

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 2017-2020 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 2022*. 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 2022:

- COVID-19 patient counts, deaths, and hospitalizations among Medicare dialysis patients are reported in the new Table C1, and among Medicare nursing home (NH) dialysis patients in the new Table C2. These summaries are presented for each quarter of 2020, with national averages presented for Quarter 4 (October 2020 – December 2020).
- COVID adjustments are included in the models for Standardized Mortality Ratio (Table 3), Standardized Hospitalization Ratio - Admissions (Table 4), and Standardized Readmission Ratio (Table 4).
- Influenza Vaccinations reported in CROWNWeb are now included in Table 6.
- Medicare Advantage patients are now included in Standardized Hospitalization Ratio (Admissions and Days) in Table 4 and Prevalent Comorbidities in Table 11. As a result, prevalent comorbidity summaries are restricted to inpatient claims.

Data Limitations in FY 2022 Profiles

Due to incomplete CROWNWeb data for 2020 and the COVID Extraordinary Circumstances Exception (ECE) data policy from CMS, the measures reported in the FY 2022 Profiles based on calendar year 2020 have been modified to optimize the available information. Here we provide a brief overview of the impact of data incompleteness and exclusions on the FY 2022 Profiles.

The CMS ECE policy restricts the use and availability of claims data from March-June 2020 and CROWNWeb clinical data from January-June 2020. In addition, CROWNWeb data incompleteness for the end of 2020 results in:

- Unavailable clinical data for the last four months of the calendar year;
- Unavailable incident dialysis patient data during the last three months of the calendar year;
- An inability to place patients in dialysis facilities for the last two months of the calendar year.

Although this affects all measures, several measures in the Profiles do not need incident patients or patient assignment through the end of 2020 because of the 90-day new patient rule and 60-day transfer rules. (Please see Guide to the Profiles for FY 2022, in the section entitled “General Inclusion Criteria for Dialysis Patients” for details on the 90-day and 60-day rules.) Information on hospitalizations, transplants, wait listing, nursing home, and deaths are available through the end of 2020. CROWNWeb clinical data are only available for July and August 2020 (due to both ECE and data incompleteness). A summary of data available for 2020 measures reported in the FY 2022 Profiles is provided in the table below. Table footnotes provide additional information for specific measures impacted by the data limitations.

Incorporating COVID-19 Data Exclusions

Data from January 2020 – June 2020 CROWNWeb clinical data will be excluded from all calculations. This affects summaries for both adult and pediatric measures as applicable: Influenza Vaccination (Table 6); Anemia Management - Hemoglobin (Table 7); Dialysis Adequacy (Table 8); Mineral Metabolism (Table 9); and Vascular Access (Table 10). PD Kt/V, long-term catheter rates, and influenza vaccination rates for all dialysis patients in 2020 are not available due to insufficient data. Outcomes during the period March 2020 – June 2020 for remaining measures will not be reported. This includes summaries for both adult and pediatric measures as applicable: Mortality (Table 3); Hospitalization including Emergency Department and Readmission statistics (Table 4); Transplantation (Table 5); Waitlist (Table 5); Influenza Vaccination (Table 6); Anemia Management - STrR (Table 7); and Vascular Access – PD Infection (Table 10).

Table: Data Availability for 2020 Summaries in FY 2022 Profiles

Profile Table	2020 Data Availability
Table C1: COVID-19 in Medicare Dialysis Patients, 2020 Table C2: COVID-19 in Medicare Dialysis Patients Treated in Nursing Home Facilities, 2020 Table 1: Summaries for All Dialysis Patients Treated as of December 31 Table 11: Comorbidities Reported on Inpatient Medicare Claims for Medicare Dialysis Patients	January-December (12 months)
Table 2: Characteristics of New Dialysis Patients (Form CMS-2728)	January-September (9 months)
Table 3: Mortality Summaries: All Dialysis Patients (SMR) and New Patients (2019 FY SMR) Table 4: Hospitalization Summary: Standardized Hospitalization Ratios (SHRs) Table 5: Transplantation Summary for Dialysis Patients (STR) Table 5: Summary for New Dialysis Patients (2019 SWR) Table 7: Anemia Management: Transfusion (STrR)	January-February, July-December (8 months)
Table 4: Readmission Summaries (SRR)	January 1-30, July-October (5 months)
Table 3: Categories of Death (3e-3i; 3p-3s) Table 5: Waitlist Summary for All Dialysis Patients (Patients Waitlisted) Table 10: Access-Related Infection Summaries for All Medicare Patients	January-February, July-October (6 months)
Table 6: Influenza Vaccination Summary for Medicare Dialysis Patients for August 2019-March 2020 flu season	January-February (2 out of 3 months)
Table 7: Anemia Management: Hemoglobin Table 8: Dialysis Adequacy Summaries: HD Kt/V, UFR, and Albumin (HD and PD) Table 9: Mineral Metabolism Summaries: Calcium, Phosphorous, Hypercalcemia Table 10: Vascular Access Information for All Dialysis Patients and at Incidence (VA types and SFR)	July-August (2 months)

Region Highlights

Patient Characteristics: On December 31st, 2020, 12.7% of patients in this region were treated in a nursing home during the year, compared to 12.0% nationally. See **Table 1** for detailed summaries of all patients treated during 2017-2020 in this region.

Form CMS-2728 collected data from 7,922 incident patients in this region in 2020. **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 2020, 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 2020, 82.3% were informed of their transplant options, compared to 83.5% nationally. Also in 2020, 14.9% of incident patients in this region were not under the care of a nephrologist prior to ESRD therapy, compared to 15.9% nationally.

Mortality: There were 6,536 deaths among the patients treated in this region during 2020, while 6,556 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 0.96, which is 4% lower than expected. Of the deaths in this region in 2020, 20% were preceded by withdrawal from dialysis, compared to the national average of 17%. See **Table 3** of this profile for more detailed mortality statistics during 2017-2020 in this region.

First Year Mortality: There were 1,723 deaths among the incident patients treated in this region during 2019, while 1,705 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 0.98, which is 2% lower than expected. Of the deaths among incident patients in this region in 2019, 33% were preceded by withdrawal from dialysis, compared to the national average of 29%. See **Table 3** of this profile for more detailed first year mortality statistics during 2017-2019 in this region.

Hospitalization: The Standardized Hospitalization Ratio (SHR) of observed to expected hospital admissions for patients in this region during 2020 is 0.96, indicating that these patients had 4% 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 2020 is 1.06, indicating that these patients had 6% more readmissions than expected. See **Table 4** of this profile for additional hospitalization statistics during 2017-2020 in this region.

Transplantation: 1,117 patients under age 75 in this region during 2020 received their first transplant, while 1,099 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 1.13, which is 13% higher than expected. See **Table 5** of this profile for additional transplantation statistics during 2017-2020 in this region.

Kidney Transplant Waitlist for Prevalent Patients: The 2020 age-adjusted percent waitlisted in this region is 18.3%, which is 0.9% higher than the national adjusted percentage. See **Table 5** of this profile for additional transplant waitlist statistics during 2017-2020 in this region.

Kidney Transplant Waitlist for Incident Patients: The 2019 Standardized Waitlist Ratio (SWR) in this region is 1.04, which is 4% more patients waitlisted or living donor transplants than expected in this region. See **Table 5** of this profile for additional transplant waitlist statistics during 2017-2019 in this region.

Influenza Vaccination: On December 31, 2020, 82% of the Medicare dialysis patients treated in this region were vaccinated against influenza between August 1 and December 31, 2020, compared to 81% nationally. This difference is not statistically significant ($p \geq 0.05$) and is plausibly due to random chance. See **Table 6** of this profile for more information about vaccinated patients during 2017-2020 in this region.

Anemia Management: In 2020, 20.0% of eligible hemodialysis patient-months in this region had a hemoglobin value below 10 g/dL, compared to 20.2% nationally. Also in 2020, 22.6% of eligible peritoneal dialysis patient-months had a hemoglobin value below 10 g/dL, compared to 23.1% nationally. See **Table 7** of this profile for additional anemia management statistics in this region during 2017-2020.

Dialysis Adequacy: Of the eligible hemodialysis patient-months in this region in 2020, 98% had a Kt/V ≥ 1.2 , compared to 97% nationally. The percentage of eligible peritoneal dialysis (PD) patients in this region with Kt/V ≥ 1.7 in 2020 was not calculated due to data limitations. See **Table 8** of this profile for more information on dialysis during 2017-2020 in this region.

Mineral Metabolism: In 2020, 15% of eligible patient-months in this region had a serum phosphorus value >7.0 mg/dL, compared to 16% nationally. Also in 2020, 1.1% of eligible patient-months in this region had a calcium uncorrected value >10.2 mg/dL, compared to 1.0% nationally. See **Table 9** of this profile for more mineral metabolism summaries in this region during 2017-2020.

Vascular Access: In 2020, 10% of the incident hemodialysis patients in this region had an arteriovenous (AV) fistula in use, compared to 9% in the nation. This region's 2020 Standardized Fistula Rate (SFR) for prevalent patients is 64%, which is 2% higher than the national SFR. The long-term catheter rate among prevalent patients receiving hemodialysis treatment in this region in 2020 was not calculated due to data limitations. See **Table 10** of this profile for additional information about vascular access in this region during 2017-2020.

SAMPLE

Region Profile for FY 2022 for Dialysis Patients and Facilities
REGION SAMPLE

The tables below provide quarterly 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 2020 Q1-Q4.

TABLE C1. COVID in Medicare Dialysis Patients, 2020 *1

Measure Name	This Region				United States
	Q1: Jan-Mar	Q2: Apr-Jun	Q3: Jul-Sep	Q4: Oct-Dec	Q4: Oct-Dec
1 Medicare dialysis patients treated during the quarter (n)	45,461	44,585	43,841	41,283	410,942
2 Patients ever identified with COVID [prior to or during current quarter] (n)	253	1,946	2,806	4,972	49,568
Patients ever identified with COVID (% of 1)	0.6	4.4	6.4	12.0	12.1
3 Patients first identified with COVID in current quarter (n)	253	1,720	1,345	2,641	26,356
Patients first identified with COVID in current quarter (% of 1)	0.6	3.9	3.1	6.4	6.4
Deaths among Medicare patients					
4 Deaths (n)	2,174	2,233	2,124	2,430	24,316
5 Deaths among patients ever identified with COVID (n)	31	451	404	674	6,743
Deaths among patients ever identified with COVID (% of 4)	1.4	20.2	19.0	27.7	27.7
Hospitalizations *2 among Medicare patients					
6 Hospitalizations (n)	13,746	11,611	12,113	11,300	112,741
7 Hospitalizations among patients ever identified with COVID (n)	236	1,518	1,669	2,932	29,275
Hospitalizations among patients ever identified with COVID (% of 6)	1.7	13.1	13.8	25.9	26.0

[*1] Includes patients with Medicare as primary insurer or with a Medicare Advantage plan. 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.

TABLE C2. COVID in Medicare Dialysis Patients Treated in Nursing Home (NH) Facilities, 2020 *1

Measure Name	This Region				United States
	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)	5,275	4,314	4,043	3,689	36,821
2 Patients ever identified with COVID [prior to or during current quarter] (n)	67	857	970	1,451	14,489
Patients ever identified with COVID (% of 1)	1.3	19.9	24.0	39.3	39.3
3 Patients first identified with COVID in current quarter (n)	67	796	414	738	7,378
Patients first identified with COVID in current quarter (% of 1)	1.3	18.5	10.2	20.0	20.0
Deaths among Medicare NH patients					
4 Deaths (n)	690	670	544	630	6,314
5 Deaths among patients ever identified with COVID (n)	9	213	152	244	2,448
Deaths among patients ever identified with COVID (% of 4)	1.3	31.8	27.9	38.7	38.8
Hospitalizations *2 among Medicare NH patients					
6 Hospitalizations (n)	3,370	2,497	2,416	2,215	22,116
7 Hospitalizations among patients ever identified with COVID (n)	62	657	590	919	9,185
Hospitalizations among patients ever identified with COVID (% of 6)	1.8	26.3	24.4	41.5	41.5

[*1] Includes patients treated in a nursing home at least one day during the quarter and have Medicare as primary insurer or with a Medicare Advantage plan. 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 2022 for Dialysis Patients and Facilities
REGION SAMPLE

TABLE 1: Summaries for All Dialysis Patients Treated as of December 31st of each Year^{*1}, 2017-2020

Measure Name	This Region				United States
	2017	2018	2019	2020	2020
1a Patients treated on 12/31 of year (n)	47,162	48,056	48,935	47,355	473,549
1b Average age (years)	62.4	62.6	62.9	62.9	62.6
1c Age (% of 1a; sums to 100%)					
< 18	0.3	0.3	0.2	0.2	0.2
18-64	52.2	51.5	50.5	50.6	51.4
65+	47.5	48.2	49.2	49.2	48.4
1d Female (% of 1a)	42.5	42.2	42.1	42.0	42.4
1e Race (% of 1a; sums to 100%) ^{*2}					
African American	28.5	28.3	28.0	28.4	34.6
Asian/Pacific Islander	5.8	5.9	6.0	6.3	6.5
Native American	1.8	1.8	1.9	1.9	1.2
White	63.5	63.6	63.6	63.0	57.3
Other/Unknown/Missing	0.4	0.4	0.4	0.5	0.5
1f Ethnicity (% of 1a; sums to 100%)					
Hispanic	16.9	17.0	17.0	17.2	19.0
Non-Hispanic	82.8	82.7	82.7	82.3	80.6
Unknown	0.3	0.3	0.3	0.4	0.4
1g Cause of ESRD (% of 1a; sums to 100%)					
Diabetes	46.2	46.5	46.8	46.4	46.2
Hypertension	26.6	26.9	26.8	26.9	30.1
Glomerulonephritis	11.9	11.6	11.2	11.0	9.8
Other/Unknown	14.8	14.6	14.6	14.9	13.1
Missing	0.5	0.5	0.5	0.8	0.8
1h Average duration of ESRD (years)	4.9	4.9	5.0	5.1	5.1
1i Years since start of ESRD (% of 1a; sums to 100%)					
<1	16.3	16.1	16.2	14.5	14.1
1-2	17.5	17.5	17.2	17.6	17.3
2-3	14.1	14.0	14.0	14.1	13.9
3-6	25.8	26.2	26.3	26.7	26.8
6+	26.3	26.3	26.3	27.1	27.9
1j Nursing facility patients ^{*3} (% of 1a)	15.9	15.9	15.7	12.7	12.0
1k Modality (% of 1a; sums to 100%) ^{*4}					
In-center hemodialysis	87.1	86.6	85.7	84.9	85.4
Home hemodialysis	1.9	2.0	2.3	2.7	2.6
Continuous ambulatory peritoneal dialysis	1.5	1.5	1.5	1.6	1.5
Continuous cycling peritoneal dialysis	9.2	9.7	10.2	10.8	10.4
Other modality	0.3	0.3	0.3	0.0	0.0

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] In 2020, modality is as of October 31, 2020. 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 2022 for Dialysis Patients and Facilities
REGION SAMPLE

TABLE 2: Characteristics of New Dialysis Patients ^{*1}, 2017-2020 (Form CMS-2728)

Measure Name	This Region				United States	
	2017	2018	2019	2020 [^]	2020 [^]	
Patient Characteristics						
2a	Total number of patients with forms (n)	11,884	12,008	12,064	7,922	79,217
2b	Age (average years [0-95]) ^{*2}	63.6	63.9	63.9	63.7	63.5
2c	Female (% of 2a)	41.4	41.2	41.2	41.0	41.6
2d	Race ^{*3} (% of 2a; sums to 100%)					
	African American	21.1	20.9	21.3	22.9	28.6
	Asian/Pacific Islander	5.5	5.5	5.8	6.0	6.1
	Native American	1.6	1.7	1.8	1.8	1.1
	White	71.5	71.7	70.9	68.9	63.8
	Other/Unknown/Missing	0.3	0.3	0.3	0.4	0.4
2e	Hispanic (% of 2a)	14.0	14.1	14.7	15.1	16.4
2f	Primary cause of ESRD (% of 2a; sums to 100%)					
	Diabetes	48.9	49.2	48.8	48.2	48.1
	Hypertension	27.0	27.1	26.3	26.5	29.5
	Glomerulonephritis	8.1	7.9	7.5	7.6	6.5
	Other/Missing	16.0	15.9	17.5	17.7	15.9
2g	Medical Coverage ^{*4} (% of 2a; sums to 100%)					
	Employer group only	12.6	12.4	12.3	13.1	12.7
	Medicare only	32.5	33.4	33.2	33.2	35.0
	Medicaid only	12.9	12.8	13.5	13.7	13.7
	Medicare and Medicaid only	12.5	12.5	12.0	12.1	12.0
	Medicare and Other	18.3	17.9	17.7	16.5	14.5
	Other/Unknown	7.7	7.5	7.8	8.0	7.9
	None	3.4	3.5	3.5	3.3	4.2
2h	Body Mass Index ^{*5} (Median; Weight/Height ²)					
	Male	28.1	28.2	28.2	28.2	28.1
	Female	29.2	29.2	29.2	29.3	29.2
2i	Employment ^{*6}					
	Six months prior to ESRD treatment	36.1	36.7	37.5	38.5	36.8
	At first ESRD treatment	26.5	27.2	27.0	27.0	24.9
2j	Primary Modality (% of 2a; sums to 100%)					
	Hemodialysis	88.9	88.0	87.4	86.1	86.4
	CAPD/CCPD	11.1	12.0	12.6	13.9	13.6
	Other/Unknown/Missing	0.0	0.0	0.0	0.0	0.0
2k	Number of incident hemodialysis patients (n)	10,623	10,626	10,611	6,847	68,469
2l	Access used at first outpatient dialysis (% of 2k; sums to 100%)					
	Arteriovenous fistula	18.6	17.8	16.7	15.8	14.1
	Arteriovenous graft	3.1	3.0	2.9	2.6	2.7
	Catheter	78.2	79.0	80.0	81.2	82.9
	Other/Unknown/Missing	0.2	0.2	0.3	0.3	0.3
2m	Arteriovenous fistulae placed (% of 2k) ^{*7}	34.5	32.8	30.2	27.5	25.2

(continued)

TABLE 2 (continued): Characteristics of New Dialysis Patients^{*1}, 2017-2020 (Form CMS-2728)

Measure Name	This Region				United States
	2017	2018	2019	2020 [^]	2020 [^]
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])	3.2	3.3	3.3	3.3	3.3
2p Serum Creatinine (mg/dL [0-33])	6.4	6.3	6.3	6.4	6.5
2q GFR (ml/min [0-30])	10.7	10.7	10.8	10.6	10.6
Care Prior to ESRD Therapy					
2r Received ESA prior to ESRD (% of 2a)	15.3	16.3	17.1	16.9	16.3
2s Pre-ESRD nephrologist care (% of 2a; sums to 100%)					
No	18.7	17.2	15.5	14.9	15.9
Yes, <6 months	14.2	14.9	16.3	16.9	17.4
Yes, 6-12 months	20.1	20.5	20.4	20.0	20.0
Yes, >12 months	34.9	35.8	35.6	35.6	32.5
Unknown	12.1	11.6	12.2	12.6	14.3
2t Informed of transplant options (% of 2a)	86.9	86.4	82.8	82.3	83.5
2u Patients not informed of transplant options (n)	1,382	1,441	1,929	1,305	13,051
2v Reason not informed (% of 2u; may not sum to 100%) ^{*8}					
Medically unfit	35.4	31.1	19.7	18.8	16.2
Unsuitable due to age	24.4	22.1	13.9	12.6	11.9
Psychologically unfit	2.8	2.6	1.5	1.5	1.3
Patient declined information	2.2	1.5	1.1	1.0	0.9
Patient has not been assessed	39.8	47.4	66.7	69.1	72.4
Comorbid Conditions					
2w Pre-existing Comorbidity (% yes of 2a)					
Congestive heart failure	28.8	29.2	29.5	28.2	28.1
Atherosclerotic heart disease ^{*9}	14.6	14.1	13.9	13.3	12.5
Other cardiac disorder ^{*9}	19.9	20.8	21.6	20.9	20.7
CVD, CVA, TIA	8.5	8.7	8.9	8.8	8.8
Peripheral vascular disease	10.1	10.0	10.1	9.3	8.9
History of hypertension	87.5	87.9	87.8	87.9	88.5
Diabetes ^{*9}	63.1	64.1	64.0	63.7	64.5
Diabetes on insulin	42.8	43.5	43.8	43.1	43.3
COPD	9.3	9.5	9.5	9.1	8.9
Current smoker	6.7	7.0	7.1	6.9	6.9
Cancer	7.5	7.7	7.9	7.7	7.2
Alcohol dependence	1.7	1.8	1.9	1.9	1.8
Drug dependence	1.3	1.5	1.7	1.7	1.6
Inability to ambulate	6.7	6.7	6.5	6.0	6.4
Inability to transfer	3.4	3.5	3.2	3.1	3.4
2x Average number of comorbid conditions	3.1	3.2	3.2	3.1	3.1

n/a= not applicable.

[^] Includes medical evidence forms submitted between January and September 2020. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

[*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.

TABLE 3: Mortality Summary for All Dialysis Patients (2017-2020) ^ & New Dialysis Patients (2017-2019) *1 ^

Measure Name	This Region				United States
	2017	2018	2019	2020 ^	
All Dialysis Patients					2020 ^
3a Patients (n=number)	64,736	66,307	67,598	66,118	723,586
3b Patient years (PY) at risk (n)	46,670	47,620	48,499	32,297	337,406
3c Deaths (n)	8,166	8,298	8,359	6,536	68,420
3d Expected deaths (n)	8,188	8,368	8,458	6,556	68,424
3e Withdrawal from dialysis prior to death (% of 3c)	30.3	30.8	31.3	19.7	16.6
3f Deaths due to infections (% of 3c)	11.4	11.5	10.9	7.6	7.2
3g Deaths due to cardiac causes (% of 3c)	44.9	45.1	46.3	30.6	31.0
3h Deaths due to liver disease (% of 3c)	1.6	1.5	1.6	1.0	1.0
3i Dialysis unrelated deaths *2 (n; excluded from SMR)	56	54	58	26	271
3j Standardized Mortality Ratio (SMR; 3c /3d)	0.97	0.97	0.97	0.96	0.99
3k P-value *3	.	.	.	.	n/a
New Dialysis Patients					2019 ^
3l Patients (n=number)	11,884	12,008	12,064		120,644
3m Patient years (PY) at risk (n)	10,547	10,681	8,532		85,320
3n Deaths (n)	2,155	2,119	1,723		17,228
3o Expected deaths (n)	2,163	2,119	1,705		17,052
3p Withdrawal from dialysis prior to death (% of 3n)	33.2	33.2	32.5		29.1
3q Deaths due to infections (% of 3n)	10.9	10.2	9.7		9.2
3r Deaths due to cardiac causes (% of 3n)	40.2	41.3	40.2		41.7
3s Deaths due to liver disease (% of 3n)	2.8	2.7	3.0		2.8
3t Standardized Mortality Ratio (SMR; 3n /3o)	0.95	0.97	0.98		1.01
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. In 2020, for measures regarding causes of death (3e-3i and 3p-3s), cause of death information is complete through October 2020 due to data availability. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

[*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}, 2017-2020[^]

Measure Name	This Region				United States
	2017	2018	2019	2020 [^]	2020 [^]
Medicare Dialysis Patients					
4a Medicare dialysis patients (n)	53,965	55,089	56,317	54,249	582,377
4b Patient years (PY) at risk (n)	37,902	38,657	39,342	26,141	265,425
Days Hospitalized Statistics					
4c Total days hospitalized (n)	428,489	433,478	432,366	294,053	3,090,826
4d Expected days hospitalized (n)	440,824	447,195	447,563	303,362	3,093,246
4e Standardized Hospitalization Ratio for Days (4c/4d)	0.92	0.93	0.92	0.92	0.99
4f P-value ^{*2}	0.029	0.053	0.109	0.122	n/a
Admission Statistics					
4g Total admissions (n)	58,971	59,889	60,128	38,950	399,752
4h Expected total admissions (n)	59,391	60,344	60,620	39,234	399,908
4i Standardized Hospitalization Ratio for Admissions (4g/4h)	0.97	0.97	0.96	0.96	0.99
4j P-value ^{*2}	.	.	.	.	n/a
4k Patients with septicemia (% of 4a)	12.5	12.7	12.4	13.5	13.1
4l One day admissions (% of 4g)	10.0	9.7	9.6	9.1	8.9
4m Average length of stay (days per admission)	7.1	7.1	7.0	7.4	7.7
4n Admissions that originate in the ED (% of 4g)	81.3	81.9	82.3	83.3	84.7
Emergency Department (ED) Statistics					
4o Total ED visits (n)	94,734	94,187	93,903	56,327	581,029
4p Expected total ED visits (n)	95,971	95,633	95,435	57,382	582,381
4q Standardized Hospitalization Ratio for ED (4n/4o)	0.96	0.96	0.96	0.96	0.99
4r P-value ^{*2}	.	.	.	.	n/a
4s Medicare ^{*3} dialysis patients with ED visit (%)	65.0	65.2	64.6	55.0	53.2
4t ED visits that result in hospitalization (% of 4o)	41.8	42.4	42.2	44.1	45.1
Readmission Statistics					
4u Index discharges (n)	55,130	54,999	53,889	20,676	206,758
4v Total readmissions (n)	14,760	14,669	14,460	5,513	55,127
4w Expected total readmissions (n)	14,240	14,138	13,924	5,137	51,369
4x Standardized Readmission Ratio (SRR; 4v/4w)	1.01	1.02	1.01	1.06	1.07

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 July-October 2020. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

[*1] The ED statistics 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] Medicare Advantage patients are excluded from this summary.

TABLE 5: Transplantation and Waitlist Summary for All Dialysis Patients (2017-2020[^]) & New Dialysis Patients (2017-2019[^]) under Age 75^{*1}

Measure Name	This Region				United States	
	2017	2018	2019	2020 [^]		
Transplantation: All Transplants					2020[^]	
5a	Eligible patients (n)	51,574	52,599	53,303	52,069	569,968
5b	Transplants (n)	1,592	1,686	1,852	1,250	12,631
Transplantation: First Transplants						
5c	Eligible patients (n)	47,930	48,941	49,624	48,463	529,715
5d	Patient years (PY) at risk (n)	34,734	35,326	35,779	23,662	246,788
5e	Actual 1st transplants ^{*2} (n)	1,394	1,496	1,645	1,117	11,275
5f	Expected 1st transplants (n)	1,343	1,445	1,599	1,099	11,467
5g	Standardized Transplantation Ratio (STR; 5e/5f)	1.21	1.18	1.17	1.13	0.98
5h	P-value ^{*3}	0.045	<0.01	0.010	0.051	n/a
Waitlist: All Dialysis Patients						
5i	Eligible patients (n)	51,501	52,446	53,392	47,697	476,969
5j	Patient-months at risk (n) ^{*4}	436,117	442,417	447,911	222,569	2,225,694
5k	Patient-months on the waitlist (% of 5j) ^{*4}	20.8	19.8	19.1	18.4	18.0
5l	Patient-months on the waitlist by subgroup (%) ^{*4 *5}					
	Age < 40	31.6	30.7	30.1	29.2	28.2
	Age 40-74	19.5	18.6	17.8	17.3	16.9
	Male	21.9	21.0	20.2	19.5	19.2
	Female	19.2	18.1	17.4	16.8	16.1
	African American	21.0	19.8	19.0	18.3	16.9
	Asian/Pacific Islander	30.0	28.8	27.5	26.5	26.6
	Native American	18.2	16.3	14.7	14.0	11.1
	White, Hispanic	22.0	20.5	19.8	19.0	19.6
	White, Non-Hispanic	19.9	19.1	18.3	17.7	16.8
	Other/Unknown race	22.6	22.1	22.3	20.7	21.4
	Diabetes	16.4	15.6	15.1	14.9	14.7
	Non-diabetes	24.5	23.4	22.5	21.6	20.8
	Previous kidney transplant	35.0	32.6	31.5	30.4	30.7
	No previous kidney transplant	19.5	18.7	18.0	17.4	17.0
	<2 years since start of ESRD	15.8	15.5	15.4	15.1	13.7
	2-4 years since start of ESRD	25.7	24.5	23.6	22.8	22.4
	5+ years since start of ESRD	21.5	19.8	18.5	17.7	18.2
5m	Age-adjusted percentage of patient-months waitlisted	20.5	19.6	18.9	18.3	17.4
Waitlist: New Dialysis Patients						
		2017	2018	2019[^]		2019[^]
5n	Eligible Patients (n)	7,700	7,718	7,773		77,730
5o	Patient-years (PY) at risk (n)	6,851	6,856	6,926		69,257
5p	First waitlist events (n) ^{*6}	713	755	473		4,732
5q	Expected 1st waitlist events (n) ^{*6}	679	752	509		5,089
5r	Standardized Waitlist Ratio (SWR; 5p/5q) ^{*6}	1.20	1.11	1.04		0.92
5s	P-value ^{*3}	0.066	0.052	.		n/a

n/a = not applicable.

[^] Data from March through June 2020 are excluded from all calculations due to data exceptions. Summaries for Waitlist: All Dialysis Patients also exclude data between November and December 2020 due to data exceptions. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

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

[*2] Among first transplants that occurred after the start of dialysis from 2017-2020, 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 for Medicare Dialysis Patients and All Dialysis Patients ^{*1}, Flu Seasons August 2017-December 2020

Measure Name	This Region				United States	
	2017	2018	2019 [^]	2020		
Medicare Dialysis Patients					2020	
6a	Eligible patients on 12/31 (n)	30,804	30,437	30,469	27,477	274,765
6b	Patients vaccinated between Aug. 1 and Dec. 31 (% of 6a)	78.9	79.2	78.0	82.0	81.4
6c	P-value ^{*2} (for 6b compared to U.S. value) ^{*3}	0.081	0.040	0.070	0.070	n/a
6d	Patients vaccinated between Aug. 1 and Mar. 31 of following year (% of 6a)	79.8	79.9	78.8		2019 [^] 78.2
6e	P-value ^{*2} (for 6d compared to U.S. value) ^{*4}	0.041	0.045	0.093		n/a
6f	Patients vaccinated between Aug. 1 and Dec. 31 by subgroup ^{*5}					2020
	Age < 18	56.7	56.9	57.6	58.7	65.4
	Age 18-39	71.2	72.0	71.3	73.2	72.3
	Age 40-64	76.6	77.1	75.9	79.5	79.1
	Age 65-74	80.6	80.7	79.8	83.8	83.6
	Age 75+	83.4	83.5	81.8	86.8	86.2
	Male	78.4	78.9	77.7	81.7	81.1
	Female	79.4	79.7	78.4	82.4	81.8
	African American	74.7	74.9	73.6	76.9	77.5
	Asian/Pacific Islander	82.7	82.3	81.0	86.4	84.6
	Native American	77.4	76.4	75.3	79.6	82.2
	White	80.2	80.7	79.7	83.8	83.4
	Other/unknown race	73.1	76.1	74.7	80.0	78.6
	Hispanic	81.0	81.0	80.2	84.1	83.5
	< 1 year since start of ESRD	69.6	68.3	64.7	76.3	75.6
	1-2 years since start of ESRD	77.9	78.6	77.2	80.3	79.6
	3+ years since start of ESRD	81.7	82.0	81.5	83.6	83.0
All Dialysis Patients: Half Flu Season (Aug. 1-Dec. 31)						2020 ^{^^}
6g	Eligible patients (n)	61,710	63,435	62,723		
6h	Patients vaccinated (% of 6g)	53.5	77.8	76.1		
6i	P-value ^{*2} (for 6h compared to U.S. value ^{*6})	0.077	<0.01	0.012		
6j	Patients that declined vaccination (% of 6g)	6.5	6.4	3.7		
6k	Patients excluded due to medical contraindication (n)	0.6	0.8	0.4		
All Dialysis Patients: Full Flu Season (Aug. 1-Mar. 31 of the following year)						2019 ^{^^}
6l	Eligible patients (n)	66,055	67,044			
6m	Patients vaccinated (% of 6l)	54.1	77.3			
6n	P-value ^{*2} (for 6m compared to U.S. value ^{*7})	0.040	0.055			
6o	Patients that declined vaccination (% of 6l)	6.0	6.1			
6p	Patients excluded due to medical contraindication (n)	0.8	0.9			

n/a = not applicable

[^] Data from March 2020 are excluded from all calculations for Medicare patients (rows 6d-6e) due to data exceptions. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

[^^] Measures in rows 6g-6k are not calculated since data from September through December 2020 are unavailable. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

[^*] Measures in rows 6l-7p are not calculated since data from January 2020 through March 2020 are excluded from all calculations due to data exceptions. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

[*1] Medicare Dialysis Patients are those treated on December 31 with Medicare as primary insurer. All Dialysis Patients are those treated for at least one full reporting month during the flu season; 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 (08/01-12/31): 78% (2017), 78% (2018), 78% (2019), 81% (2020).

[*4] Compared to the U.S. value for that year and time period (08/01-03/31): 79% (2017), 79% (2018), 78% (2019).

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

[*6] Compared to the U.S. value for that year and time period (8/1-12/31): 53% (2017), 77% (2018), 75% (2019).

[*7] Compared to the U.S. value for that year and time period (8/1-3/31): 53% (2017), 77% (2018).

TABLE 7: Anemia Management Summaries for Adult Dialysis Patients ^{*1}, 2017-2020

Measure Name	This Region				United States	
	2017	2018	2019	2020 ^^	2020 ^^	
Hemoglobin and ESA for Adult Hemodialysis (HD) Patients						
7a	Eligible HD patients (n)	51,381	52,185	53,005	42,644	426,424
7b	Eligible HD patient-months (n) ^{*2}	484,693	492,967	498,719	82,352	823,521
7c	Average hemoglobin ^{*3} (g/dL) (average of 7b)	10.8	10.8	10.8	10.9	10.8
7d	Hemoglobin categories (% of 7b; sums to 100%)					
	<10 g/dL	20.5	21.6	22.2	20.0	20.2
	10-<11 g/dL	34.3	34.7	34.9	33.7	34.0
	11-12 g/dL	30.2	29.5	29.0	30.6	30.5
	>12 g/dL	13.1	12.4	12.2	13.9	13.4
	Missing/Out of range	1.9	1.9	1.6	1.7	1.9
7e	ESA prescribed (% of 7b)	74.2	74.2	75.1	74.0	74.7
Hemoglobin and ESA for Adult Peritoneal Dialysis (PD) Patients						
7f	Eligible PD patients (n)	6,464	6,824	7,343	5,548	55,477
7g	Eligible PD patient-months (n) ^{*2}	53,557	55,940	59,572	10,587	105,873
7h	Average hemoglobin ^{*3} (g/dL) (average of 7g)	11.0	10.9	10.9	10.9	10.9
7i	Hemoglobin categories (% of 7g; sums to 100%)					
	<10 g/dL	22.2	23.0	23.1	22.6	23.1
	10-<11 g/dL	28.9	29.1	29.1	28.6	28.9
	11-12 g/dL	26.2	25.9	26.1	26.2	26.2
	>12 g/dL	19.5	18.8	18.7	19.6	18.8
	Missing/Out of range	3.3	3.2	3.0	3.0	3.0
7j	ESA prescribed (% of 7g)	55.7	55.8	55.4	55.9	56.9
Standardized Transfusion Ratio (STrR)						
		2017	2018	2019	2020 ^	2020 ^
7k	Adult Medicare patients (n)	36,516	36,423	36,381	33,590	358,569
7l	Patient years (PY) at risk (n)	23,363	23,253	23,006	14,817	149,947
7m	Total transfusions (n)	7,680	7,526	7,131	4,958	51,759
7n	Expected total transfusions (n)	7,887	7,727	7,341	5,092	51,604
7o	Standardized Transfusion Ratio ^{*4}	0.93	0.92	0.92	0.91	1.00
7p	P-value ^{*5}	0.072	0.076	0.094	0.087	n/a

n/a = not applicable.

[^] Data from March through June 2020 are excluded from all calculations due to data exceptions. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

[^^] Includes data reported in July and August 2020 only due to data limitations. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

[*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}, 2017-2020 ^{^^}

Measure Name	This Region				United States
	2017	2018	2019	2020 ^{^^}	2020 ^{^^}
Adult Hemodialysis (HD) Adequacy					
8a Eligible HD patients (n)	51,381	52,185	53,005	42,644	426,424
8b Eligible HD patient-months (n) ^{*2}	484,693	492,967	498,719	82,352	823,521
8c Average serum albumin (g/dL) (average of 8b)	3.8	3.8	4.2	3.9	3.9
8d Serum albumin categories (% of 8b; sums to 100%)					
< 3.0 g/dL	3.6	3.2	2.5	2.4	2.5
3.0-<3.5 g/dL	14.5	12.8	10.4	10.2	10.0
3.5-<4.0 g/dL	48.2	46.2	42.9	42.6	42.2
>=4.0 g/dL	31.2	35.2	41.7	42.3	42.6
Missing	2.5	2.6	2.5	2.5	2.8
8e Ultrafiltration rate average ^{*3} (ml/kg/hr) (average of 8b)	7.7	7.6	7.5	7.5	7.6
8f Ultrafiltration rate categories (% of 8b; sums to 100%)					
<=13 (ml/kg/hr)	83.8	84.8	85.5	85.7	85.3
>13 (ml/kg/hr)	8.9	8.1	7.5	7.2	7.5
Missing/Out of range	7.2	7.1	7.1	7.1	7.2
8g Eligible HD Kt/V patients (n) ^{*4}	49,011	50,027	51,125	40,029	400,279
8h Eligible HD Kt/V patient-months (n) ^{*2 *4}	459,272	469,917	476,030	77,117	771,170
8i Average Kt/V (average of 8h) ^{*3 *4}	1.6	1.6	1.7	1.6	1.6
8j Kt/V categories (% of 8h; sums to 100%) ^{*4}					
<1.2	2.0	1.9	1.5	1.5	1.5
1.2-<1.8	71.3	71.5	69.9	70.4	71.3
>=1.8	25.1	25.3	27.3	27.2	26.2
Missing/Out of range	1.6	1.3	1.2	1.0	1.1
Adult Peritoneal Dialysis (PD) Adequacy					
8k Eligible PD patients (n)	6,464	6,824	7,343	5,548	55,477
8l Eligible PD patient-months (n) ^{*2}	53,557	55,940	59,572	10,587	105,873
8m Average Weekly Kt/V (average of 8l) ^{*3 *4}	2.3	2.3	2.2		
8n Weekly Kt/V categories (% of 8l; sums to 100%) ^{*4}					
<1.7	5.3	4.7	5.1		
1.7-<2.5	66.0	66.3	67.6		
>=2.5	24.7	25.3	23.8		
Missing/Out of range	4.0	3.7	3.5		
8o Average serum albumin (g/dL) (average of 8l)	3.5	3.5	3.6	3.6	3.6
8p Serum Albumin Categories (% of 8l; sums to 100%)					
< 3.0 g/dL	11.2	10.0	7.4	7.5	7.7
3.0-<3.5 g/dL	31.0	29.2	24.6	24.9	24.9
3.5-<4.0 g/dL	41.1	42.1	43.2	42.8	42.9
>=4.0 g/dL	13.3	15.5	21.7	21.7	21.3
Missing	3.3	3.2	3.0	3.2	3.2

(continued)

TABLE 8 (continued): Dialysis Adequacy Summaries for All Dialysis Patients ^{*1}, 2017-2020 ^{^^}

Measure Name	This Region				United States
	2017	2018	2019	2020 ^{^^}	2020 ^{^^}
Pediatric Kt/V ^{*4}					
8q Eligible Pediatric HD patients (n)	76	73	72	44	436
8r Eligible Pediatric HD patient-months (n) ^{*2}	519	516	503	80	804
8s Average Kt/V (average of 8r) ^{*3}	1.7	1.7	1.7	1.7	1.7
8t Kt/V categories (% of 8r; sums to 100%)					
<1.2	2.8	2.2	2.4	3.1	3.2
1.2-<1.8	58.4	59.3	58.5	62.0	58.6
>= 1.8	33.4	32.6	34.5	29.2	31.7
Missing/Out of Range	5.4	5.9	4.6	5.7	6.5
8u Eligible Pediatric PD Patients (n)	95	92	88	57	572
8v Eligible Pediatric PD patient-months (n) ^{*2}	693	665	668	108	1,083
8w Average Weekly Kt/V (average of 8v) ^{*3}	2.4	2.4	2.4		
8x Weekly Kt/V categories (% of 8v; sums to 100%)					
<1.7	15.2	12.4	11.3		
1.7-<2.5	44.3	44.8	45.0		
>=2.5	28.3	27.6	26.5		
Missing/Out of Range	12.2	15.2	17.3		

n/a = not applicable.

[^^] Includes data reported in July and August 2020 only due to data limitations. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

[*1] See *Guide, Section XII*. Unless otherwise noted, all summaries are based on data reported in CROWNWeb 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 CROWNWeb. 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 are not calculated due to data exceptions; see *Data Limitations in FY 2022 Profiles* on pages 1-2 more information.

SAMPLE

TABLE 9: Mineral Metabolism Summaries for All Adult Dialysis Patients ^{*1}, 2017-2020 ^{^^}

Measure Name	This Region				United States
	2017	2018	2019	2020 ^{^^}	2020 ^{^^}
9a Eligible adult patients (n) ^{*2}	56,617	57,703	58,892	48,212	482,104
9b Eligible adult patient-months (n) ^{*2 *3}	539,286	549,992	559,530	93,164	931,644
9c Average Phosphorous ^{*4} (mg/dL) (average ^{*5})	5.3	5.3	5.4	5.5	5.5
9d Phosphorous categories (% of 9b ^{*5} ; sums to 100%)					
<3.5 mg/dL	8.5	8.1	7.6	7.2	7.3
3.5-4.5 mg/dL	25.0	24.4	23.5	22.7	22.6
4.6-5.5 mg/dL	30.0	30.0	30.1	29.8	29.9
5.6-7.0 mg/dL	21.2	21.6	22.2	22.4	22.2
>7.0 mg/dL	12.6	13.3	14.3	15.5	15.5
Missing/Out of range	2.6	2.6	2.4	2.4	2.5
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	17.2	17.5	19.5	20.5	20.1
8.4-10.2 mg/dL	79.0	78.8	77.2	76.3	76.6
>10.2 mg/dL	1.3	1.3	1.2	1.1	1.0
Missing/Out of range	2.5	2.4	2.1	2.2	2.3
9g Average uncorrected calcium > 10.2 mg/dL (average of 9b ^{*4 *6})	1.8	1.8	1.5	2.6	2.7

n/a = not applicable.

[^^] Includes data reported in July and August 2020 only due to data limitations. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

[*1] See *Guide, Section XIII*. Summaries are based on data reported in CROWNWeb 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 phosphours 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}, 2017-2020

Measure Name	This Region				United States	
	2017	2018	2019	2020 ^{^^}	2020 ^{^^}	
Vascular Access						
10a	Prevalent adult hemodialysis (HD) patients ^{*2}	54,216	55,070	55,846	44,283	442,812
10b	Prevalent adult hemodialysis patient months ^{*2 *3}	514,659	523,322	529,583	85,249	852,494
10c	Vascular access type in use (% of 10b; sums to 100%)					
	Arteriovenous fistula	65.1	65.2	64.7	63.3	61.9
	Arteriovenous graft	16.7	16.6	16.6	16.1	17.4
	Catheter	16.4	16.6	17.4	19.0	19.1
	Other/Missing	1.7	1.7	1.4	1.5	1.7
10d	Standardized Fistula Rate (SFR) ^{*4}	65.3	65.4	64.9	63.8	61.8
10e	Long-Term Catheter Rate ^{*5}	11.8	11.9	12.4		
Vascular Access at First Treatment						
10f	Incident adult hemodialysis patients (n)	10,716	10,717	10,418	2,357	23,571
10g	Vascular access type in use (% of 10f; sums to 100%)					
	Arteriovenous fistula	17.7	17.3	16.5	10.5	9.2
	Arteriovenous graft	3.6	3.5	3.3	2.1	2.1
	Catheter	76.9	76.6	78.1	54.8	55.5
	Other/Missing	1.7	2.6	2.1	32.7	33.3
10h	Arteriovenous fistulae in placed ^{*6} (% of 10f)	19.3	19.0	17.5	10.9	9.6
Infection: Peritoneal dialysis (PD)						
		2017	2018	2019	2020[^]	2020[^]
10i	Eligible PD patients (n)	4,799	4,896	5,193	4,636	46,362
10j	Eligible PD patient-months ^{*3}	35,878	36,488	37,809	19,384	193,844
10k	PD catheter infection rate per 100 PD patient-months ^{*7}	2.5	2.5	2.5	2.6	2.6
10l	P-value ^{*8} of 10k (compared to U.S. value ^{*9})	0.139	0.109	0.195	0.205	n/a

n/a = not applicable

[^] Infection summaries include data between January-February and July-October 2020 due to data exceptions. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

[^^] Vascular access summaries include data reported in July and August 2020 only due to data limitations. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

[*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 not calculated due to data limitations. See *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

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

[*7] The ICD-9 PD catheter infection code for PD patients is 996.68 which is effective thru 9/30/2015 and the ICD-10 PD catheter infection code for PD patients is T8571XA which is effective beginning 10/1/2015.

[*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: 2.56 (2017), 2.48 (2018), 2.47 (2019), and 2.60 (2020).

TABLE 11: Comorbidities Reported on Inpatient Medicare Claims for Medicare Dialysis Patients Treated as of December 31st of Each Year ^{*1}, 2017-2020

Measure Name	This Region				United States
	2017	2018	2019	2020	2020
11a Medicare dialysis patients on 12/31(n)	38,993	39,647	40,570	38,400	389,712
11b Comorbidity (% yes of 11a)					
Infections					
AIDS/HIV positive	0.8	0.8	0.7	0.7	0.8
Intravascular/implanted device-related ^{*2}	5.1	5.0	4.6	4.5	4.7
Hepatitis B	0.6	0.5	0.5	0.5	0.5
Hepatitis other	2.6	2.4	2.1	1.9	2.0
Metastatic	1.4	1.5	1.4	1.4	1.4
Pneumonia	3.8	4.1	5.0	3.5	3.5
Tuberculosis	0.1	0.1	0.1	0.3	0.2
Other	20.1	20.0	19.3	18.8	18.8
Cardiovascular					
Cardiac arrest	0.9	0.9	0.8	0.9	1.0
Cardiac dysrhythmia	19.2	19.4	19.1	19.1	18.7
Cerebrovascular disease	7.2	7.2	7.0	6.9	7.3
Congestive heart failure	30.4	30.9	30.2	30.0	30.1
Ischemic heart disease	27.8	27.7	26.9	26.4	26.3
Myocardial infarction	5.9	6.4	6.6	7.1	6.9
Peripheral vascular disease ^{*3}	16.6	16.9	16.7	16.8	17.0
Other					
Alcohol dependence	1.5	1.6	1.5	1.4	1.4
Anemia	2.2	2.3	2.5	2.7	2.7
Cancer	3.4	3.5	3.4	3.3	3.2
Chronic obstructive pulmonary disease	16.7	16.3	15.9	14.8	14.6
Diabetes	37.6	37.4	36.3	36.0	36.6
Drug dependence	1.6	1.5	1.5	1.4	1.2
Gastrointestinal tract bleeding	2.6	2.6	2.7	2.9	2.9
Hyperparathyroidism	19.5	20.5	19.9	19.8	19.7
11c Average number of comorbid conditions	2.3	2.3	2.2	2.2	2.2

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.

TABLE 12: Selected Summaries for Nursing Home (NH) Patients^{*1}, 2017-2020[^]

Measure Name	This Region				United States	
	2017	2018	2019	2020	2020	
Mortality summary for all NH dialysis patients^{*3}						
12.3a	Patients (n=number)	12,271	12,576	12,717	10,594	105,935
12.3b	Patient years (PY) at risk (n)	7,641.3	7,849.7	7,921.3	4,340.3	43,403.3
12.3c	Deaths (n)	3,145	3,179	3,157	2,107	21,068
12.3d	Expected deaths (n)	2,555.9	2,629.8	2,635.2	1,859.6	18,596.1
12.3c/12.3b	Rate (deaths per 100 PYs at risk)	40.7	40.5	39.4	48.2	48.5
12.3j	SMR (deaths/expected deaths)	1.20	1.19	1.17	1.10	1.13
12.3e	Withdrawal from dialysis prior to death (% of 12.3c)	38.1	38.8	39.2	23.5	20.6
Hospitalization summary for NH Medicare dialysis patients						
12.4a	Medicare dialysis patients (n)	11,342	11,567	11,711	9,678	96,775
12.4b	Patient years (PY) at risk (n)	6,935.3	7,097.0	7,129.8	3,912.7	39,126.9
12.4g	Total admissions (n)	22,104	22,518	22,430	12,431	124,311
12.4h	Expected total admissions (n)	14,082.0	14,353.4	14,207.0	8,476.1	84,761.2
12.4g/12.4b	Rate (admissions per 100 PYs at risk)	308.7	308.0	304.9	305.1	317.7
12.4i	SHR (admissions/expected admissions)	1.53	1.52	1.53	1.42	1.47
Diagnoses associated with hospitalization (% of 12.4a)						
	Septicemia	25.4	25.6	24.8	26.9	27.7
	Acute myocardial infarction	9.6	10.6	10.9	12.2	12.2
	Congestive heart failure	47.3	48.4	48.1	49.2	50.2
	Cardiac dysrhythmia	35.4	35.8	35.6	36.8	37.1
	Cardiac arrest	4.0	3.8	3.6	4.3	4.8
Comorbidities reported on Medicare claims						
12.11a	Medicare dialysis patients on 12/31 (n)	6,516	6,639	6,710	5,148	51,482
12.11b	Comorbidity (% yes of 12.11a)					
Infections						
	AIDS/HIV positive	0.9	0.9	0.8	1.0	1.1
	Intravascular/implanted device-related ^{*4}	9.2	9.1	8.2	7.9	8.5
	Hepatitis B	1.0	0.9	0.8	0.8	0.9
	Hepatitis other	4.5	4.2	3.7	3.8	4.1
	Metastatic	3.9	4.0	3.8	4.2	4.0
	Pneumonia	10.4	10.6	12.0	9.5	9.7
	Tuberculosis	0.1	0.1	0.2	0.3	0.3
	Other	43.3	42.5	40.8	41.7	42.3
Cardiovascular						
	Cardiac arrest	2.4	2.2	2.0	2.2	2.5
	Cardiac dysrhythmia	39.8	39.4	38.6	39.4	39.6
	Cerebrovascular disease	17.8	17.6	16.8	17.8	19.3
	Congestive heart failure	55.9	56.0	54.6	55.7	56.6
	Ischemic heart disease	51.2	50.2	48.7	49.0	49.7
	Myocardial infarction	11.3	12.4	12.3	13.9	13.9
	Peripheral vascular disease ^{*4}	35.5	36.3	35.2	36.5	37.5

(continued)

TABLE 12 (continued): Selected Summaries for Nursing Home (NH) Patients^{*1}, 2017-2020[^]

Measure Name	This Region				United States	
	2017	2018	2019	2020	2020	
Anemia^{*5}						
12.7a	Eligible adult HD patients (n)	9,960	10,181	10,259	6,265	62,648
12.7b	Eligible adult HD patient-months (n) ^{*2}	83,324	85,585	86,053	11,775	117,745
12.7d	Hemoglobin (HD) < 10 g/dL (% of 12.7b)	27.5	28.9	29.7	27.2	28.1
12.7e	ESA prescribed (% of 12.7b)	79.0	78.8	79.6	79.0	79.4
12.7f	Eligible adult PD patients (n)	446	460	488	197	1,973
12.7g	Eligible adult PD patient-months (n) ^{*2}	2,789	2,821	2,992	353	3,528
12.7i	Hemoglobin (PD) < 10 g/dL (% of 7g)	28.1	29.8	29.8	29.9	30.1
12.7j	ESA prescribed (% of 7g)	57.5	58.7	58.2	58.7	58.4
Dialysis Adequacy^{*5 *6}						
12.8a	Eligible adult HD Kt/V patients (n)	9,566	9,818	9,980	5,973	59,731
12.8b	Eligible adult HD Kt/V patient-months (n) ^{*2}	79,471	82,122	83,096	11,209	112,090
12.8j	Kt/V (HD) < 1.2 (% of 12.8b)	2.5	2.4	2.0	2.2	2.3
12.8k	Eligible adult PD Kt/V patients (n)	446	460	488	197	1,973
12.8l	Eligible adult PD Kt/V patient-months (n) ^{*2}	2,789	2,821	2,992	353	3,528
12.8n	Kt/V (PD) < 1.7 (% of 12.8l)	8.3	8.0	8.8		
Vascular Access^{*5 *7}						
12.10a	Prevalent adult hemodialysis patients (n)	10,669	10,883	10,912	6,456	64,560
12.10b	Prevalent adult hemodialysis patient months (n) ^{*2}	87,324	89,445	89,882	12,084	120,841
12.10c	Arteriovenous fistula in use (% of 12.10b)	54.8	55.0	54.5	52.6	50.3
12.10e	Long-Term Catheter Rate (LTCR)	16.7	16.9	17.4		

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 and *Data Limitations in FY 2022 Profiles* on pages 1-2 for more information.

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

[*4] Intravascular/implanted device-related category includes bloodstream and other infections related to intravascular access and other implanted devices, not limited to dialysis access. Peripheral vascular disease includes venous, arterial and nonspecific peripheral vascular diseases.

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

[*6] Summaries are supplemented with Medicare claims if missing in CROWNWeb. 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.

[*7] 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.