

Dear Region Director:

This report is designed to provide a comparative summary of treatment patterns and patient outcomes for End Stage Renal Disease (ESRD) patients in this region, as compared to all patients in the United States. The statistics reported here include dialysis patients treated during 2019-2022 in the chronic dialysis facilities in this region and are based primarily on Medicare claims and data collected for CMS. Selected statistics from this profile are summarized below and region-to-region comparisons of key statistics are provided in the *Charts and Tables of Key Statistics by Region*.

Selected highlights for this Region are provided on the first few pages. For a complete description of the methods and data reported here please see the *Guide to the Region Profiles for FY 2024*. The Guide is available on the Dialysis Data website at www.DialysisData.org. We hope this profile is of interest to you and is helpful in your survey efforts. We welcome your feedback on ways to improve future profiles.

What's New This Year

As part of a continuing effort to improve the quality and relevance of this report for your region, the following changes have been incorporated into the Region Profile for FY 2024:

- The Standardized Transfusion Ratio (STrR) reported in Table 7 now includes an adjustment for COVID-19.
- Prevalent and incident patient summaries for nursing home patients were added to Table 15.
- The emergency department (ED) measure-Standardized Hospitalization Ratio (SHR) reported in Table 4 was replaced with the following two NQF endorsed measures:
 - Standardized Emergency Department Encounter Ratio (SEDR)
 - Standardized Ratio of Emergency Department Encounters Occurring within 30 Days of Hospital Discharge (ED30)

Data Limitations

The COVID Extraordinary Circumstances Exception (ECE) data policy from CMS restricts the use and availability of claims data from March-June 2020 and EORS clinical data from January-June 2020. Table footnotes provide additional details of data availability for each measure in 2020.

Region Highlights

Patient Characteristics: On December 31st, 2022, 13.0% of patients in this region were treated in a nursing home during the year, compared to 12.7% nationally. See **Table 1** for detailed summaries of all patients treated during 2019-2022 in this region.

Form CMS-2728 collected data from 11,639 incident patients in this region in 2022. **Table 2** describes certain important characteristics of these patients at the time of their first outpatient dialysis session, including patients' demographics, medical coverage, primary cause of ESRD, modality, pre-treatment nephrological care, transplant options, and vascular access type. In 2022, the average age of patients in this region at incidence was 64 years, compared to the national average of 64 years. Among the incident patients in this region in 2022, 91.3% were informed of their transplant options, compared to 92.5% nationally. Also in 2022, 14.7% of incident patients in this region were not under the care of a nephrologist prior to ESRD therapy, compared to 15.6% nationally.

Mortality: There were 9,010 deaths among the patients treated in this region during 2022, while 9,119 would be expected based on their age, race, ethnicity, sex, diabetes status, duration of ESRD, nursing home status, BMI and comorbidities at incidence, as well as state population death rates. The Standardized Mortality Ratio (SMR) of observed to expected deaths is 0.98, which is 2% lower than expected. Of the deaths in this region in 2022, 26% were preceded by withdrawal from dialysis, compared to the national average of 22%. See **Table 3** of this profile for more detailed mortality statistics during 2019-2022 in this region.

First Year Mortality: There were 2,248 deaths among the incident patients treated in this region during 2021, while 2,244 would be expected based on their age, race, ethnicity, sex, diabetes status, nursing home status, BMI and comorbidities at incidence, as well as state population death rates. The First Year Standardized Mortality Ratio (SMR) of observed to expected deaths is 0.97, which is 3% lower than expected. Of the deaths among incident patients in this region in 2021, 27% were preceded by withdrawal from dialysis, compared to the national average of 23%. See **Table 3** of this profile for more detailed first year mortality statistics during 2019-2021 in this region.

Hospitalization: The Standardized Hospitalization Ratio (SHR) of observed to expected hospital admissions for patients in this region during 2022 is 0.95, indicating that these patients had 5% fewer admissions than expected based on characteristics of patients treated in this region. The Standardized Readmission Ratio (SRR) of observed to expected hospital readmissions in this region during 2022 is 1.01, indicating that these patients had 1% more readmissions than expected. See **Table 4** of this profile for additional hospitalization statistics during 2019-2022 in this region.

Transplantation: 1,742 patients under age 75 in this region during 2022 received their first transplant, while 1,720 would be expected based on the age of these patients. The Standardized Transplantation Ratio (STR) of observed to expected number of patients transplanted for this region is 1.11, which is 11% higher than expected. See **Table 5** of this profile for additional transplantation statistics during 2019-2022 in this region.

Kidney Transplant Waitlist for Prevalent Patients: The 2022 age-adjusted percent waitlisted in this region is 17.5%, which is 1.1% higher than the national adjusted percentage. See **Table 5** of this profile for additional transplant waitlist statistics during 2019-2022 in this region.

Kidney Transplant Waitlist for Incident Patients: The 2021 Standardized Waitlist Ratio (SWR) in this region is 1.09, which is 9% more patients waitlisted or living donor transplants than expected in this region. See **Table 5** of this profile for additional transplant waitlist statistics during 2019-2021 in this region.

Influenza Vaccination: On December 31, 2022, 72% of all patients treated in this region were vaccinated against influenza between August 1 and December 31, 2022, compared to 74% nationally. This difference is statistically significant ($p < 0.05$) and is unlikely to be due to random chance. See **Table 6** of this profile for more information about vaccinated patients during 2019-2022 in this region.

Anemia Management: In 2022, 23.2% of eligible hemodialysis patient-months in this region had a hemoglobin value below 10 g/dL, compared to 23.4% nationally. In 2022, 22.5% of eligible peritoneal dialysis patient-months had a hemoglobin value below 10 g/dL, compared to 22.9% nationally. See **Table 7** of this profile for additional anemia management statistics in this region during 2019-2022.

Dialysis Adequacy: Of the eligible hemodialysis patient-months in this region in 2022, 96% had a Kt/V ≥ 1.2 , compared to 96% nationally. Of the eligible peritoneal dialysis patient-months in this region in 2022, 92% had a Kt/V ≥ 1.7 , compared to 91% nationally. See **Table 8** of this profile for more information on dialysis during 2019-2022 in this region.

Mineral Metabolism: In 2022, 16% of eligible patient-months in this region had a serum phosphorus value >7.0 mg/dL, compared to 16% nationally. Also in 2022, 1.1% of eligible patient-months in this region had a calcium uncorrected value >10.2 mg/dL, compared to 1.1% nationally. See **Table 9** of this profile for more mineral metabolism summaries in this region during 2019-2022.

Vascular Access: In 2022, 13% of the incident hemodialysis patients in this region had an arteriovenous (AV) fistula in use, compared to 12% in the nation. This region's 2022 Standardized Fistula Rate (SFR) for prevalent patients is 60%, which is 2% higher than the national SFR. Of the prevalent patients receiving hemodialysis treatment in this region, the long-term catheter rate was 17%, compared to 17% nationally. See **Table 10** of this profile for additional information about vascular access in this region during 2019-2022.

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Region Profile for FY 2024 for Dialysis Patients and Facilities
REGION SAMPLE

The tables below provide updates of COVID-19 patient counts, deaths, and hospitalizations among Medicare dialysis patients (Table C1) and Medicare nursing home (NH) dialysis patients (Table C2) in 2021 and 2022 Q1-Q4. National averages for 2022 Q4 are reported for comparison.

TABLE C1. COVID among Medicare Dialysis Patients, 2021-2022 *1

Measure Name	2021	This Region 2022				United States 2022
		Q1: Jan-Mar	Q2: Apr-Jun	Q3: Jul-Sep	Q4: Oct-Dec	Q4: Oct-Dec
1 Medicare dialysis patients treated during the quarter (n)	53,782	42,869	42,302	42,032	41,545	412,781
2 Patients ever infected with COVID [prior to or during current quarter] (n)	10,267	9,837	9,823	10,879	11,368	112,941
Patients ever infected with COVID (% of 1)	18.4	22.6	23.1	25.6	27.4	27.4
3 Patients initially infected with COVID in current quarter (n)	5,692	2,825	1,144	1,808	1,378	13,737
Patients initially infected with COVID in current quarter (% of 1)	10.1	6.6	2.9	4.2	3.6	3.3
Deaths among Medicare patients						
4 Deaths (n)	8,849	2,346	1,858	1,897	2,050	20,504
5 Deaths among patients ever infected with COVID (n)	2,496	932	558	663	738	7,379
Deaths among patients ever infected with COVID (% of 4)	26.2	38.3	29.7	34.2	36.2	36.0
Hospitalizations *2 among Medicare patients						
6 Hospitalizations (n)	31,514	12,514	12,030	11,934	12,049	119,988
7 Hospitalizations among patients ever infected with COVID (n)	7,739	4,394	3,601	4,093	4,310	42,931
Hospitalizations among patients ever infected with COVID (% of 6)	23.4	34.3	29.7	33.7	35.8	35.8

TABLE C2. COVID among Medicare Dialysis Patients Treated in Nursing Home (NH) Facilities, 2021-2022 *1

Measure Name	2021	This Region 2022				United States 2022
		Q1: Jan-Mar	Q2: Apr-Jun	Q3: Jul-Sep	Q4: Oct-Dec	Q4: Oct-Dec
1 Medicare NH dialysis patients treated during the quarter (n)	9,196	4,377	4,388	4,299	4,257	42,440
2 Patients ever infected with COVID [prior to or during current quarter] (n)	3,028	1,925	1,749	1,843	1,917	19,120
Patients ever infected with COVID (% of 1)	31.3	42.7	39.1	42.2	44.8	45.1
3 Patients initially infected with COVID in current quarter (n)	1,498	640	213	337	331	3,304
Patients initially infected with COVID in current quarter (% of 1)	15.1	14.6	5.1	7.7	8.1	7.8
Deaths among Medicare NH patients						
4 Deaths (n)	2,816	588	541	532	569	5,692
5 Deaths among patients ever infected with COVID (n)	993	286	209	234	259	2,586
Deaths among patients ever infected with COVID (% of 4)	33.1	46.6	38.5	42.6	45.6	45.4
Hospitalizations *2 among Medicare NH patients						
6 Hospitalizations (n)	7,934	2,714	2,680	2,615	2,604	25,972
7 Hospitalizations among patients ever infected with COVID (n)	2,596	1,178	992	1,084	1,154	11,520
Hospitalizations among patients ever infected with COVID (% of 6)	30.9	42.0	35.9	40.5	44.2	44.4

[*1] Includes patients with Medicare as primary insurer or with a Medicare Advantage plan. Table C2 includes patients who were treated in a nursing home at least one day during the quarter. See *Guide, Section XVII*.

[*2] Hospitalization is defined as having at least one day in a hospital from Medicare inpatient claims during the reporting period.

Region Profile for FY 2024 for Dialysis Patients and Facilities
REGION SAMPLE

TABLE 1: Summaries for All Dialysis Patients Treated as of December 31st of each Year^{*1}, 2019-2022

Measure Name	This Region				United States
	2019	2020	2021	2022	2022
1a Patients treated on 12/31 of year (n)	48,983	48,039	46,522	45,194	451,941
1b Average age (years)	62.8	62.8	63.1	63.2	63.0
1c Age (% of 1a; sums to 100%)					
< 18	0.3	0.3	0.2	0.2	0.2
18-64	50.8	50.5	49.6	49.1	49.8
65+	49.0	49.2	50.1	50.7	50.0
1d Female (% of 1a)	42.1	42.0	41.8	41.7	42.1
1e Race (% of 1a; sums to 100%) ^{*2}					
African American	28.4	28.7	28.7	28.9	34.8
Asian/Pacific Islander	6.0	6.2	6.5	6.6	6.9
Native American	1.9	1.9	1.9	2.1	1.4
White	63.4	63.0	62.6	62.1	56.6
Other/Unknown/Missing	0.3	0.3	0.3	0.3	0.3
1f Ethnicity (% of 1a; sums to 100%)					
Hispanic	17.6	17.9	18.2	18.5	20.3
Non-Hispanic	82.3	82.0	81.7	81.4	79.6
Unknown	0.1	0.1	0.1	0.1	0.1
1g Cause of ESRD (% of 1a; sums to 100%)					
Diabetes	46.9	46.5	45.9	45.2	45.0
Hypertension	27.9	27.9	28.0	28.0	31.1
Glomerulonephritis	11.2	11.0	10.7	10.4	9.1
Other/Unknown	13.7	14.3	15.1	15.9	14.2
Missing	0.3	0.3	0.4	0.5	0.5
1h Average duration of ESRD (years)	4.9	5.0	4.9	4.9	5.0
1i Years since start of ESRD (% of 1a; sums to 100%)					
<1	16.6	16.1	17.2	16.9	16.7
1-2	17.4	17.7	17.3	18.4	18.2
2-3	14.0	13.9	14.0	13.6	13.4
3-6	26.0	26.0	25.5	25.4	25.3
6+	26.0	26.2	26.1	25.7	26.4
1j Nursing facility patients ^{*3} (% of 1a)	15.9	12.8	13.0	13.0	12.7
1k Modality (% of 1a; sums to 100%) ^{*4}					
In-center hemodialysis	85.7	84.4	83.6	83.1	83.7
Home hemodialysis	2.3	2.7	3.0	3.3	3.3
Continuous ambulatory peritoneal dialysis	1.5	1.5	1.4	1.5	1.3
Continuous cycling peritoneal dialysis	10.2	11.0	11.5	12.0	11.5
Other modality	0.3	0.4	0.4	0.2	0.2

n/a = not applicable.

[*1] See *Guide, Section IV*.

[*2] Asian includes Indian sub-continent. Native American includes Alaskan Native. White includes Middle Eastern and Arab.

[*3] Includes patients who were treated at a nursing facility at any time during the year. The source of nursing facility history of patients is the Nursing Home Minimum Dataset.

[*4] Other modality includes other dialysis, uncertain modality, and patients not on dialysis but still temporarily assigned to the facility (discontinued dialysis, recovered renal function, and lost to follow up).

Region Profile for FY 2024 for Dialysis Patients and Facilities
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TABLE 2: Characteristics of New Dialysis Patients ^{*1}, 2019-2022 (Form CMS-2728)

Measure Name	This Region				United States	
	2019	2020	2021	2022	2022	
Patient Characteristics						
2a	Total number of patients with forms (n)	12,385	12,001	12,375	11,639	116,385
2b	Age (average years [0-95]) ^{*2}	63.8	63.7	64.0	63.9	63.9
2c	Female (% of 2a)	41.2	41.0	41.3	40.9	41.6
2d	Race ^{*3} (% of 2a; sums to 100%)					
	African American	21.5	23.1	22.8	23.3	28.9
	Asian/Pacific Islander	5.7	6.0	6.1	6.1	6.2
	Native American	1.7	1.8	1.9	2.7	2.0
	White	70.9	68.9	68.9	67.4	62.4
	Other/Unknown/Missing	0.2	0.2	0.3	0.5	0.5
2e	Hispanic (% of 2a)	15.2	15.6	16.2	16.4	17.8
2f	Primary cause of ESRD (% of 2a; sums to 100%)					
	Diabetes	48.6	47.6	46.5	45.2	45.0
	Hypertension	26.4	26.8	27.3	28.0	31.2
	Glomerulonephritis	7.5	7.4	6.8	7.1	5.9
	Other/Missing	17.5	18.3	19.3	19.7	17.9
2g	Medical Coverage ^{*4} (% of 2a; sums to 100%)					
	Employer group only	12.5	12.7	11.9	11.8	11.4
	Medicare only	33.0	35.9	44.5	45.8	46.9
	Medicaid only	13.7	14.0	14.2	13.9	13.5
	Medicare and Medicaid only	11.9	11.0	7.6	7.7	7.5
	Medicare and Other	17.4	14.8	9.2	9.6	8.7
	Other/Unknown	7.9	8.3	9.4	8.7	8.6
	None	3.6	3.4	3.1	2.6	3.4
2h	Body Mass Index ^{*5} (Median; Weight/Height ²)					
	Male	28.1	28.1	28.2	27.9	27.8
	Female	29.1	29.2	29.1	28.7	28.7
2i	Employment ^{*6} (% of 2a)					
	Six months prior to ESRD treatment	37.7	37.4	36.2	39.2	37.5
	At first ESRD treatment	27.1	26.4	26.8	29.2	27.7
2j	Primary Modality (% of 2a; sums to 100%)					
	Hemodialysis	87.4	86.2	86.0	84.8	85.4
	CAPD/CCPD	12.6	13.8	14.0	15.2	14.6
	Other/Unknown/Missing	0.0	0.0	0.0	0.0	0.0
2k	Number of incident hemodialysis patients (n)	10,884	10,394	10,711	9,943	99,429
2l	Access used at first outpatient dialysis (% of 2k; sums to 100%)					
	Arteriovenous fistula	16.8	15.3	13.7	14.0	12.6
	Arteriovenous graft	2.9	2.5	2.5	2.8	2.9
	Catheter	80.0	81.9	83.5	82.9	84.2
	Other/Unknown/Missing	0.3	0.3	0.3	0.3	0.3
2m	Arteriovenous fistulae placed (% of 2k) ^{*7}	30.2	27.0	24.9	24.3	22.1

(continued)

TABLE 2 (continued): Characteristics of New Dialysis Patients ^{*1}, 2019-2022 (Form CMS-2728)

Measure Name	This Region				United States
	2019	2020	2021	2022	2022
Average Lab Values Prior to Dialysis ^{*2}					
2n Hemoglobin (g/dL [5-20])	9.4	9.4	9.4	9.4	9.3
2o Serum Albumin (g/dL [0.8-6.0])	3.3	3.4	3.4	3.4	3.4
2p Serum Creatinine (mg/dL [0-33])	6.3	6.4	6.4	6.5	6.5
2q GFR (ml/min [0-30])	10.8	10.6	10.7	10.6	10.7
Care Prior to ESRD Therapy					
2r Received ESA prior to ESRD (% of 2a)	17.0	16.7	16.5	17.0	16.3
2s Pre-ESRD nephrologist care (% of 2a; sums to 100%)					
No	15.6	15.4	15.6	14.7	15.6
Yes, <6 months	16.2	17.1	17.7	18.3	18.8
Yes, 6-12 months	20.4	19.6	19.1	18.8	19.0
Yes, >12 months	35.4	34.5	33.2	33.3	29.9
Unknown	12.4	13.3	14.4	14.9	16.8
2t Informed of transplant options (% of 2a)	82.7	82.8	89.8	91.3	92.5
2u Patients not informed of transplant options (n)	1,983	1,919	1,118	872	8,720
2v Reason not informed (% of 2u; may not sum to 100%) ^{*8}					
Medically unfit	14.3	16.4	39.4	42.8	41.0
Unsuitable due to age	13.6	9.4	0.0	0.0	0.0
Psychologically unfit	1.5	1.0	0.0	0.0	0.0
Patient declined information	1.1	1.2	8.0	11.8	11.3
Patient has not been assessed	67.2	63.9	51.0	54.2	55.7
Comorbid Conditions					
2w Pre-existing Comorbidity (% yes of 2a)					
Congestive heart failure	29.3	28.1	27.4	26.1	25.9
Atherosclerotic heart disease ^{*9}	13.8	13.3	12.7	11.7	10.9
Other cardiac disorder ^{*9}	21.5	20.9	21.5	21.2	20.4
CVD, CVA, TIA	8.8	8.7	8.3	8.2	8.2
Peripheral vascular disease	10.0	9.1	8.5	7.7	7.3
History of hypertension	87.7	87.5	87.1	86.2	87.0
Diabetes ^{*9}	63.9	63.5	63.5	62.5	63.5
Diabetes on insulin	43.7	42.6	42.1	40.7	40.9
COPD	9.4	8.9	8.4	8.0	7.8
Current smoker	7.1	6.9	6.8	6.7	6.5
Cancer	7.8	7.5	7.3	7.2	6.8
Alcohol dependence	1.9	2.0	1.9	1.9	1.7
Drug dependence	1.7	1.8	1.7	1.9	1.6
Inability to ambulate	6.4	6.1	6.0	5.5	6.0
Inability to transfer	3.2	3.2	3.2	2.9	3.2
2x Average number of comorbid conditions	3.2	3.1	3.1	3.0	3.0

n/a= not applicable.

[*1] See *Guide, Section V*.

[*2] For continuous variables, all summaries are computed based only on responses in range indicated in brackets for the variable.

[*3] Asian includes Indian sub-continent. Native American includes Alaskan Native. White includes Middle Eastern and Arab.

[*4] 'Medicare and Other' excludes patients with Medicare and Medicaid only. 'Other/Unknown' includes patients with unknown status and patients receiving medical benefits under other health insurance plans or plans that are not covered in the categories above.

[*5] The median BMI is computed for adult patients at least 20 years old with height, weight, and BMI values in acceptable ranges. Acceptable range for height, weight, and BMI are 122-208cm, 32-318 kg, and 10-55 respectively.

[*6] Full-time, part-time, or student (% of 18-60 year olds).

[*7] Includes all patients with AV fistulae, regardless of whether they received their hemodialysis treatments using their fistulae.

[*8] Values may not sum to exactly 100% because of patients for which multiple reasons are selected, or when other or no reason is selected.

[*9] 'Atherosclerotic heart disease' includes ischemic heart disease (coronary artery disease) and myocardial infarction. 'Other cardiac disorder' includes cardiac arrest, cardiac dysrhythmia, and pericarditis. 'Diabetes' includes patients with diabetes as the primary cause of ESRD.

Region Profile for FY 2024 for Dialysis Patients and Facilities
REGION SAMPLE

TABLE 3: Mortality Summary for All Dialysis Patients (2019-2022)[^] & New Dialysis Patients (2019-2021)^{*1 ^}

Measure Name	This Region				United States
	2019	2020 [^]	2021	2022	
All Dialysis Patients					2022
3a Patients (n=number)	67,706	67,235	67,160	65,671	722,973
3b Patient years (PY) at risk (n)	48,450	32,474	47,477	45,867	469,758
3c Deaths (n)	8,287	6,646	9,774	9,010	95,877
3d Expected deaths (n)	8,492	6,660	10,359	9,119	93,718
3e Withdrawal from dialysis prior to death (% of 3c)	31.4	27.1	24.7	26.4	21.8
3f Deaths due to infections (% of 3c)	10.9	11.3	10.8	10.4	9.5
3g Deaths due to cardiac causes (% of 3c)	46.3	43.7	41.8	42.8	43.4
3h Deaths due to liver disease (% of 3c)	1.6	1.4	1.3	1.2	1.2
3i Dialysis unrelated deaths ^{*2} (n; excluded from SMR)	57	40	53	57	588
3j Standardized Mortality Ratio (SMR; 3c /3d)	0.95	0.97	0.92	0.98	1.02
3k P-value ^{*3}	.	.	0.022	.	n/a
New Dialysis Patients					2021[^]
3l Patients (n=number)	12,385	12,001	12,375		123,746
3m Patient years (PY) at risk (n)	8,765	6,689	6,860		68,604
3n Deaths (n)	1,745	1,914	2,248		22,481
3o Expected deaths (n)	1,736	1,918	2,244		22,439
3p Withdrawal from dialysis prior to death (% of 3n)	33.0	26.4	26.8		23.0
3q Deaths due to infections (% of 3n)	9.9	10.1	9.7		9.2
3r Deaths due to cardiac causes (% of 3n)	41.1	37.8	38.6		39.7
3s Deaths due to liver disease (% of 3n)	3.0	2.3	2.4		2.2
3t Standardized Mortality Ratio (SMR; 3n /3o)	0.97	0.96	0.97		1.00
3u P-value ^{*3}	.	.	.		n/a

n/a = not applicable.

[^] Data from March through June 2020 are excluded from all calculations due to data exceptions.

[*1] See *Guide, Section VI*.

[*2] Defined as deaths due to street drugs and accidents unrelated to treatment.

[*3] Ratios within the range 0.95 to 1.05 will not have a p-value. A p-value ≥ 0.05 indicates that the ratio is >1.05 or <0.95 plausibly due to random chance.

TABLE 4: Hospitalization Summary for Medicare Dialysis Patients^{*1}, 2019-2022[^]

Measure Name	This Region				United States
	2019	2020 [^]	2021	2022	2022
Medicare Dialysis Patients					
4a Medicare dialysis patients (n)	56,431	55,569	55,384	53,811	587,907
4b Patient years (PY) at risk (n)	39,275	26,385	38,401	36,872	375,156
Days Hospitalized Statistics					
4c Total days hospitalized (n)	433,311	299,625	427,109	423,517	4,570,871
4d Expected days hospitalized (n)	451,394	312,121	446,137	440,966	4,519,800
4e Standardized Hospitalization Ratio for Days (4c/4d)	0.92	0.92	0.92	0.93	1.01
4f P-value ^{*2}	0.124	0.158	0.039	0.139	n/a
Admission Statistics^{*3}					
4g Total admissions (n)	60,230	37,607	52,231	49,467	516,052
4h Expected total admissions (n)	60,685	38,075	52,982	50,384	516,092
4i Standardized Hospitalization Ratio for Admissions (4g/4h)	0.96	0.96	0.96	0.95	0.99
4j P-value ^{*2}	n/a
4k Patients with septicemia (% of 4a)	12.4	13.2	12.4	12.5	12.1
4l One day admissions (% of 4g)	9.6	9.2	8.8	8.4	8.2
4m Average length of stay (days per admission)	7.0	7.5	7.7	7.9	8.4
4n Admissions that originate in the ED (% of 4g)	82.3	83.3	84.1	84.9	86.1
Standardized Emergency Department Encounter Ratio (SEDR)					
4o Emergency department (ED) events (n)	48,090	27,806	32,268	27,838	286,318
4p Expected number of emergency department events (n)	48,405	28,019	32,678	28,381	288,887
4q SEDR (4o/4p)	0.99	0.99	1.00	0.99	0.99
4r P-value ^{*2}	0.082	0.109	<0.01	0.186	n/a
Standardized Ratio of ED Encounters Occurring within 30 Days of Hospital Discharge (ED30)					
4s Index discharges (n)	39,382	20,680	27,845	24,111	241,109
4t Total ED visits within 30 days of hospital discharge (n)	6,640	3,236	4,258	3,567	35,665
4u Expected total ED visits within 30 days of hospital discharge (n)	6,452	2,967	3,985	3,364	33,641
4v ED30 Ratio (4t/4u)	1.04	1.13	1.10	1.09	1.06
4w P-value for ED30 Ratio ^{*2}	0.087	0.058	0.060	0.094	n/a
Readmission Statistics (SRR)					
4x Index discharges (n)	53,851	29,868	48,248	46,516	465,156
4y Total readmissions (n)	14,261	8,017	12,633	12,106	121,063
4z Expected total readmissions (n)	13,748	7,685	12,197	11,617	116,172
4aa SRR (4y/4z)	1.01	1.02	1.01	1.01	1.04

n/a = not applicable.

[^] Data from March through June 2020 are excluded from all calculations due to data exceptions. Readmission Statistics are further limited to index discharges between January 1-30, 2020 and between July-December, 2020.

[*1] The ED statistics (SEDR, ED30) include patients with Medicare as primary insurer and exclude patients with Medicare Advantage plans. All other summaries include patients with Medicare as primary insurer or with a Medicare Advantage plan; see Guide, Section VII.

[*2] Ratios within the range 0.95 to 1.05 will not have a p-value. A p-value ≥ 0.05 indicates that the ratio is >1.05 or <0.95 plausibly due to random chance.

[*3] Rows 4g-4j exclude index COVID hospitalizations, while rows 4l-4n include all admissions. Row 4k includes diagnoses in any position on a hospital inpatient claim.

TABLE 5: Transplantation and Waitlist Summary for All Dialysis Patients (2019-2022[^]) & New Dialysis Patients (2019-2021[^]) under Age 75^{*1}

Measure Name	This Region				United States	
	2019	2020 [^]	2021	2022		
Transplantation: All Transplants					2022	
5a	Eligible patients (n)	53,438	52,980	52,805	51,216	565,345
5b	Transplants (n)	1,833	1,253	1,930	1,936	19,542
Transplantation: First Transplants						
5c	Eligible patients (n)	49,757	49,367	49,290	47,790	524,756
5d	Patient years (PY) at risk (n)	35,781	23,825	34,994	33,444	342,603
5e	Actual 1st transplants ^{*2} (n)	1,627	1,119	1,720	1,742	17,553
5f	Expected 1st transplants (n)	1,599	1,114	1,695	1,720	17,614
5g	Standardized Transplantation Ratio (STR; 5e/5f)	1.15	1.12	1.11	1.11	0.99
5h	P-value ^{*3}	<0.01	0.037	0.024	0.093	n/a
Waitlist: All Dialysis Patients						
5i	Eligible patients (n)	52,581	51,331	52,099	50,229	502,289
5j	Patient-months at risk (n) ^{*4}	447,649	300,092	440,196	420,294	4,202,944
5k	Patient-months on the waitlist (% of 5j) ^{*4}	19.0	18.3	18.0	17.7	17.0
5l	Patient-months on the waitlist by subgroup (%) ^{*4 *5}					
	Age < 40	29.9	28.7	28.2	27.4	26.1
	Age 40-74	17.8	17.1	16.9	16.6	16.0
	Male	20.1	19.4	19.1	18.8	18.1
	Female	17.4	16.7	16.4	16.1	15.3
	African American	18.9	18.0	17.8	17.7	16.1
	Asian/Pacific Islander	27.7	26.2	25.6	25.3	25.0
	Native American	15.7	16.1	15.6	14.2	10.4
	White, Hispanic	19.5	18.6	18.0	17.0	17.8
	White, Non-Hispanic	18.4	17.7	17.4	17.3	16.3
	Other/Unknown race	22.4	20.7	19.3	17.0	16.9
	Diabetes	15.1	14.7	14.5	14.5	14.1
	Non-diabetes	22.5	21.4	21.0	20.4	19.3
	Previous kidney transplant	31.6	30.5	30.4	29.7	29.4
	No previous kidney transplant	18.0	17.3	17.0	16.7	16.0
	<2 years since start of ESRD	15.3	14.8	14.6	14.8	13.1
	2-4 years since start of ESRD	23.7	22.7	22.4	22.4	22.1
	5+ years since start of ESRD	18.7	17.8	17.5	16.7	16.8
5m	Age-adjusted percentage of patient-months waitlisted	18.8	18.1	17.9	17.5	16.4
Waitlist: New Dialysis Patients						
		2019[^]	2020[^]	2021		2021[^]
5n	Eligible Patients (n)	7,998	7,826	8,055		80,548
5o	Patient-years (PY) at risk (n)	5,683	6,193	7,191		71,910
5p	First waitlist events (n) ^{*6}	577	628	684		6,838
5q	Expected 1st waitlist events (n) ^{*6}	556	603	729		7,293
5r	Standardized Waitlist Ratio (SWR; 5p/5q) ^{*6}	1.17	1.21	1.09		0.93
5s	P-value ^{*3}	0.123	0.151	0.039		n/a

n/a = not applicable.

[^] Data from March through June 2020 are excluded from all calculations due to data exceptions.

[*1] See *Guide Section VIII (Transplantation) and Section IX (Waitlist)*.

[*2] Among first transplants that occurred after the start of dialysis from 2019-2022, 3.9% of transplants in the U.S. were not included because the transplant occurred less than 91 days after the start of ESRD and 0.9% because the patient was not assigned to a facility at time of transplant.

[*3] Ratios within the range 0.95 to 1.05 will not have a p-value. A p-value greater than or equal to 0.05 indicates that the standardized ratio is greater than 1.05 or less than 0.95 plausibly due to random chance.

[*4] A patient may be counted up to 12 times per year.

[*5] The waitlist percentage for each subgroup is calculated as a rate of waitlisted patient-months to patient-months at risk in each subgroup. A missing value indicates that there were no eligible patients in the subgroup.

[*6] An event is defined as a waitlisting or living-donor transplant.

TABLE 6: Influenza Vaccination Summary All Dialysis Patients^{*1}, Flu Seasons during August 2019-December 2022[^]

Measure Name	This Region				United States	
	2019 [^]	2020	2021	2022	2022	
6a	Eligible patients on 12/31 (n)	51,974	50,841	49,362	48,281	482,807
6b	Patients excluded due to medical contraindication (n)	458	519	550	1,256	12,564
Full Flu Season (Aug. 1-Mar. 31 of following year)					2021	
6c	Patients vaccinated (% of 6a)	86.9	87.3	84.0		83.1
6d	P-value ^{*2} (for 6c compared to U.S. value) ^{*3}	<0.01	<0.01	<0.01		n/a
6e	Reason for no vaccination (% of 6a)					
	Declined vaccination	5.9	6.8	8.3		8.7
	Other reason or vaccine data not available	7.2	5.9	7.6		8.2
Half Flu Season (Aug. 1-Dec. 31)					2022	
6f	Patients vaccinated (% of 6a)	85.8	86.9	83.0	72.4	73.7
6g	P-value ^{*2} (for 6f compared to U.S. value) ^{*4}	<0.01	<0.01	0.023	0.039	n/a
6f	Patients vaccinated by subgroup (%) ^{*5}					
	Medicare	86.4	87.6	84.0	73.5	74.9
	Medicare Advantage	87.1	88.5	85.1	74.3	76.0
	Medicare as primary insurer	86.4	87.4	83.7	73.3	74.3
	Medicare as secondary insurer	85.6	87.2	82.4	71.2	72.0
	Non-Medicare	81.5	81.6	75.9	65.4	66.3
	Dual Medicare/Medicaid eligible	85.2	86.0	81.9	72.3	73.8
	Age < 18	82.3	83.4	74.2	51.0	47.7
	Age 18-39	81.6	79.7	72.3	64.3	64.3
	Age 40-64	84.7	85.4	80.8	70.6	71.8
	Age 65-74	86.9	88.3	85.2	74.1	75.7
	Age 75+	88.1	90.2	87.5	75.9	77.4
	Male	85.9	86.8	82.7	72.0	73.2
	Female	85.8	86.9	83.3	72.8	74.1
	African American	82.0	81.9	77.8	68.2	70.7
	Asian/Pacific Islander	88.2	90.7	86.9	76.8	75.8
	Native American	87.2	86.8	80.9	66.6	72.6
	White	87.5	88.7	84.9	73.9	75.2
	Other/unknown race	69.4	70.1	67.2	55.9	58.1
	Hispanic	87.8	89.0	85.3	76.8	77.6
	< 1 year since start of ESRD	80.7	81.5	76.1	61.7	63.1
	1-2 years since start of ESRD	86.7	87.6	83.6	72.5	73.5
	3+ years since start of ESRD	87.5	88.6	85.6	76.9	78.1

n/a = not applicable

[^] Data from January through March 2020 are excluded from all calculations due to data exceptions.

[*1] All Dialysis Patients are those treated on December 31; see Guide, Section VIII.

[*2] A p-value greater than or equal to 0.05 indicates that the difference between percent of patients vaccinated at the region and national percentage is plausibly due to random chance.

[*3] Compared to the U.S. value for that year and time period (08/01-03/31): 86% (2019), 87% (2020), 83% (2021).

[*4] Compared to the U.S. value for that year and time period (08/01-12/31): 85% (2019), 86% (2020), 82% (2021), 74% (2022).

[*5] A missing value indicates that there were no eligible patients in the subgroup.

TABLE 7: Anemia Management Summaries for Adult Dialysis Patients ^{*1}, 2019-2022 [^]

Measure Name	This Region				United States	
	2019	2020 [^]	2021	2022	2022	
Hemoglobin and ESA for Adult Hemodialysis (HD) Patients						
7a	Eligible HD patients (n)	53,042	46,898	51,862	50,166	495,985
7b	Eligible HD patient-months (n) ^{*2}	499,509	247,174	479,993	461,090	4,610,901
7c	Average hemoglobin ^{*3} (g/dL) (average of 7b)	10.8	10.8	10.8	10.7	10.7
7d	Hemoglobin categories (% of 7b; sums to 100%)					
	<10 g/dL	22.3	21.8	22.7	23.2	23.4
	10-<11 g/dL	35.0	33.6	34.1	33.8	34.1
	11-12 g/dL	29.1	29.4	28.5	28.3	28.2
	>12 g/dL	12.2	13.7	12.6	12.2	11.8
	Missing/Out of range	1.4	1.5	2.1	2.4	2.6
7e	ESA prescribed (% of 7b)	75.2	74.9	75.6	75.6	75.9
Hemoglobin and ESA for Adult Peritoneal Dialysis (PD) Patients						
7f	Eligible PD patients (n)	7,376	6,674	8,202	8,174	80,814
7g	Eligible PD patient-months (n) ^{*2}	59,694	32,379	65,531	65,207	652,066
7h	Average hemoglobin ^{*3} (g/dL) (average of 7g)	10.9	11.0	11.0	11.0	10.9
7i	Hemoglobin categories (% of 7g; sums to 100%)					
	<10 g/dL	23.1	22.0	21.7	22.5	22.9
	10-<11 g/dL	29.2	28.2	28.0	27.7	28.1
	11-12 g/dL	26.2	26.7	26.5	26.2	26.0
	>12 g/dL	18.8	20.3	20.5	20.0	19.1
	Missing/Out of range	2.8	2.7	3.2	3.6	3.8
7j	ESA prescribed (% of 7g)	55.5	54.7	53.7	53.2	53.9
Standardized Transfusion Ratio (STrR)						
		2019	2020 [^]	2021	2022	2022
7k	Adult Medicare patients (n)	36,636	34,629	29,824	25,833	276,801
7l	Patient years (PY) at risk (n)	23,164	15,114	17,931	15,312	154,931
7m	Total transfusions (n)	7,177	5,055	6,070	4,858	51,554
7n	Expected total transfusions (n)	7,389	5,202	6,273	5,083	51,599
7o	Standardized Transfusion Ratio ^{*4}	0.92	0.92	0.92	0.92	0.99
7p	P-value ^{*5}	0.095	0.188	0.091	0.095	n/a

n/a = not applicable.

[^] Data from January through June 2020 are excluded from hemoglobin and ESA summaries and data from March through June 2020 are excluded from STrR calculations due to data exceptions.

[*1] See *Guide, Section XI*. Transfusion summaries include adult Medicare Dialysis Patients only.

[*2] Patients may be counted up to 12 times per year.

[*3] Based on in-range values; see *Guide* for range values.

[*4] Calculated as a ratio of observed transfusions to expected transfusions (7m to 7n); not shown if there are fewer than 10 patient-years at risk for transfusions.

[*5] Ratios within the range 0.95 to 1.05 will not have a p-value. A p-value greater than or equal to 0.05 indicates that the standardized ratio is greater than 1.05 or less than 0.95 plausibly due to random chance.

TABLE 8: Dialysis Adequacy Summaries for All Dialysis Patients ^{*1}, 2019-2022 [^]

Measure Name	This Region				United States	
	2019	2020 [^]	2021	2022	2022	
Adult Hemodialysis (HD) Adequacy						
8a	Eligible HD patients (n)	53,042	46,898	51,862	50,166	495,985
8b	Eligible HD patient-months (n) ^{*2}	499,509	247,174	479,993	461,090	4,610,901
8c	Average serum albumin (g/dL) (average of 8b)	4.2	3.9	3.9	3.9	3.9
8d	Serum albumin categories (% of 8b; sums to 100%)					
	< 3.0 g/dL	2.5	2.4	2.2	2.0	1.9
	3.0-<3.5 g/dL	10.4	10.0	9.0	8.4	8.2
	3.5-<4.0 g/dL	42.9	41.8	37.7	37.9	37.7
	>=4.0 g/dL	41.9	43.3	48.1	48.1	48.3
	Missing	2.3	2.5	3.0	3.7	3.8
8e	Ultrafiltration rate average ^{*3} (ml/kg/hr) (average of 8b)	7.5	7.6	7.6	7.6	7.7
8f	Ultrafiltration rate categories (% of 8b; sums to 100%)					
	<=13 (ml/kg/hr)	85.5	86.9	87.4	86.5	86.3
	>13 (ml/kg/hr)	7.5	7.6	7.4	7.5	7.7
	Out of Range (>=20 ml/kg/hr)	2.6	2.4	2.3	2.5	2.3
	Missing	4.4	3.1	2.9	3.5	3.6
8g	Eligible HD Kt/V patients (n) ^{*4}	51,176	44,297	49,183	47,513	469,863
8h	Eligible HD Kt/V patient-months (n) ^{*2 *4}	477,396	231,324	447,912	429,449	4,294,486
8i	Average Kt/V (average of 8h) ^{*3 *4}	1.7	1.6	1.6	1.6	1.6
8j	Kt/V categories (% of 8h; sums to 100%) ^{*4}					
	<1.2	1.5	1.5	1.6	1.9	1.9
	1.2-<1.8	69.9	70.1	70.7	71.7	72.3
	>=1.8	27.3	27.3	26.1	24.5	23.9
	Missing/Out of range	1.2	1.2	1.5	1.8	1.9
Adult Peritoneal Dialysis (PD) Adequacy						
8k	Eligible PD patients (n)	7,376	6,674	8,202	8,174	80,814
8l	Eligible PD patient-months (n) ^{*2}	59,694	32,379	65,531	65,207	652,066
8m	Average Weekly Kt/V (average of 8l) ^{*3 *4}	2.2	2.2	2.2	2.2	2.2
8n	Weekly Kt/V categories (% of 8l; sums to 100%) ^{*4}					
	<1.7	5.1	4.7	5.0	5.3	5.3
	1.7-<2.5	67.5	69.2	68.4	68.0	67.8
	>=2.5	23.9	23.5	23.8	23.6	23.5
	Missing/Out of range	3.5	2.7	2.8	3.1	3.4
8o	Average serum albumin (g/dL) (average of 8l)	3.6	3.6	3.7	3.7	3.7
8p	Serum Albumin Categories (% of 8l; sums to 100%)					
	< 3.0 g/dL	7.4	7.3	6.3	5.7	5.6
	3.0-<3.5 g/dL	24.6	24.1	21.5	20.6	20.8
	3.5-<4.0 g/dL	43.3	43.0	41.4	42.8	42.8
	>=4.0 g/dL	21.9	22.7	27.6	27.4	27.0
	Missing	2.8	2.9	3.2	3.5	3.8

(continued)

TABLE 8 (continued): Dialysis Adequacy Summaries for All Dialysis Patients ^{*1}, 2019-2022[^]

Measure Name	This Region				United States
	2019	2020 [^]	2021	2022	2022
Pediatric Kt/V ^{*4}					
8q Eligible Pediatric HD patients (n)	74	56	68	67	662
8r Eligible Pediatric HD patient-months (n) ^{*2}	517	246	449	464	4,637
8s Average Kt/V (average of 8r) ^{*3}	1.7	1.7	1.7	1.8	1.7
8t Kt/V categories (% of 8r; sums to 100%)					
<1.2	2.5	3.4	2.4	2.6	3.0
1.2-<1.8	59.2	60.4	58.6	54.1	57.5
>= 1.8	33.7	30.3	32.9	36.0	30.7
Missing/Out of Range	4.6	5.8	6.1	7.3	8.7
8u Eligible Pediatric PD Patients (n)	93	78	90	81	805
8v Eligible Pediatric PD patient-months (n) ^{*2}	711	367	660	619	6,189
8w Average Weekly Kt/V (average of 8v) ^{*3}	2.3	2.4	2.4	2.4	2.4
8x Weekly Kt/V categories (% of 8v; sums to 100%)					
<1.7	11.3	12.6	11.7	12.1	14.3
1.7-<2.5	44.5	45.7	48.8	47.6	44.1
>=2.5	26.6	31.4	32.1	29.6	30.4
Missing/Out of Range	17.7	10.2	7.4	10.7	11.1

n/a = not applicable.

[^] Includes data reported from July - December 2020 only due to data limitations.

[*1] See *Guide, Section XII*. Unless otherwise noted, all summaries are based on data reported in EQRS and the patient must be on HD (or PD) for the entire reporting month to be included in patient counts and summaries.

[*2] Patients may be counted up to 12 times per year.

[*3] Based on in-range values; see *Guide* for range values.

[*4] Kt/V summaries are supplemented with Medicare claims if missing in EQRS. HD Kt/V summaries are restricted to patients who dialyze thrice weekly. See section of *Guide* titled *Determination of Thrice Weekly Dialysis* for more information. The most recent value over a 4-month period is selected for PD Kt/V. PD Kt/V values for 2020 were calculated for quarter 4 only due to data exceptions. As a result, there are fewer eligible PD patients than what is reported (8u-v) for Kt/V summaries since the 3-month lookback window includes data covered by CMS' COVID-19 ECE policy.

SAMPLE

TABLE 9: Mineral Metabolism Summaries for All Adult Dialysis Patients ^{*1}, 2019-2022 [^]

Measure Name	This Region				United States
	2019	2020 [^]	2021	2022	2022
9a Eligible adult patients (n) ^{*2}	58,948	52,898	58,428	56,733	560,578
9b Eligible adult patient-months (n) ^{*2 *3}	560,455	280,234	546,939	527,704	5,277,038
9c Average Phosphorus ^{*4} (mg/dL) (average ^{*5})	5.4	5.5	5.5	5.5	5.5
9d Phosphorus categories (% of 9b ^{*5} ; sums to 100%)					
<3.5 mg/dL	7.6	7.3	6.9	7.5	7.6
3.5-4.5 mg/dL	23.5	23.1	22.4	22.9	22.8
4.6-5.5 mg/dL	30.1	29.6	29.2	28.3	28.3
5.6-7.0 mg/dL	22.2	22.4	22.7	22.4	22.2
>7.0 mg/dL	14.3	15.2	15.9	15.6	15.6
Out of Range (<0.01 mg/dL or >20 mg/dL)	0.0	0.0	0.0	0.0	0.0
Missing	2.2	2.4	2.9	3.3	3.4
9e Average Calcium Uncorrected ^{*4} (mg/dL) (average of 9b)	8.9	8.9	8.9	8.9	8.9
9f Calcium Uncorrected categories (% of 9b; sums to 100%)					
<8.4 mg/dL	19.6	20.2	18.6	18.9	18.6
8.4-10.2 mg/dL	77.4	76.6	77.6	77.1	77.2
>10.2 mg/dL	1.2	1.1	1.2	1.1	1.1
Out of Range (<0.01 mg/dL or >20 mg/dL)	0.0	0.0	0.0	0.0	0.0
Missing	1.9	2.1	2.6	2.9	3.0
9g Average uncorrected calcium > 10.2 mg/dL (%) ^{*4 *6}	1.3	1.7	1.9	1.9	2.0

n/a = not applicable.

[^] Includes data reported from July - December 2020 only due to data limitations.

[*1] See *Guide, Section XIII*. Summaries are based on data reported in EQRS and the patient must be assigned to the facility the entire month to be included.

[*2] Includes patients on ESRD more than 90 days who switch between HD and PD during the month and patients for whom modality is unknown.

[*3] Patients may be counted up to 12 times per year.

[*4] The acceptable range for calcium is 0.1 – 20 mg/dL. Values outside of this range are considered missing, which are counted towards the numerator.

[*5] Eligible patients included in the phosphorus summaries differ slightly from what is reported in 9b since it includes patient-months within the first 90 days of ESRD.

[*6] Hypercalcemia is averaged from uncorrected serum or plasma calcium values over a rolling 3-month period. Eligible patients included in the hypercalcemia summary differs slightly from what is reported in 9b since patients must be 18 as of the first day of the 3-month period.

TABLE 10: Vascular Access Information for all Adult Dialysis Patients and Access-Related Infection Summaries for all Medicare Patients^{*1}, 2019-2022[^]

Measure Name	This Region				United States	
	2019	2020 [^]	2021	2022	2022	
Vascular Access						
10a	Prevalent adult hemodialysis (HD) patients ^{*2}	55,937	49,075	54,629	52,743	521,434
10b	Prevalent adult hemodialysis patient months ^{*2 *3}	521,337	256,628	500,449	480,445	4,804,453
10c	Vascular access type in use (% of 10b; sums to 100%)					
	Arteriovenous fistula	64.7	63.1	61.8	60.3	58.9
	Arteriovenous graft	16.5	16.1	15.8	15.4	16.6
	Catheter	17.5	19.5	20.3	22.1	22.1
	Other/Missing	1.3	1.3	2.1	2.2	2.3
10d	Standardized Fistula Rate (SFR) ^{*4}	64.9	63.5	61.9	60.4	58.6
10e	Long-Term Catheter Rate ^{*5}	12.4	14.4	15.4	17.0	17.2
Vascular Access at First Treatment						
10f	Incident adult hemodialysis patients (n)	10,638	5,605	10,877	10,192	101,918
10g	Vascular access type in use (% of 10f; sums to 100%)					
	Arteriovenous fistula	16.6	14.2	13.6	13.2	11.9
	Arteriovenous graft	3.3	3.0	2.9	3.0	3.2
	Catheter	78.2	80.5	82.1	79.8	80.8
	Other/Missing	1.8	2.3	1.4	4.0	4.2
10h	Arteriovenous fistulae in placed ^{*6} (% of 10f)	17.7	14.9	14.3	13.9	12.4
Infection: Peritoneal dialysis (PD)						
		2019	2020[^]	2021	2022	2022
10i	Eligible PD patients (n)	5,253	5,205	4,918	4,306	43,057
10j	Eligible PD patient-months ^{*3}	38,051	26,582	34,873	30,939	309,386
10k	PD catheter infection rate per 100 PD patient-months ^{*7}	2.5	2.5	2.6	2.5	2.5
10l	P-value ^{*8} of 10k (compared to U.S. value ^{*9})	0.174	0.200	0.116	0.184	n/a

n/a = not applicable

[^] Data from January through June 2020 are excluded from vascular access summaries and data from March through June 2020 are excluded from infection summaries due to data exceptions.

[*1] See *Guide, Section XIV*. Vascular Access type is based on data reported in CROWNWeb. For the prevalent summaries (rows 10a-10e), the patient must be assigned to the facility for the entire calendar month to be included. The PD infection summaries are based on Medicare Dialysis claims.

[*2] Patient months with a catheter that have limited life expectancy, including under hospice care in the current reporting month, or with metastatic cancer, end stage liver disease, coma or anoxic brain injury in the past 12 months, were excluded.

[*3] Patients may be counted up to 12 times per year.

[*4] Includes patients with an autogenous arteriovenous (AV) fistula as the sole means of vascular access. SFR is calculated as an adjusted rate of AV fistula in use reported in 10c.

[*5] Includes patients using a catheter continuously for three months or longer. Patients with other or missing access types (10c) are also counted as catheter in use in the numerator. Long-term catheter rate (10e) values in 2020 were calculated for quarter 4 only due to data limitations.

[*6] Includes all patients with fistulae, regardless of whether or not they received their hemodialysis treatments using their fistulae.

[*7] ICD-10 PD catheter infection code for PD patients is T8571XA.

[*8] A p-value greater than or equal to 0.05 indicates the differences between the percent of patients with infection at the facility and national percentage is plausibly due to random change.

[*9] Compared to U.S. value for that year: 2.47 (2019), 2.54 (2020), 2.60 (2021), and 2.47 (2022).

TABLE 11: Comorbidities Reported on Inpatient Medicare Claims for Medicare Dialysis Patients Treated as of December 31st of Each Year ^{*1}, 2019-2022

Measure Name	This Region				United States
	2019	2020	2021	2022	2022
11a Medicare dialysis patients on 12/31(n)	40,623	39,438	37,832	36,490	371,713
11b Comorbidity (% yes of 11a)					
Infections					
AIDS/HIV positive	0.7	0.7	0.7	0.7	0.8
Intravascular/implanted device-related ^{*2}	4.6	4.5	4.7	4.7	5.0
Hepatitis B	0.5	0.4	0.4	0.4	0.5
Hepatitis other	2.1	1.9	1.7	1.6	1.6
Metastatic	1.4	1.4	1.4	1.6	1.6
Pneumonia	5.1	3.5	3.3	3.6	3.6
Tuberculosis	0.1	0.3	0.2	0.3	0.2
Other	19.4	18.8	18.0	18.5	19.0
Cardiovascular					
Cardiac arrest	0.8	0.9	1.0	0.9	1.0
Cardiac dysrhythmia	19.2	19.1	19.5	19.8	19.7
Cerebrovascular disease	7.1	6.9	7.1	7.2	7.7
Congestive heart failure	30.4	30.2	30.4	31.4	31.7
Ischemic heart disease	27.1	26.5	26.4	26.6	26.9
Myocardial infarction	6.6	7.2	7.6	8.0	8.1
Peripheral vascular disease ^{*3}	16.8	16.7	17.0	16.9	17.4
Other					
Alcohol dependence	1.5	1.4	1.5	1.5	1.4
Anemia	2.5	2.7	3.1	3.4	3.3
Cancer	3.4	3.3	3.5	3.7	3.6
Chronic obstructive pulmonary disease	16.0	14.9	14.6	14.9	14.7
Diabetes	36.5	36.2	36.2	36.5	37.4
Drug dependence	1.5	1.4	1.4	1.4	1.2
Gastrointestinal tract bleeding	2.7	2.9	3.0	3.0	3.1
Hyperparathyroidism	20.0	19.7	20.1	21.1	21.1
11c Average number of comorbid conditions	2.3	2.2	2.2	2.3	2.3

n/a = not applicable.

[*1] Based on patients with Medicare as primary insurer on 12/31 each year; See *Guide, Section XV*.

[*2] This category includes bloodstream and other infections related to intravascular access and other implanted devices, not limited to dialysis access.

[*3] Peripheral vascular disease includes venous, arterial and nonspecific peripheral vascular diseases.

Region Profile for FY 2024 for Dialysis Patients and Facilities
REGION SAMPLE

TABLE 12: Selected Summaries for Nursing Home (NH) Patients^{*1}, 2019-2022[^]

Measure Name	This Region				United States	
	2019	2020 [^]	2021	2022	2022	
Patient Characteristics						
12.1a	Patients treated on 12/31 (n)	7,396	5,815	5,849	5,726	57,305
12.1c	Age (% of 12.1a; sums to 100%)					
	< 18	0.0	0.0	0.0	0.0	0.0
	18-64	32.6	33.2	32.2	31.1	31.7
	65+	67.4	66.8	67.8	68.9	68.3
12.1d	Female (% of 12.1a)	47.9	47.6	48.0	48.3	48.2
12.1e	Race (% of 12.1a; sums to 100%) ^{*3}					
	African American	27.7	28.7	29.4	29.8	36.3
	Asian/Pacific Islander	4.0	3.9	4.1	4.3	4.2
	Native American	1.6	1.8	1.8	1.9	1.2
	White	66.5	65.4	64.5	63.8	58.1
	Other/Unknown/Missing	0.2	0.2	0.2	0.2	0.2
12.1f	Ethnicity (% of 12.1a; sums to 100%)					
	Hispanic	12.6	12.5	12.9	13.0	13.5
	Non-Hispanic	87.4	87.4	87.0	86.9	86.4
	Unknown	0.1	0.1	0.1	0.1	0.1
12.1g	Cause of ESRD (% of 12.1a; sums to 100%)					
	Diabetes	56.6	56.4	55.7	54.2	53.2
	Hypertension	25.6	25.5	25.4	25.9	28.8
	Glomerulonephritis	5.5	5.2	5.2	5.0	4.4
	Other	12.0	12.4	13.2	14.1	12.8
	Unknown/Missing	0.3	0.4	0.5	0.7	0.9
12.1i	Years since start of ESRD (% of 12.1a; sums to 100%)					
	< 1	21.3	20.3	22.3	20.9	21.3
	1-2	15.7	16.2	14.6	16.2	16.0
	2-3	12.6	12.5	12.5	11.9	11.7
	3-6	25.4	25.8	25.8	25.5	25.1
	6+	25.0	25.2	24.8	25.5	25.9
12.1k	Modality (% of 12.1a; sums to 100%)					
	In-center hemodialysis	95.1	94.4	93.5	93.5	92.4
	Home hemodialysis	1.6	2.4	3.0	4.0	5.2
	Continuous ambulatory peritoneal dialysis	0.3	0.3	0.3	0.2	0.2
	Continuous cycling peritoneal dialysis	2.3	2.0	2.3	2.0	1.9
	Other modality ^{*4}	0.7	0.8	0.9	0.3	0.3

(continued)

TABLE 12 (continued): Selected Summaries for Nursing Home (NH) Patients ^{*1}, 2019-2022 [^]

Measure Name	This Region				United States	
	2019	2020 [^]	2021	2022	2022	
Characteristics of New Dialysis Patients						
12.2a	Total number of patients with forms (n)	2,863	2,212	2,384	2,164	21,639
12.2g	Medical coverage (% of 12.2a; sums to 100%)					
	Employer group only	2.9	2.8	2.5	2.1	2.0
	Medicare (alone or combined w/ other insurance)	83.6	82.4	82.8	85.3	85.0
	Medicaid only	8.4	9.0	8.7	7.8	8.0
	Other/Unknown/None	5.1	5.8	6.1	4.8	5.0
12.2k	Number of incident hemodialysis patients (n)	2,918	2,254	2,429	2,215	22,148
12.2l	Access used at first outpatient dialysis (% of 12.2k; sums to 100%)					
	Arteriovenous fistula	8.6	7.9	6.7	7.2	6.0
	Arteriovenous graft	2.4	2.1	1.7	2.2	2.1
	Catheter	86.7	87.9	89.4	88.0	89.3
	Other/Unknown/Missing	2.4	2.0	2.2	2.6	2.5
12.2m	Arteriovenous fistulae placed (% of 12.2k)	20.9	18.0	16.5	16.3	13.8
12.2s	Pre-ESRD nephrologist care (% of 12.2a; sums to 100%)					
	No	18.0	18.1	18.2	16.9	17.2
	Yes, < 6 months	18.9	19.5	20.1	20.7	21.4
	Yes, 6-12 months	18.6	18.1	16.9	16.0	15.9
	Yes, > 12 months	27.4	25.5	24.0	25.2	21.0
	Unknown	17.2	18.9	20.8	21.2	24.5
12.2t	Informed of transplant options (% of 12.2a)	77.1	76.7	83.6	85.9	87.5
Mortality summary for all NH dialysis patients ^{*5}						
12.3a	Patients (n=number)	12,848	10,854	10,906	10,808	130,905
12.3b	Patient years (PY) at risk (n)	7,969.8	4,396.9	6,591.7	6,419.1	67,618.5
12.3c	Deaths (n)	3,155	2,136	2,899	2,740	30,470
12.3d	Expected deaths (n)	2,614.2	1,761.8	2,574.4	2,307.7	24,323.1
12.3c/12.3b	Rate (deaths per 100 PYs at risk)	39.1	48.2	43.7	42.5	45.1
12.3j	SMR (deaths/expected deaths)	1.18	1.18	1.10	1.16	1.25
12.3e	Withdrawal from dialysis prior to death (% of 12.3c)	39.2	33.5	30.8	32.1	25.7
Hospitalization summary for NH Medicare dialysis patients						
12.4a	Medicare dialysis patients (n)	11,844	9,957	10,004	9,911	119,411
12.4b	Patient years (PY) at risk (n)	7,177.3	3,979.6	5,955.8	5,809.0	60,811.3
12.4g	Total admissions (n)	22,561	12,051	17,253	16,305	175,447
12.4h	Expected total admissions (n)	14,627.2	8,228.7	11,201.9	10,824.1	114,782.1
12.4g/12.4b	Rate (admissions per 100 PYs at risk)	304.6	292.3	280.5	268.8	288.5
12.4i	SHR (admissions/expected admissions)	1.50	1.42	1.49	1.45	1.53
	Diagnoses associated with hospitalization (% of 12.4a)					
	Septicemia	24.6	26.5	24.3	24.0	22.4
	Acute myocardial infarction	10.8	12.0	12.3	12.2	10.9
	Congestive heart failure	47.9	48.6	47.7	48.7	44.6
	Cardiac dysrhythmia	35.5	36.2	35.8	35.3	31.9
	Cardiac arrest	3.5	4.2	4.2	4.0	3.9

(continued)

TABLE 12 (continued): Selected Summaries for Nursing Home (NH) Patients ^{*1}, 2019-2022 [^]

Measure Name	This Region				United States
	2019	2020 [^]	2021	2022	2022
Comorbidities reported on Medicare claims					
12.11a Medicare dialysis patients on 12/31 (n)	6,809	5,323	5,322	5,207	54,847
12.11b Comorbidity (% yes of 12.11a)					
Infections					
AIDS/HIV positive	0.8	0.9	0.9	0.9	1.1
Intravascular/implanted device-related ^{*6}	8.2	7.8	7.9	8.0	9.0
Hepatitis B	0.8	0.8	0.7	0.7	0.9
Hepatitis other	3.6	3.7	3.3	3.1	3.3
Metastatic	3.8	4.1	4.0	4.3	4.4
Pneumonia	12.0	9.6	9.0	9.5	10.2
Tuberculosis	0.2	0.4	0.3	0.3	0.3
Other	40.8	41.6	39.9	40.0	41.9
Cardiovascular					
Cardiac arrest	2.0	2.2	2.4	2.3	2.6
Cardiac dysrhythmia	38.5	39.3	40.4	40.3	40.8
Cerebrovascular disease	16.8	17.8	18.2	18.7	20.1
Congestive heart failure	54.7	55.8	55.8	57.2	58.2
Ischemic heart disease	48.6	48.9	48.2	47.4	48.6
Myocardial infarction	12.3	13.9	14.6	14.8	15.6
Peripheral vascular disease ^{*6}	35.1	36.2	36.6	36.2	37.3
Anemia ^{*7}					
12.7a Eligible adult HD patients (n)	10,353	7,142	8,717	8,561	84,643
12.7b Eligible adult HD patient-months (n) ^{*2}	86,774	34,417	70,865	68,858	688,583
12.7d Hemoglobin (HD) < 10 g/dL (% of 12.7b)	29.7	28.9	30.2	29.9	30.5
12.7e ESA prescribed (% of 12.7b)	79.6	79.5	79.6	79.4	79.2
12.7f Eligible adult PD patients (n)	494	244	441	425	4,209
12.7g Eligible adult PD patient-months (n) ^{*2}	3,013	893	2,533	2,380	23,800
12.7i Hemoglobin (PD) < 10 g/dL (% of 7g)	29.7	28.5	27.1	28.2	28.5
12.7j ESA prescribed (% of 7g)	58.4	57.1	55.1	55.9	55.7
Dialysis Adequacy ^{*7 *8}					
12.8a Eligible adult HD Kt/V patients (n)	10,070	6,846	8,399	8,244	81,533
12.8b Eligible adult HD Kt/V patient-months (n) ^{*2}	83,814	32,766	67,357	65,411	654,109
12.8j Kt/V (HD) < 1.2 (% of 12.8b)	2.0	2.1	2.2	2.5	2.7
12.8k Eligible adult PD Kt/V patients (n)	494	244	441	425	4,209
12.8l Eligible adult PD Kt/V patient-months (n) ^{*2}	3,013	893	2,533	2,380	23,800
12.8n Kt/V (PD) < 1.7 (% of 12.8l)	8.8	9.1	9.0	8.4	8.9
Vascular Access ^{*7 *9}					
12.10a Prevalent adult hemodialysis patients (n)	11,038	7,441	9,244	9,032	89,284
12.10b Prevalent adult hemodialysis patient months (n) ^{*2}	90,815	35,423	73,907	71,571	715,705
12.10c Arteriovenous fistula in use (% of 12.10b)	54.3	51.5	51.4	49.9	47.4
12.10e Long-Term Catheter Rate (LTCR)	17.5	21.8	21.0	22.7	23.4

Region Profile for FY 2024 for Dialysis Patients and Facilities

REGION SAMPLE

n/a = not applicable; Kt/V: K = dialyzer clearance of urea; t = dialysis time; V = patient's total body water.

[^] For exclusions due to data exceptions, please refer to corresponding parent table.

[*1] See Guide, Section XVI corresponding to the parent table in the DFR state profile.

[*2] A patient may be counted up to 12 times per year.

[*3] 'Asian' includes Indian sub-continent. 'Native American' includes Alaskan Native. 'White' includes Middle Eastern and Arab.

[*4] Other modality includes other dialysis, uncertain modality, and patients not on dialysis but still temporarily assigned to the facility (discontinued dialysis, recovered renal function, and lost to follow-up).

[*5] Deaths due to street drugs and accidents unrelated to treatment are excluded.

[*6] Intravascular/implanted device-related category includes bloodstream and other infections related to intravascular access and other implanted devices, not limited to dialysis access.

[*7] Summaries are based on data reported in EQRS and the patient must be on HD (or PD) for the entire reporting month to be included in patient counts and summaries.

[*8] Summaries are supplemented with Medicare claims if missing in EQRS. HD Kt/V summaries are restricted to patients who dialyze thrice weekly. The PD summaries use the most recent value over a 4-month look-back period.

[*9] Patient months with a catheter that have limited life expectancy, including under hospice care in the current reporting month, or with metastatic cancer, end stage liver disease, coma or anoxic brain injury in the past 12 months, were excluded.

SAMPLE