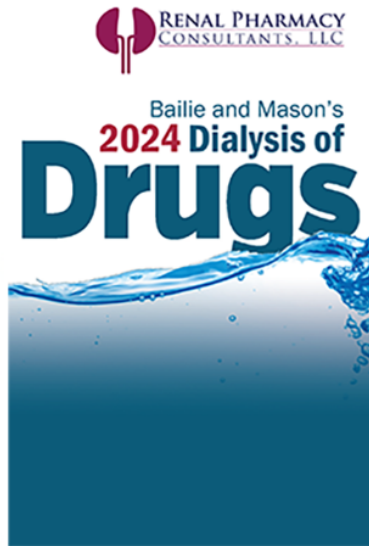
Medications ... and then some



- **Epo and Iron**
 - Given at dialysis for anemia management
 - Dosing changes frequently dependent on labs
 - Opportunity for care coordination – when to communicate blood loss
- **Active Vitamin D**
 - Given at dialysis for renal bone disease
 - Dosing changes frequently dependent on labs

Medications ... and then some ... and when to take them all?

- Variability in dialysis of drugs
- Pharmacy consult – particularly with starting new medications, antibiotic dosing



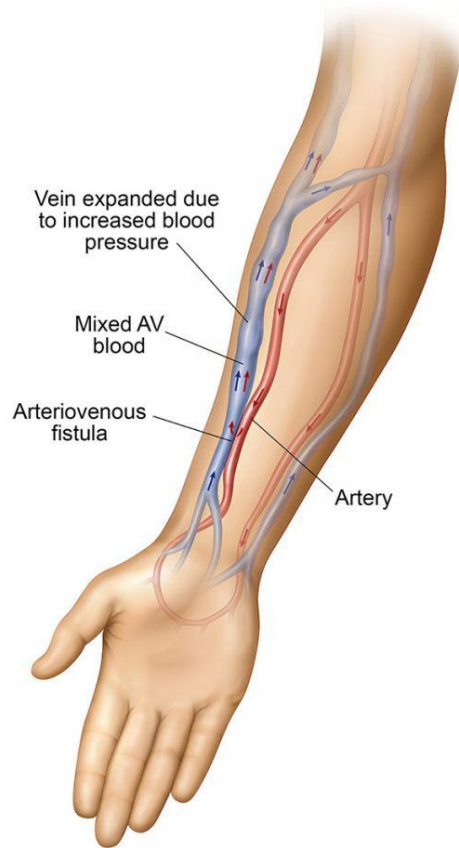
Dialysis of Drugs provides concise, easy-to-use information on the dialyzability of drugs in patients receiving hemodialysis and peritoneal dialysis. Written by experts and literature-based, Dialysis of Drugs 2024 has up-to-date information on nearly 2,100 medications. It has been adopted by health care institutions in addition to thousands of individual clinicians. It uses a simple tabular format and is available as a mobile app, a pocket-sized booklet, a wall chart and as a downloadable PDF for institutional use.



Vascular Access – The Patient Lifeline

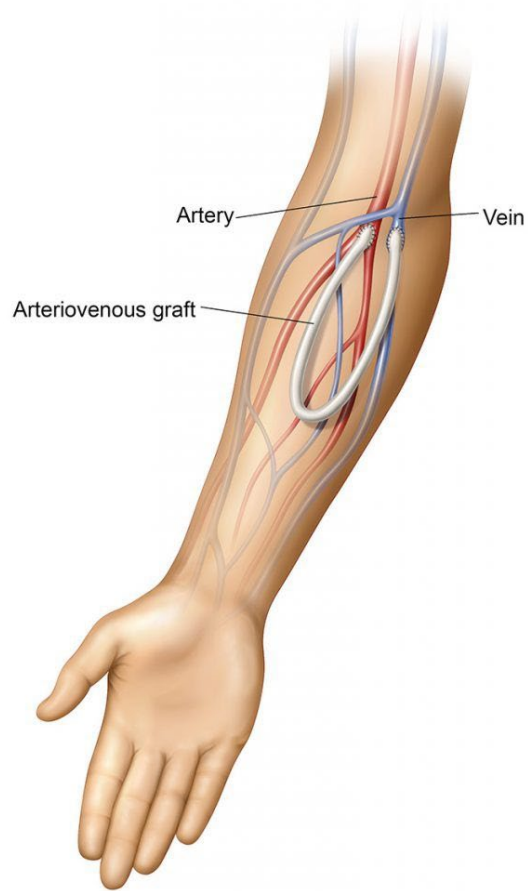
- AV Fistula
 - AV Graft
 - Central Venous Catheter
 - Peritoneal Dialysis Catheter
-
- Know which one, overall plan, and keep the access safe!

AV Fistula



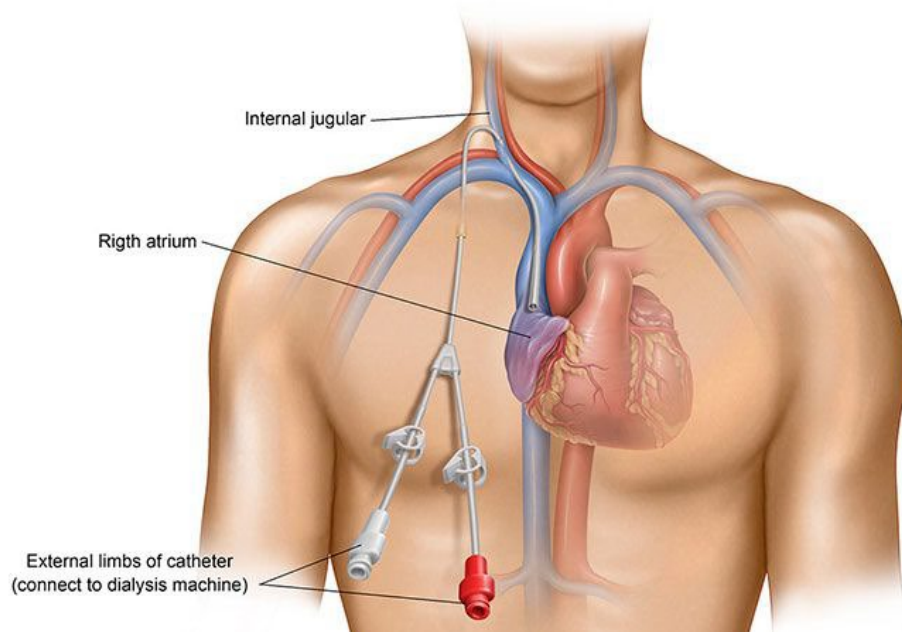
- Beneath the skin, native vessels
- Long lasting
- Greatest blood flow = better treatment
- Fewest infections, fewest hospitalizations
- Higher survival rate
- May not mature/develop
- Maintenance
- Not always possible
- Time to maturation

AV Graft

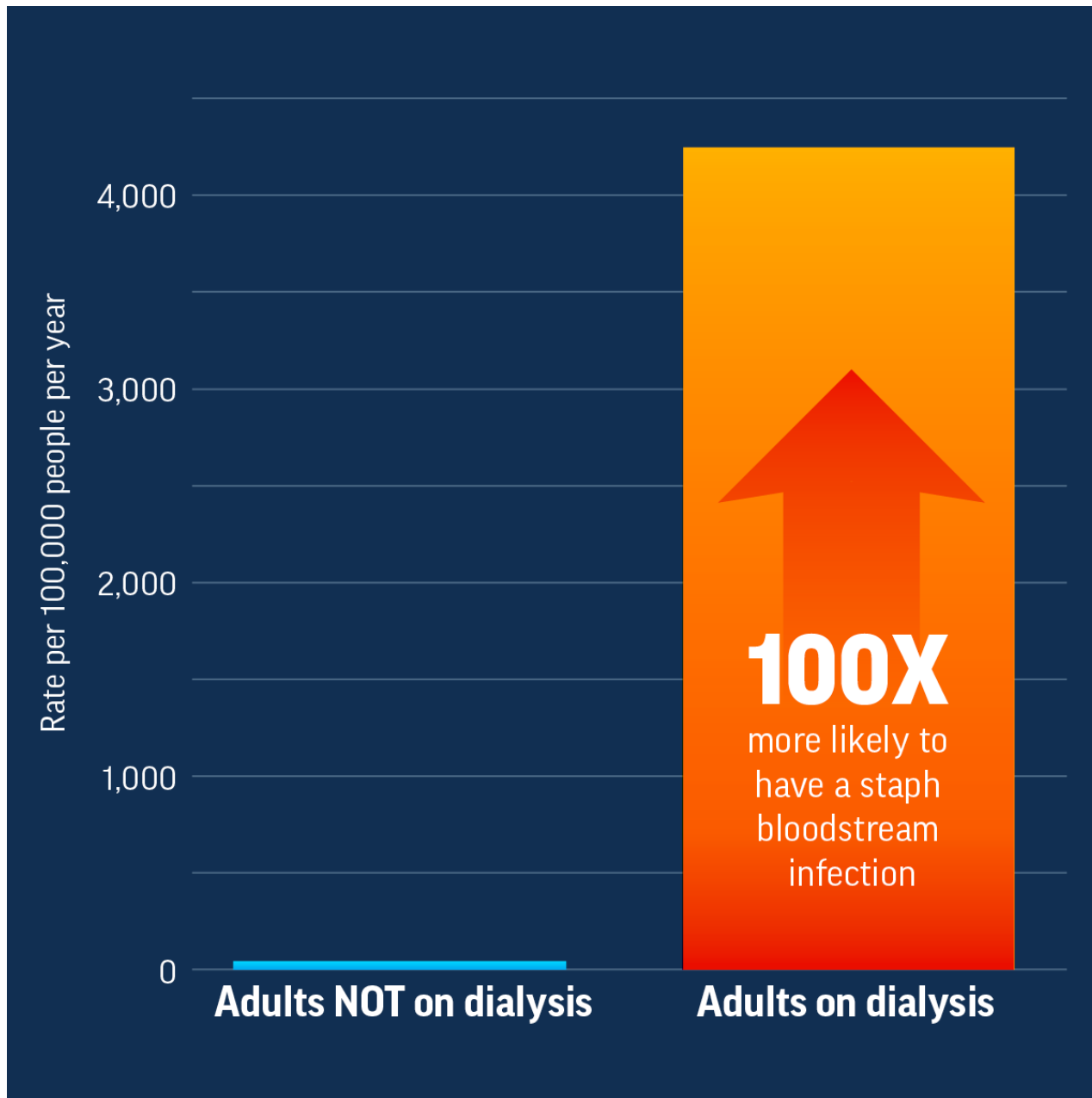


- Beneath the skin
- May work in patients with poor veins
- May be used in 2 weeks
- Higher risk of hospitalizations, infections, complications like clotting
- Not as long lasting as fistula

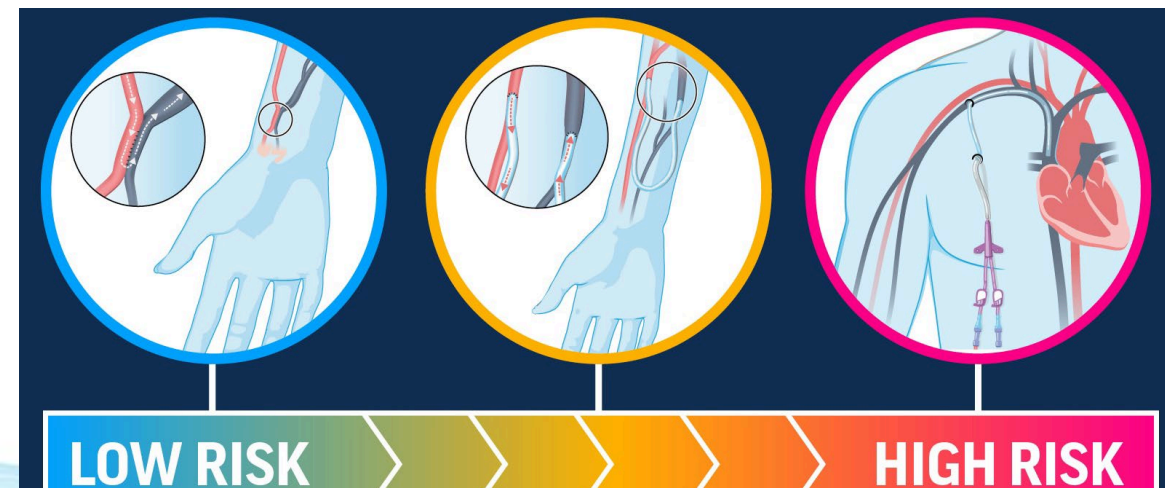
Central Venous Catheter



- Can be used immediately
- Highest infection risk and hospitalization risk
- Temporary
- May require longer treatment times
- No showers
- High rate of clotting
- Central stenosis



- In 2020: 14,000 BSI in dialysis patients
- More than 1/3 were Staph infections
- The risk is heavily influenced by the type of vascular access
- Literature shows approximately 70% of these infections occur in patients with central venous catheters



Trends in Vascular Access

Figure 4.1 Vascular access use at HD initiation, 2011-2021

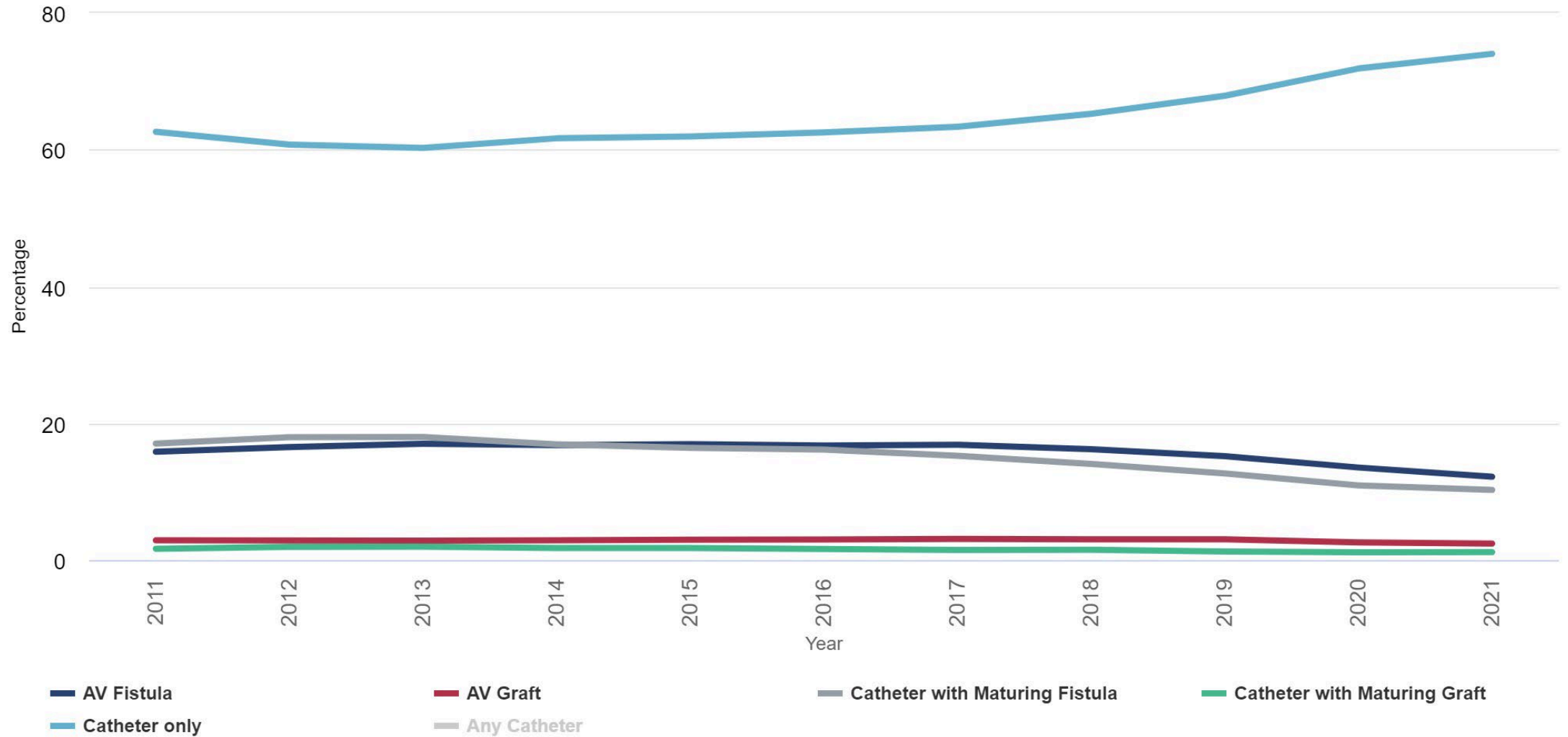


Figure 4.5 Vascular access use among prevalent HD patients, 2012-2021

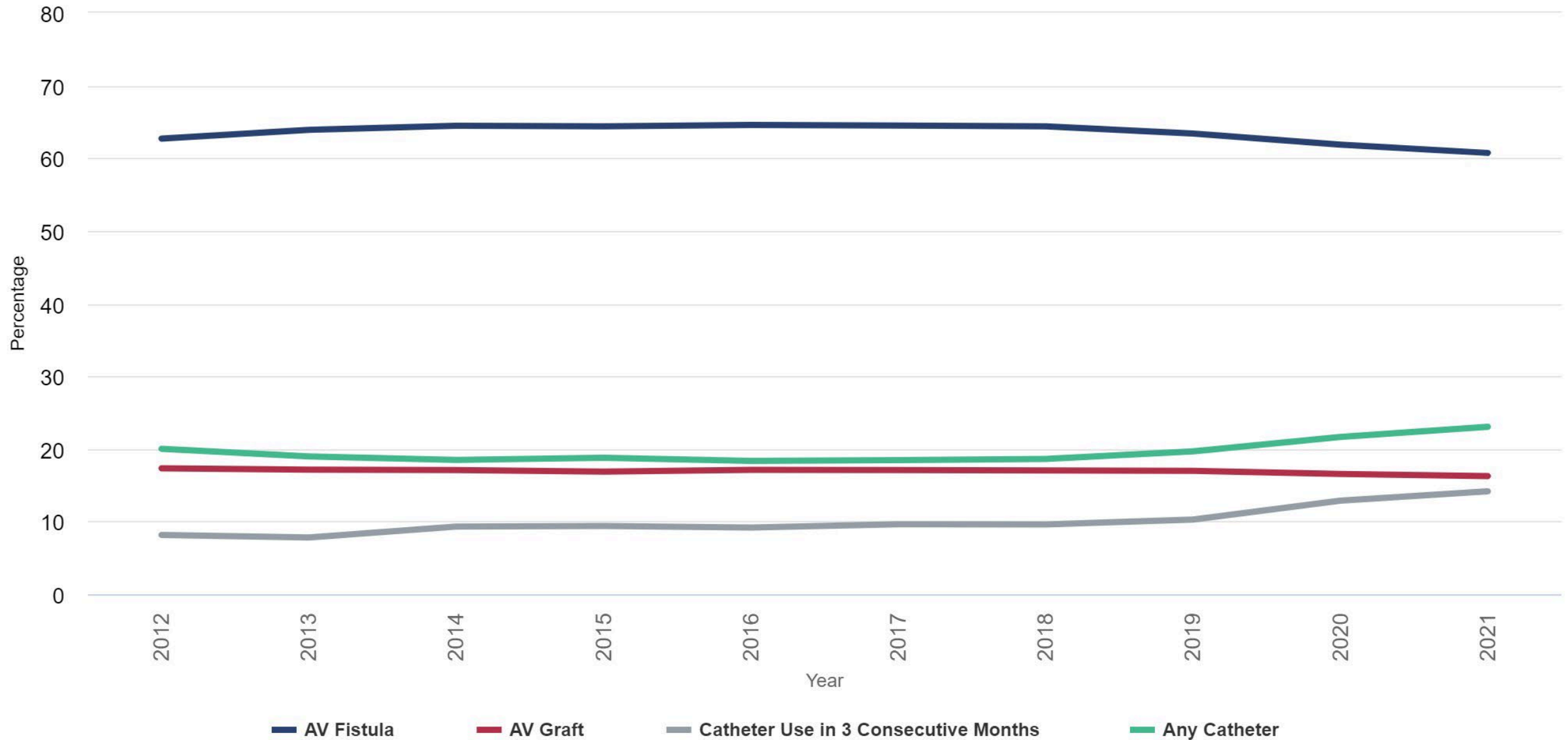
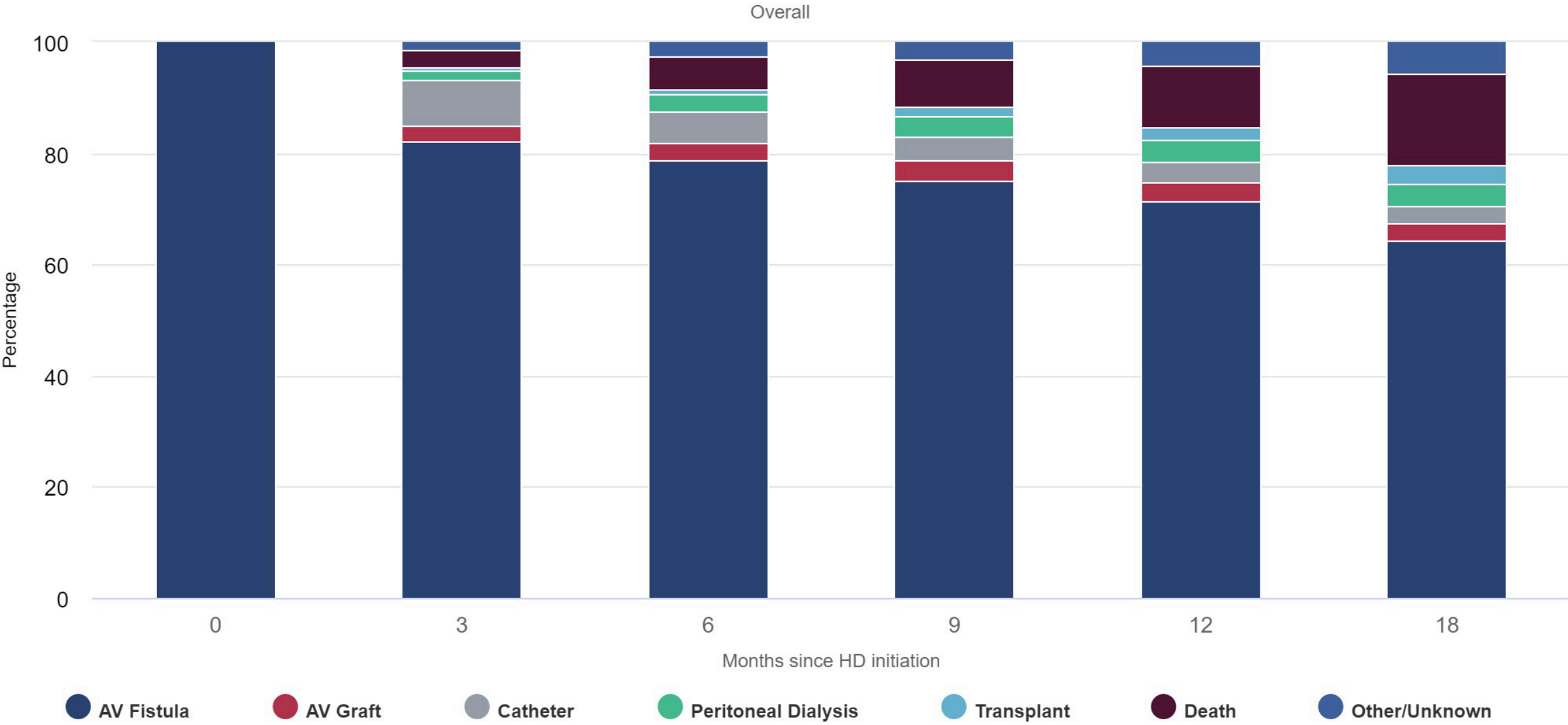
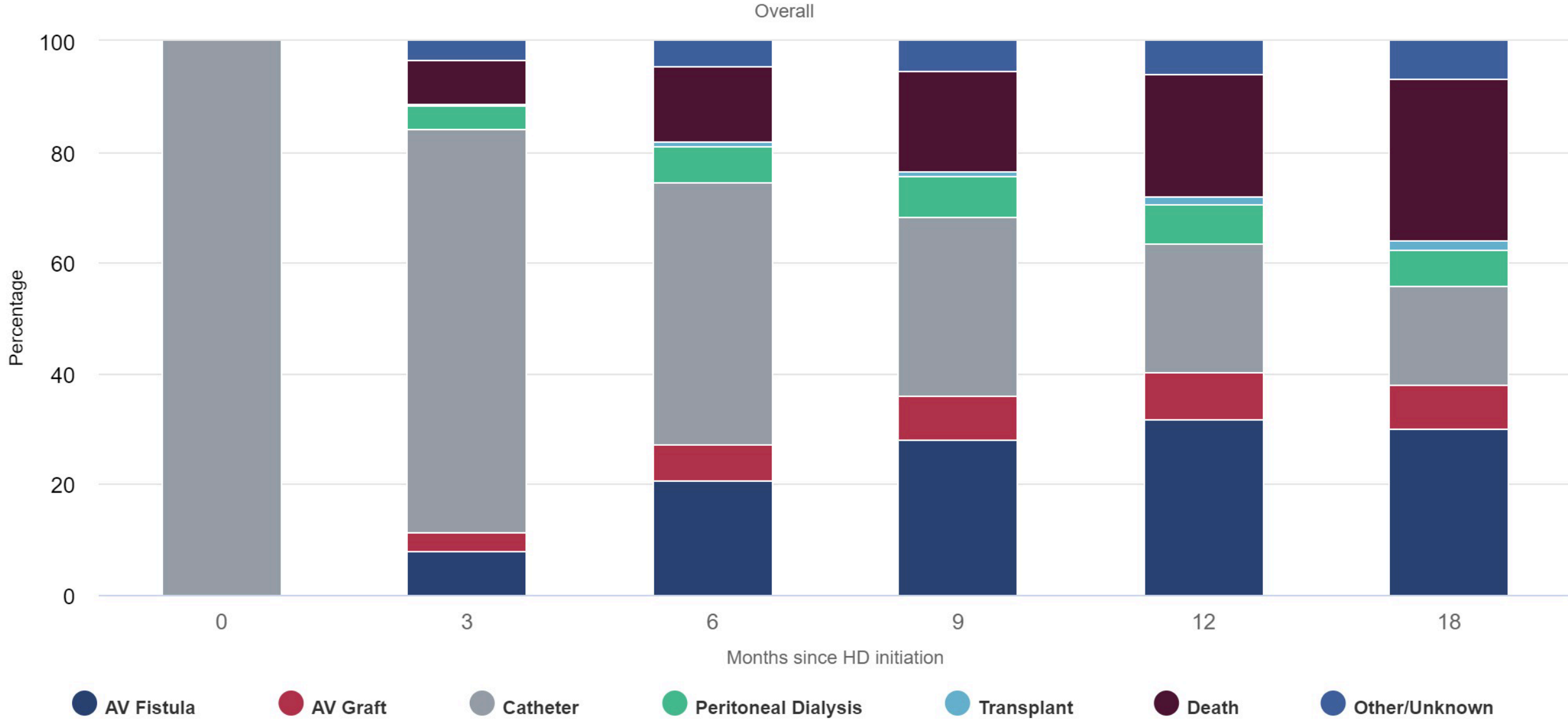


Figure 4.7c Change in vascular access type and other outcomes over the 18 months following HD initiation with a fistula in 2020



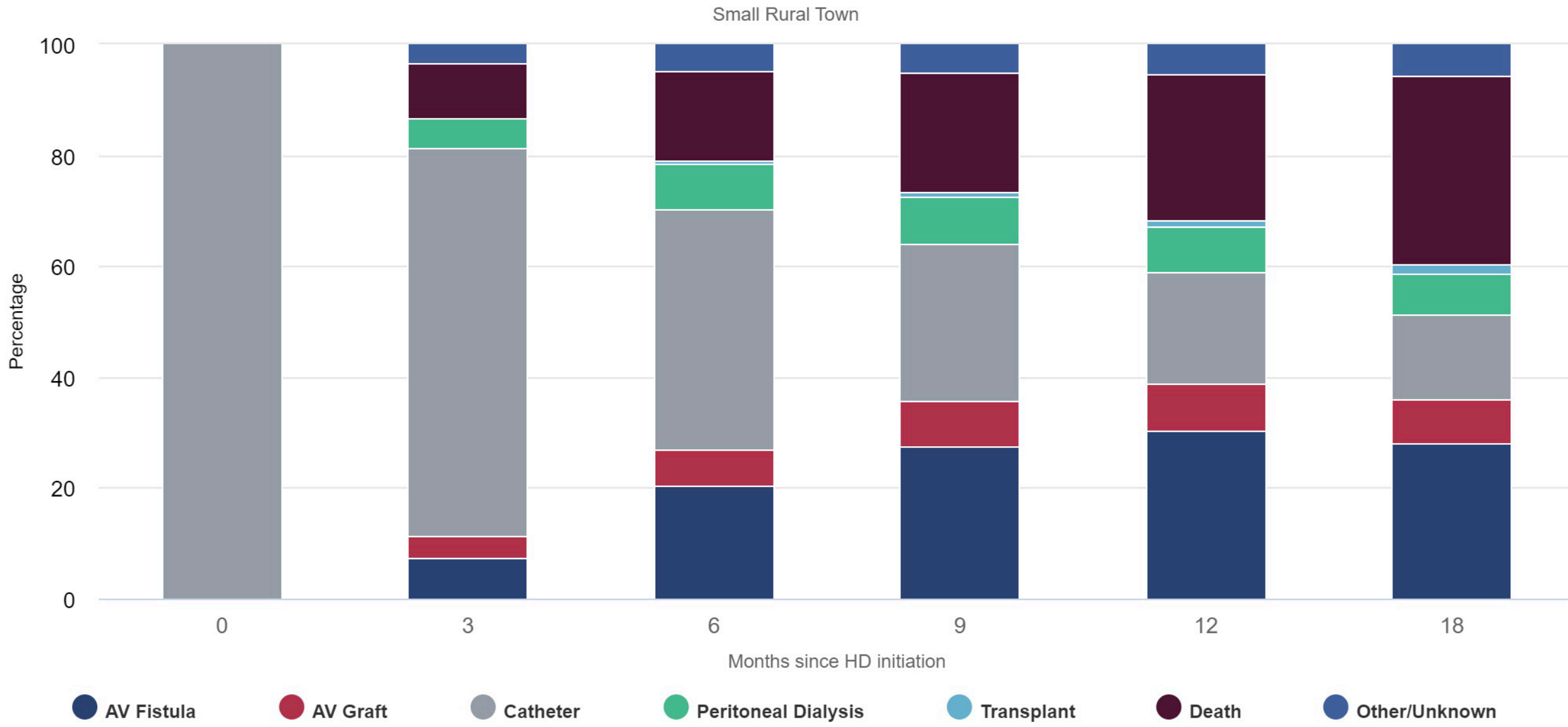
Data Source: 2023 United States Renal Data System Annual Data Report

Figure 4.7b Change in vascular access type and other outcomes over the 18 months following HD initiation with a catheter in 2020



Data Source: 2023 United States Renal Data System Annual Data Report

Figure 4.7b Change in vascular access type and other outcomes over the 18 months following HD initiation with a catheter in 2020



Data Source: 2023 United States Renal Data System Annual Data Report

Patients with Catheters



TIP 1

Catheters have a higher risk of infection. Ask your doctor about getting a fistula or graft instead.



TIP 2

Learn how to take care of the catheter at home. Do not get it wet.



TIP 3

Wash your hands often, especially before and after dialysis treatment.



6 TIPS to prevent Dialysis Infections

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention



www.cdc.gov/ckd www.cdc.gov/dialysis/patient



TIP 4

Know the steps your healthcare providers should take when using for treatment.



TIP 5

Know the signs and symptoms of infection and



TIP 6

Know what to do if you have any problem with the catheter.

Patients with Fistulas or Grafts



6 TIPS to prevent Dialysis Infections

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention



www.cdc.gov/ckd www.cdc.gov/dialysis/patient



TIP 1

Take care of your dialysis access site at home. Avoid scratching or picking it.



TIP 2

Wash your hands often, especially before and after dialysis treatment.



TIP 3

Wash or cleanse your dialysis access site prior to treatment.



TIP 4

Know the steps your healthcare providers should take when using your dialysis access for treatment.



TIP 5

Know the signs and symptoms of infection and what to do if you think you might have an infection.



TIP 6

Know what to do if you have any problem with your dialysis access site.

From the CDC Making Dialysis Safer Coalition <https://www.cdc.gov/dialysis/coalition/resource.html>

Fluid and Electrolyte Imbalance – Diet for ESRD

Low potassium

Low sodium

Low phosphorus



Fluid restriction

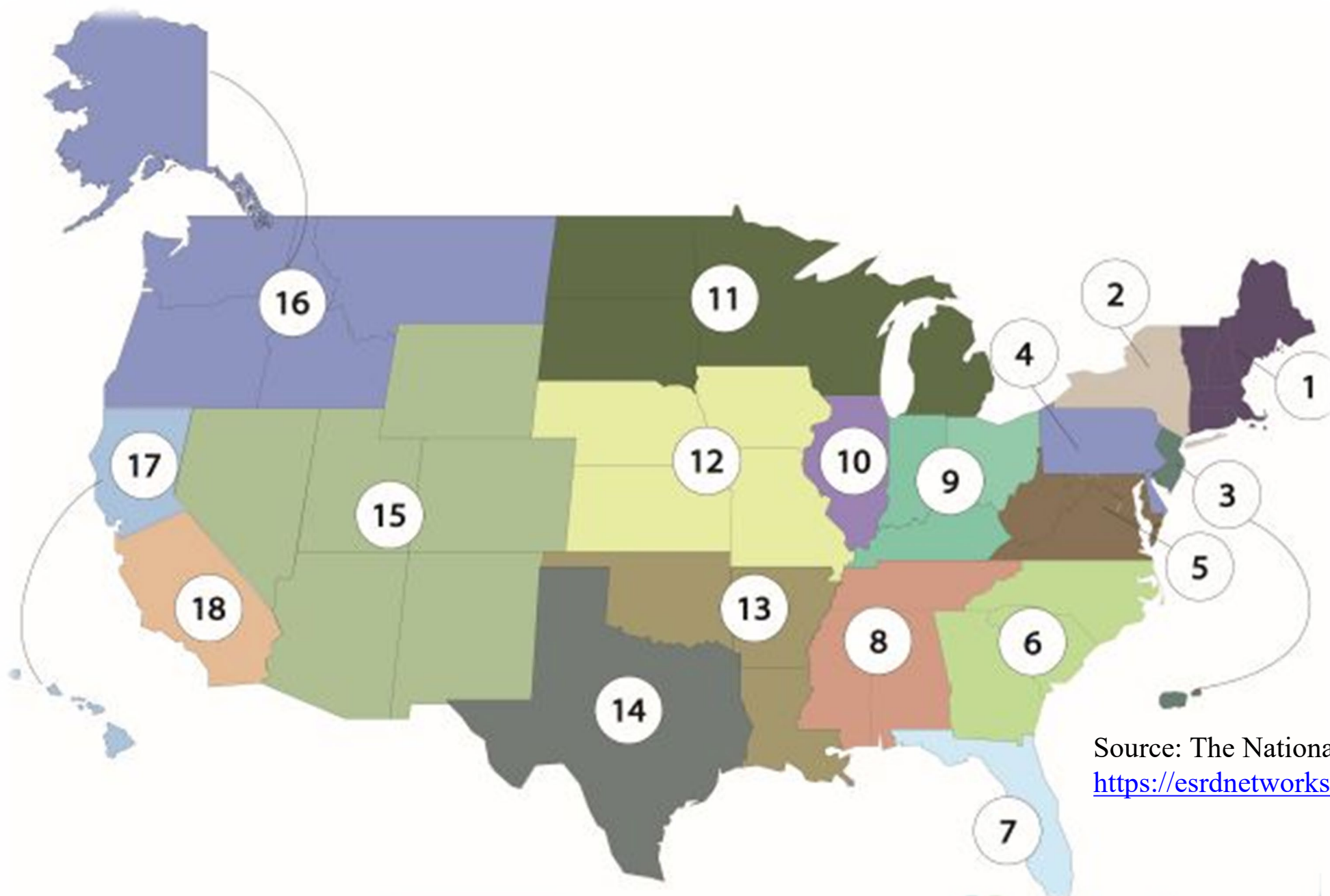
- Variable by patient, generally 32 ounces/4 cups per day

High protein

- Protein loss during dialysis
- Shift from CKD recommendations of lower protein

What is a Renal Network?





Source: The National Forum of ESRD Networks, <https://esrdnetworks.org/>

Primary Services



Data Quality



Quality Improvement



Patient Grievance/Facility Concerns

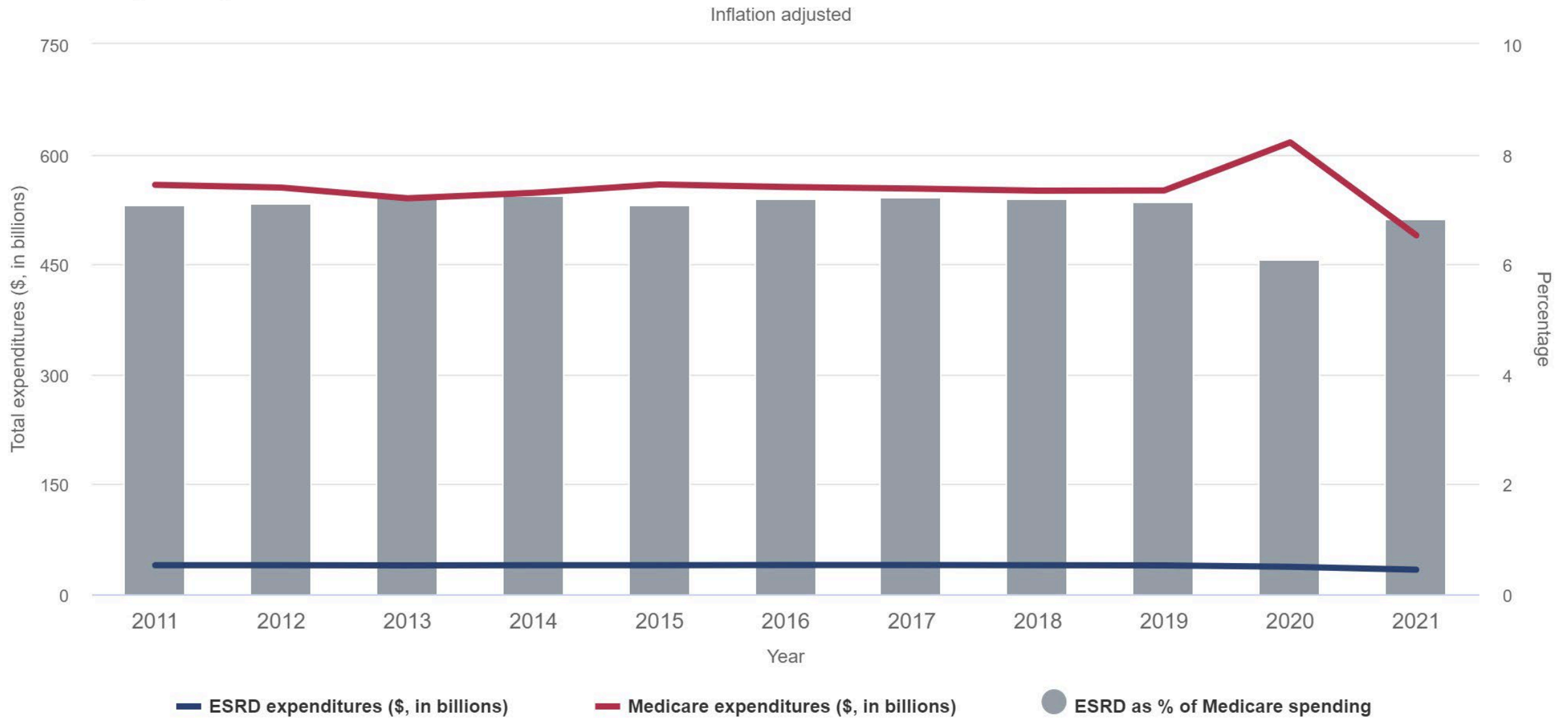


Emergency Preparedness

Quality Improvement Goals May 2024 – April 2025

- Increase patient and family engagement
- Increase patients utilizing a home modality
- Increase vaccinations
 - Patients: Pneumococcal, COVID, influenza
 - Staff: COVID, influenza
- Reduce admissions, readmissions, ER visits
- Increase kidney transplants

Figure 9.3 Total and ESRD spending in Medicare fee-for-service, and ESRD spending as a percentage of total Medicare spending, 2011-2021



Data Source: 2023 United States Renal Data System Annual Data Report

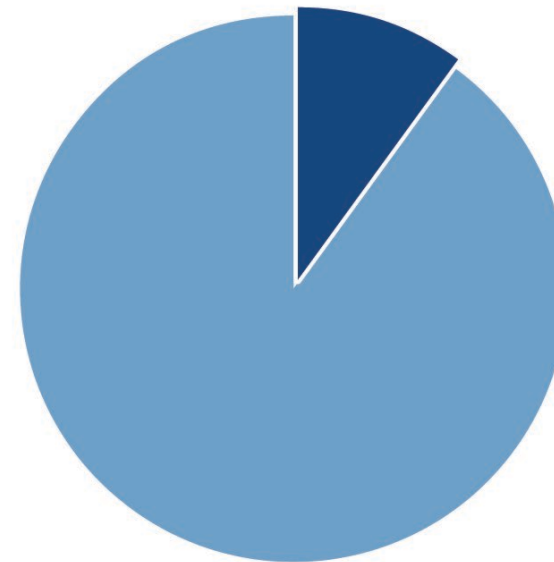
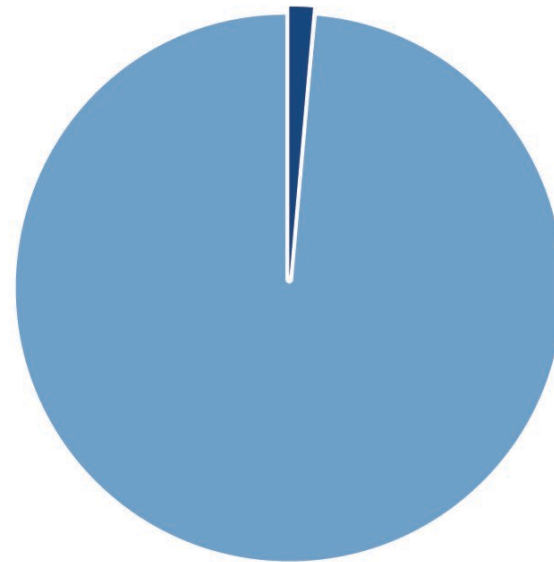
KIDNEY PATIENTS: SMALL NUMBER, BIG IMPACT

1.5% of Medicare patients

~10% of Medicare expenses

ESRD + Late Stage Chronic
Kidney Disease (CKD)

~\$30 Billion Annual
Healthcare Spend



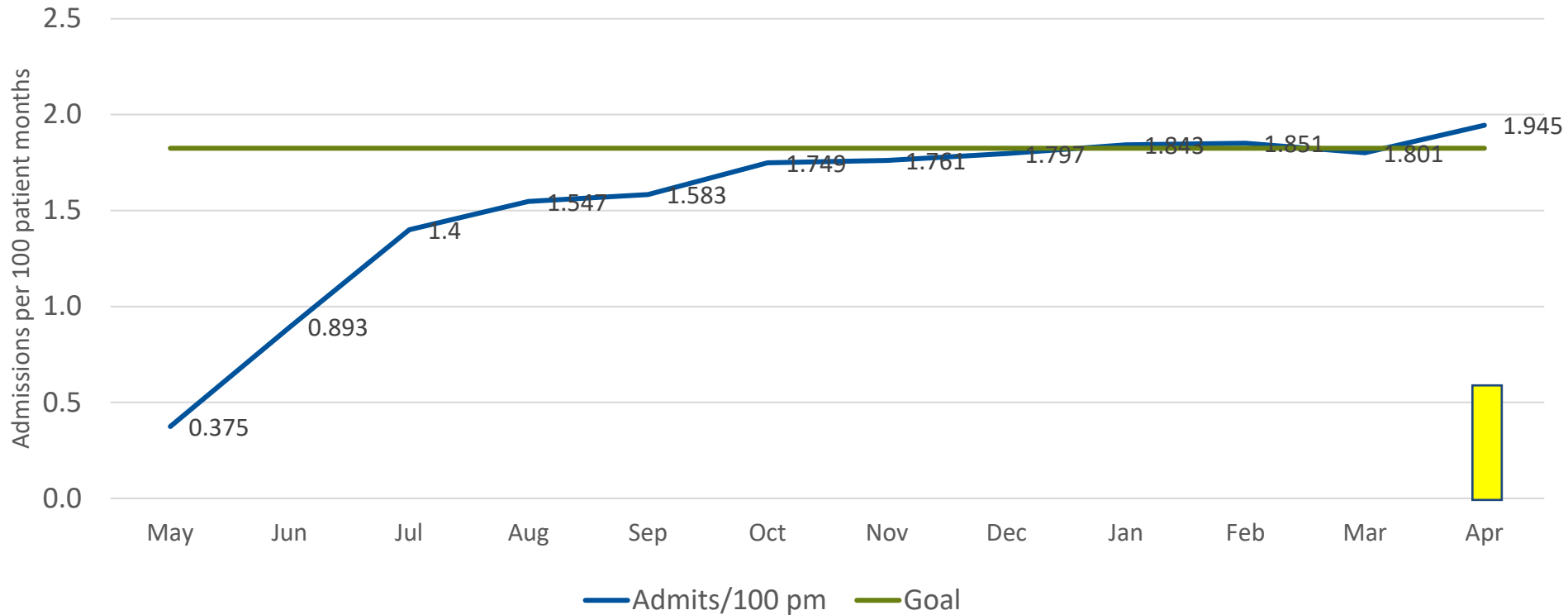
■ Medicare ESRD & late stage CKD
■ All other Medicare

Source:

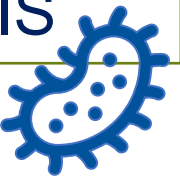
<https://www.modernhealthcare.com/article/20121204/SPONSORED/312049938/address-the-costly-impact-of-kidney-patients-in-your-hospital>

Inpatient Admissions: May 2023-April 2024

In-patient Hospital Admission Rates
Source: Medicare Claims

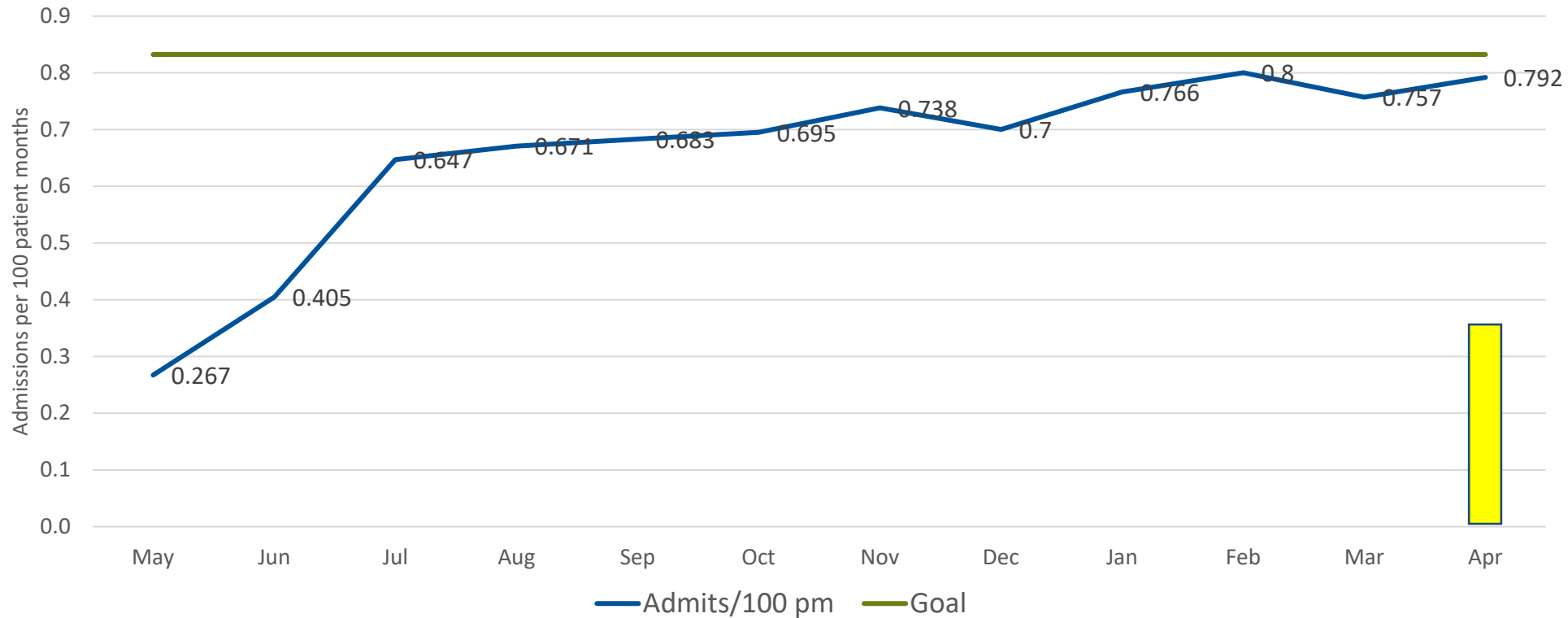


Largest
percentage of
inpatient
admissions
=
SEPSIS



ER Visits: May 2023-April 2024

ED Visit Rates
Source: Medicare Claims



Largest
percentage of
ER Visits
=
Vascular
Access
Complications

Readmissions – Environmental Scan

- Perception of premature discharge
- Missed follow up appointments
- Psychosocial support post-hospitalization
- Communication with inpatient units
- Medication changes

Superior Health Readmission Sprint

A QIO/ESRD Collaboration to Improve Transitions Across the Care Continuum



84 Participants from
31 Hospitals
17 Dialysis Facilities

Root Cause Analysis identified transitions in care processes as major contributors to readmission rates in dialysis patients



Common goal to reduce readmissions for Medicare beneficiaries in both QIO and ESRD Network statement of work



Collaborated to create and implement an improvement sprint for both hospital and dialysis facilities



A sprint is a rapid implementation program designed to amplify the impact of a facility's efforts on a given topic



Invited Superior Health hospitals and dialysis facilities to enroll - personalized invitations to dialysis facilities with high readmission rates and/or local hospital registration



Four learning webinars January 2023 – April 2023 to facilitate in-depth learning and foster interactive dialogue, sharing evidence-based tools and resources to develop tactical steps to implement innovations



Dialysis facilities completed Transitions in Care Assessment to identify opportunities for improvement in transitions in care processes. The assessment was created based on the Forum of ESRD Network's Transitions of Care Toolkit and the MN Hospital Association Transitions in Care Roadmap



Provided toolkit of resources to aid in addressing gaps identified on Transitions in Care Assessment



Group collaboration in the social networking site, Superior Health Connect, to share challenges and best practices, and promote networking with colleagues across care systems and specialties



Provide one-on-one coaching calls May 2023 and beyond to assist with follow-up needs and track progress upon conclusion of sprint

*Note: Final improvement data not yet available as Sprint is in process. Tracking readmission rates, at time of poster, 9 dialysis facilities have maintained or improved their readmission rates.

Opportunities

Verbal handoff

Medication management – comprehensive med rec with communication to provider/pharmacy

Education tailored to the patient's needs/goals

Staff education on transitions of care on orientation

Care Coordination



- Communication Best Practices
- Standard Handoff Form
- EHR Accessibility

Transitions in Care Toolkit

Hospital to Dialysis Unit Transfer Summary

{Your logo here}

Hospital to Dialysis Unit Transfer Summary

Patient Information		Hospital Information	
Name / ID: _____ DOB: / /		Hospital: _____	
Primary Renal DX: _____		Unit: _____	
Hepatitis B Antigen: _____ Antibody: _____ Date: / /		Phone: _____ Admission Date: / / Inpatient Attending Nephrologist(s): _____	
Code Status <input type="checkbox"/> Full <input type="checkbox"/> DNR Other Instructions: _____ Competent to Sign Consents <input type="checkbox"/> Yes <input type="checkbox"/> No		Discharge Date: / / Discharging Physician: _____	
Outpatient Dialysis Unit Accepting Transfer Facility: _____ Phone: _____ Contact: _____			
Current Vascular Access <input type="checkbox"/> Tunneled catheter <input type="checkbox"/> AVF <input type="checkbox"/> AVG <input type="checkbox"/> Other: _____	Any changes this admission: <input type="checkbox"/> Clotting <input type="checkbox"/> Declotting <input type="checkbox"/> Revision <input type="checkbox"/> New Placement – Please describe: _____	Vascular access infection: <input type="checkbox"/> No <input type="checkbox"/> Yes Positive blood cultures: <input type="checkbox"/> No <input type="checkbox"/> Yes – Name of antibiotic(s) given: _____ Organism Type: _____	
Anemia Management ESA's given during the admission: <input type="checkbox"/> None <input type="checkbox"/> Epogen [®] <input type="checkbox"/> Aranesp [®] <input type="checkbox"/> Procrit [®] Last Dose/Date Received: / /	IV IRON Therapy: <input type="checkbox"/> Venofer [®] <input type="checkbox"/> Ferrlecit [®] <input type="checkbox"/> Feraheme [®] <input type="checkbox"/> Infed [®] <input type="checkbox"/> Dexferrum [®] <input type="checkbox"/> Other: _____ Last Dose/Date Received: / /	Any RBC transfusions: <input type="checkbox"/> NO <input type="checkbox"/> YES date(s) _____ HGB prior to transfusion(s) _____ gm/dL Most recent: Hgb: _____ Date: / / Hct: _____ Date: / /	
Miscellaneous Date of last HD prior to discharge: / / Changes to EDW: _____ Treated for other infections: (list) _____		Medication changes: _____ _____ Other: _____	
Co-morbid Conditions - Did the patient receive treatment during this admission for the following conditions? <input type="checkbox"/> Pericarditis <input type="checkbox"/> Bacterial Pneumonia <input type="checkbox"/> GI Bleeding			
Discharge Dialysis Prescription/Orders TX per week: _____ Duration: _____ Schedule: _____ Heparin: _____ Treatment tolerance: <input type="checkbox"/> Well <input type="checkbox"/> Fair Dialyrate Na: _____ K: _____ Ca: _____ Hourly: _____			

Where to Go and When

Where Should You Go for Medical Care?



When you are sick or injured, knowing where to go to get good care can save you valuable time and frustration. Your first thought may be to call 911 or go to your local hospital's emergency room (ER). But the ER may not be the best place to be treated for your injury or illness. When your injury or illness isn't life threatening, the ER is an expensive, time-consuming attempt for help. There are other options that can be faster and less expensive.

Using the chart below, work with your healthcare team to identify what conditions you should see a doctor or nurse, or visit a clinic or urgent care facility, or the hospital ER.

Check the box that's best for you.

Signs and Symptoms	Kidney Doctor or Nurse	Clinic or Urgent Care Facility	Hospital ER	Notes
Feeling confused or cannot think clearly				
Dizzy or light-headed or feel like you may faint				
Increase in blood pressure				
Exposed to someone with COVID-19				
Cough, cold, or sore throat				
Rashes or skin irritations				
Fistula site red, drainage, warm to touch, or bleeding				

Source:




<https://esrdncc.org/contentassets/75c82d220fe34ee7baaa096636ccb131/esrdncc-hospitalizationag2022-final.pdf>



Quick Patient Guide

How To Choose Between The Primary Care Clinic, Urgent Care and the Emergency Room (ER)

When you are feeling sick or have an injury, there are many places you can go for medical care: a primary care clinic, an urgent care center, a retail health clinic or the emergency room. This is a quick guide to help you know where to go. This guide is for educational purposes only. Always contact your provider with any specific questions about your healthcare.

 Primary Care Clinic	 Urgent Care or Retail Health Clinic	 Emergency Room (ER)
<p>For non-emergency situations</p> <ul style="list-style-type: none"> Your provider knows your health history, including medications and chronic conditions. Lower cost than the emergency room Shorter wait times Your provider can refer you to a specialist or other medical professionals. Contact your dialysis clinic before going to the emergency room (contact your primary care provider if the issue is unrelated to kidney disease). Option of virtual care through your phone or computer 	<p>If you can't reach your provider or need care outside of regular office hours</p> <ul style="list-style-type: none"> Walk-in clinics found in many large pharmacies and retail stores Treat simple conditions, such as cold, flu, ear infections and skin conditions Staffed by nurse practitioners and physician assistants Physicians on staff can provide care for a greater range of conditions, including performing x-rays. 	<p>For urgent, acute and life-threatening conditions</p> <ul style="list-style-type: none"> If you have a health emergency, call 911 or go to the emergency room right away. Do not visit the ER for routine care or minor illness. One of the other options will save you time and money and clear the way for patients in need of emergency treatment. Contact your dialysis clinic after discharge from the hospital or ER and to reschedule any missed dialysis treatments.
My primary care provider:		My transplant center:
My kidney provider:		My home care:
My dialysis clinic:		My pharmacy:



Social Drivers of Health

- Transportation
- Housing instability
- Food Insecurity
- Access to care
- Health literacy

Rethinking “compliance” – what is the bigger picture

Identify potential underlying root causes

TEAMWORK

Where can we collaborate to improve care for dialysis patients?

- Care coordination
- Community resources
- Other?



Project Leads Contact Information

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Questions?



Thank you!



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