

Dear State Surveyor:

This report is designed to provide a comparative summary of treatment patterns and patient outcomes for End Stage Renal Disease (ESRD) patients in this state, as compared to all patients in the United States. The statistics reported here include dialysis patients treated during 2014-2017 in the chronic dialysis facilities in this state and are based primarily on Medicare claims and data collected for CMS. Selected statistics from this profile are summarized below and state-to-state comparisons of key statistics are provided in the *Maps and Tables of Key Statistics by State*.

ESRD CORE Pre-Survey Data Tool

For each facility in your state, key data elements from the DFR reviewed in the Core Survey Pre-survey Preparation task are reported in xxx_FY2019_Presurvey_201808.pdf available on the secure Dialysis Reports website (www.DialysisData.org). Narrative text to assist in interpretation is included on the form and bookmark links allow you to jump to a desired facility's report.

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. For a complete description of the methods and data reported here please see the *Guide to the State Profiles for FY 2019*. The Guide is available on the Dialysis Data website at www.DialysisData.org.

What's New This Year

As part of a continuing effort to improve the quality and relevance of this report for your state, the following changes have been incorporated into the State Profile for FY 2019: The Standardized Hospitalization Ratio (SHR) measures for days hospitalized and admissions were replaced by the new NQF-endorsed measures, which adjust for several prevalent comorbidities identified through Medicare claims. Hypercalcemia now includes patients with a missing three-month calcium average in both the numerator and denominator.

Facility Highlights

Patient Characteristics: On December 31st, 2017, 12% of patients for this state were treated in a nursing home during the year, compared to 15% nationally. See **Table 1** for detailed summaries of all patients treated during 2014-2017 in this state.

Form CMS-2728 collected data from 13,885 incident patients in this state in 2017. **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 2017, the average age of patients in this state was 64 years, compared to the national average of 64 years. Asian patients made up 17% of the patients in this state compared to 6% nationally. 87% of incident patients in this state were informed of their transplant options, compared to 88% nationally. Also in 2017, 19% of incident patients in this state were not under the care of a nephrologist prior to ESRD therapy, compared to 20% nationally.

Mortality: There were 9,567 deaths among the patients treated in this state during 2017, while 9,666 would be expected based on their age, race, ethnicity, sex, diabetes status, duration of ESRD, nursing home status, BMI at incidence, comorbidities at incidence, as well as state population death rates. The Standardized Mortality Ratio (SMR) of observed to expected deaths is 0.99, which is 1% lower than expected. Of the deaths in this state in 2017, 20% were preceded by withdrawal from dialysis, compared to the national average of 25%. See **Table 3** of this profile for more detailed mortality statistics during 2014-2017 in this state.

First Year Mortality: There were 2,419 deaths among the incident patients treated in this state during 2016, while 2,333 would be expected based on their age, race, ethnicity, sex, diabetes status, nursing home status, BMI at incidence, comorbidities at incidence, as well as state population death rates. The First Year Standardized Mortality Ratio (SMR) of observed to expected deaths is 1.04, which is 4% higher than expected. Of the deaths among incident patients in this state in 2016, 21% were preceded by withdrawal from dialysis, compared to the national average of 27%. See **Table 3** of this profile for more detailed first year mortality statistics during 2014-2016 in this state.

Hospitalization: The Standardized Hospitalization Ratio (SHR) of observed to expected hospital admissions for patients in this state during 2017 is 0.99, indicating that these patients had 1% fewer admissions than expected based on characteristics of patients treated in this state. The Standardized Readmission Ratio (SRR) of observed to expected hospital readmissions in this state during 2017 is 1.02, indicating that these patients had 2% more readmissions than expected. See **Table 4** of this profile for additional hospitalization statistics during 2014-2017 in this state.

Transplantation: 1,574 patients under age 70 in this state during 2017 received their first transplant, while 1,723 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 state is 0.91, which is 9% lower than expected. See **Table 5** of this profile for additional transplantation statistics during 2014-2017 in this state.

Kidney Transplant Waitlist: On December 31, 2017, 30% of the dialysis patients under age 70 being treated in this state were on the kidney transplant waitlist compared to 20% 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 patients on the kidney transplant waitlist in this state during 2014-2017.

Influenza Vaccination: On December 31, 2017, 70.5% of the Medicare dialysis patients treated in this state were vaccinated against influenza between August 1 and December 31, 2017, compared to 72.1% nationally. This difference is statistically significant ($p < 0.05$) and is unlikely to be due to random chance. See **Table 7** of this profile for more information about vaccinated patients during 2014-2017 in this state.

Anemia Management: In 2017, 13.2% of ESA-treated hemodialysis patients (with at least 4 eligible Medicare dialysis claims) in this state had an average hemoglobin value below 10 g/dL, compared to 16.8% nationally. Also in 2017, 20.9% of ESA-treated peritoneal dialysis patients (with at least 4 eligible Medicare dialysis claims) in this state had an average hemoglobin value below 10 g/dL, compared to 26.2% nationally. See **Table 8** of this profile for additional anemia management statistics in this state during 2014-2017.

Dialysis Adequacy: Of the eligible hemodialysis patient-months in this state in 2017, 95.9% had a Kt/V ≥ 1.2 , compared to 96.2% nationally. Of the eligible peritoneal dialysis patient-months in this state in 2017, 89.1% had a Kt/V ≥ 1.7 , compared to 90.6% nationally. See **Table 9** of this profile for more information on dialysis during 2014-2017 in this state.

Mineral Metabolism: In 2017, 12.5% of eligible patient-months in this state had a serum phosphorus value > 7.0 mg/dL, compared to 12.6% nationally. Also in 2017, 1.3% of eligible patient-months in this state had a calcium uncorrected value > 10.2 mg/dL, compared to 1.3% nationally. See **Table 10** of this profile for more mineral metabolism summaries in this state during 2014-2017.

Vascular Access: In 2017, 67.7% of the prevalent and 19.1% of the incident hemodialysis patients in this state had an arteriovenous (AV) fistula in place. Nationally, 63.8% of the prevalent patients and 17.1% of the incident patients had a fistula in place. Of the prevalent patients receiving hemodialysis treatment in this state, 10.0% had a catheter which had been in place for more than 90 days as their only vascular access, compared to 10.7% nationally. See **Table 11** of this profile for additional information about vascular access in this state during 2014-2017.

TABLE 1: Summaries for All Dialysis Patients Treated as of December 31st of each Year^{*1}, 2014-2017

Measure Name	This State				United States
	2014	2015	2016	2017	2017
1a Patients treated on 12/31 of year (n)	58,180	60,154	62,068	63,054	469,909
1b Average age (years)	61.9	62.1	62.5	62.7	62.1
1c Age (% of 1a; sums to 100%)					
< 18	0.3	0.3	0.3	0.2	0.2
18-64	54.0	53.5	52.5	51.8	53.1
65+	45.7	46.2	47.3	48.0	46.7
1d Female (% of 1a)	42.8	42.6	42.0	41.7	43.0
1e Race (% of 1a; sums to 100%) ^{*2}					
African American	15.1	14.8	14.5	14.3	34.8
Asian/Pacific Islander	16.6	16.7	17.1	17.5	6.0
Native American	0.4	0.4	0.4	0.4	1.2
White	67.5	67.6	67.4	67.3	57.6
Other/Unknown/Missing	0.5	0.5	0.5	0.6	0.4
1f Ethnicity (% of 1a; sums to 100%)					
Hispanic	42.9	42.9	42.7	42.5	18.5
Non-Hispanic	56.7	56.7	56.9	57.1	81.2
Unknown	0.4	0.4	0.4	0.4	0.3
1g Cause of ESRD (% of 1a; sums to 100%)					
Diabetes	50.2	50.9	51.7	52.3	46.1
Hypertension	26.8	26.7	26.4	26.3	29.7
Glomerulonephritis	10.7	10.4	10.0	9.7	10.5
Other/Unknown	11.7	11.2	11.0	10.7	12.9
Missing	0.7	0.8	0.8	0.9	0.9
1h Average duration of ESRD (years)	4.9	5.0	5.0	5.1	5.0
1i Years since start of ESRD (% of 1a; sums to 100%)					
<1	15.0	14.7	14.7	14.3	15.6
1-2	16.5	16.3	16.2	15.9	17.0
2-3	13.3	13.6	13.3	13.4	13.9
3-6	28.0	27.3	27.1	27.3	26.2
6+	27.2	28.1	28.7	29.0	27.2
1j Nursing facility patients ^{*3} (% of 1a)	11.5	12.1	12.2	12.2	15.0
1k Modality (% of 1a; sums to 100%)					
In-center hemodialysis	87.3	87.1	87.4	87.0	87.6
Home hemodialysis	1.2	1.1	1.1	1.1	1.8
Continuous ambulatory peritoneal dialysis	1.9	2.0	1.7	1.5	1.4
Continuous cycling peritoneal dialysis	9.3	9.4	9.4	9.9	8.8
Other modality ^{*4}	0.3	0.4	0.3	0.5	0.4

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 Arabian.

[*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).

TABLE 2: Characteristics of New Dialysis Patients (Form CMS-2728) ^{*1}, 2014-2017

Measure Name	This State				United States 2017	
	2014	2015	2016	2017		
Patient Characteristics						
2a	Total number of patients with forms (n)	13,756	14,131	14,142	13,885	116,234
2b	Age (average years [0-95]) ^{*2}	63.5	63.9	64.1	64.3	63.7
2c	Female (% of 2a)	41.6	41.4	40.9	40.9	42.3
2d	Race ^{*3} (% of 2a; sums to 100%)					
	African American	12.2	12.1	11.9	11.9	26.1
	Asian/Pacific Islander	15.4	16.4	17.4	17.4	5.6
	Native American	0.3	0.3	0.4	0.4	0.9
	White	71.6	70.7	69.9	69.7	67.0
	Other/Unknown/Missing	0.5	0.5	0.4	0.5	0.3
2e	Hispanic (% of 2a)	35.7	35.1	34.5	34.9	15.0
2f	Primary cause of ESRD (% of 2a; sums to 100%)					
	Diabetes	53.1	53.8	55.0	55.7	49.0
	Hypertension	27.7	27.2	26.4	26.8	30.1
	Glomerulonephritis	6.7	6.8	6.4	6.4	7.0
	Other/Missing	12.5	12.2	12.1	11.1	14.0
2g	Medical Coverage ^{*4} (% of 2a; sums to 100%)					
	Employer group only	11.0	11.0	10.8	10.8	12.3
	Medicare only	20.5	22.3	23.5	26.1	33.8
	Medicaid only	19.3	19.8	20.0	19.8	12.8
	Medicare and Medicaid only	20.1	19.7	20.0	19.0	12.8
	Medicare and Other	16.2	15.6	14.5	13.1	16.8
	Other/Unknown	10.8	10.6	10.5	10.4	7.4
	None	2.1	1.0	0.7	0.9	4.1
2h	Body Mass Index ^{*5} (Median; Weight/Height ²)					
	Male	26.8	26.9	26.9	27.1	28.1
	Female	27.4	27.5	27.6	27.6	29.2
2i	Employment ^{*6}					
	Six months prior to ESRD treatment	29.3	32.3	34.5	37.1	34.4
	At first ESRD treatment	20.3	23.1	23.8	24.8	25.0
2j	Primary Modality (% of 2a; sums to 100%)					
	Hemodialysis	88.9	88.0	88.1	86.5	89.4
	CAPD/CCPD	11.1	12.0	11.9	13.5	10.6
	Other/Unknown/Missing	0.0	0.0	0.0	0.0	0.0
2k	Number of incident hemodialysis patients (n)	12,232	12,431	12,456	12,005	103,905
2l	Access used at first outpatient dialysis (% of 2k; sums to 100%)					
	Arteriovenous fistula	16.6	17.4	17.8	18.7	16.6
	Arteriovenous graft	2.9	3.2	3.2	2.9	3.1
	Catheter	80.4	79.2	78.9	78.3	80.1
	Other/Unknown/Missing	0.1	0.2	0.2	0.2	0.2
2m	Arteriovenous fistulae placed (% of 2k) ^{*7}	30.1	30.6	30.3	30.7	32.2
Average Lab Values Prior to Dialysis ^{*2}						
2n	Hemoglobin (g/dL [3-18])	9.5	9.5	9.4	9.4	9.3
2o	Serum Albumin (g/dL [0.8-6.0])	3.2	3.2	3.2	3.2	3.2
2p	Serum Creatinine (mg/dL [0-33])	6.3	6.3	6.4	6.4	6.4
2q	GFR (ml/min [0-30])	10.7	10.7	10.6	10.6	10.7

(continued)

TABLE 2 (continued): Characteristics of New Dialysis Patients (Form CMS-2728)^{*1}, 2014-2017

Measure Name	This State				United States 2017	
	2014	2015	2016	2017		
Care Prior to ESRD Therapy						
2r	Received ESA prior to ESRD (% of 2a)	15.8	15.5	15.6	16.1	13.6
2s	Pre-ESRD nephrologist care (% of 2a; sums to 100%)					
	No	23.5	21.4	21.0	19.5	19.7
	Yes, <6 months	16.5	16.7	17.4	18.5	14.5
	Yes, 6-12 months	18.0	19.3	19.4	19.4	20.0
	Yes, >12 months	21.2	23.0	23.5	25.9	31.5
	Unknown	20.8	19.7	18.6	16.7	14.3
2t	Informed of transplant options (% of 2a)	86.6	88.0	87.6	87.4	88.3
2u	Patients not informed of transplant options (n)	1,847	1,701	1,745	1,751	13,585
2v	Reason not informed (% of 2u; may not sum to 100%) ^{*8}					
	Medically unfit	31.8	30.8	30.4	27.3	33.6
	Unsuitable due to age	24.9	27.4	22.5	27.8	25.2
	Psychologically unfit	2.2	2.5	2.4	2.1	2.8
	Patient declined information	1.7	2.3	2.1	2.2	2.1
	Patient has not been assessed	44.9	43.4	46.9	48.1	40.3
Comorbid Conditions						
2w	Pre-existing Comorbidity (% yes of 2a)					
	Congestive heart failure	24.1	24.0	24.9	23.7	28.8
	Atherosclerotic heart disease ^{*9}	10.5	9.6	9.6	10.2	13.4
	Other cardiac disorder ^{*9}	13.7	14.8	14.9	14.5	20.1
	CVD, CVA, TIA	5.8	5.8	6.0	6.1	8.6
	Peripheral vascular disease	7.3	6.6	6.6	6.7	9.6
	History of hypertension	85.7	85.7	85.9	86.5	88.2
	Diabetes ^{*9}	64.8	64.8	65.9	66.6	64.1
	Diabetes on insulin	37.8	38.2	39.1	40.0	43.1
	COPD	5.0	4.9	5.5	4.9	9.4
	Current smoker	3.0	2.6	3.3	2.7	6.5
	Cancer	4.7	4.6	5.0	4.7	7.0
	Alcohol dependence	1.4	1.5	1.5	1.4	1.6
	Drug dependence	1.1	1.1	1.3	1.3	1.3
	Inability to ambulate	6.9	7.0	7.0	6.4	7.3
	Inability to transfer	4.5	4.3	4.7	4.1	3.9
2x	Average number of comorbid conditions	2.8	2.8	2.8	2.8	3.1

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 Arabian.

[*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 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 (2014-2017) & New Dialysis Patients (2014-2016)^{*1}

Measure Name	This State				United States
	2014	2015	2016	2017	
All Dialysis Patients					
3a Patients (n=number)	76,708	79,528	81,897	83,792	n/a
3b Patient years (PY) at risk (n)	56,963	59,103	61,468	62,548	n/a
3c Deaths (n)	8,250	8,829	9,092	9,567	85,444
3d Expected deaths (n)	8,494	8,979	9,349	9,666	85,807
3e Withdrawal from dialysis prior to death (% of 3c)	20.5	21.7	20.6	20.3	25.0
3f Deaths due to infections (% of 3c)	11.0	11.4	10.6	10.3	10.5
3g Deaths due to cardiac causes (% of 3c)	49.4	49.3	49.7	49.8	45.5
3h Deaths due to liver disease (% of 3c)	1.5	1.4	1.5	1.3	1.5
3i Dialysis unrelated deaths ^{*2} (n; excluded from SMR)	39	50	49	46	565
3j Standardized Mortality Ratio (SMR; 3c /3d)	0.97	0.98	0.97	0.99	1.00
3k P-value ^{*3}	.	.	.	.	n/a
New Dialysis Patients					
3l Patients (n=number)	13,756	14,131	14,142		n/a
3m Patient years (PY) at risk (n)	12,302	12,626	12,629		n/a
3n Deaths (n)	2,352	2,423	2,419		22,388
3o Expected deaths (n)	2,375	2,396	2,333		22,355
3p Withdrawal from dialysis prior to death (% of 3n)	21.8	23.2	20.7		27.2
3q Deaths due to infections (% of 3n)	10.0	9.6	8.6		9.4
3r Deaths due to cardiac causes (% of 3n)	44.5	45.3	42.0		40.3
3s Deaths due to liver disease (% of 3n)	2.8	3.1	2.7		2.6
3t Standardized Mortality Ratio (SMR; 3n /3o)	0.99	1.01	1.04		1.00
3u P-value ^{*3}	.	.	.		n/a

n/a = not applicable.

[*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}, 2014-2017

Measure Name	This State				United States
	2014	2015	2016	2017	2017
Medicare Dialysis Patients					
4a Medicare dialysis patients (n)	52,338	53,384	54,637	55,447	n/a
4b Patient years (PY) at risk (n)	33,895	34,670	35,290	35,288	n/a
Days Hospitalized Statistics					
4c Total days hospitalized (n)	381,372	400,774	408,284	416,987	4,408,307
4d Expected days hospitalized (n)	433,304	450,201	454,993	459,829	4,417,419
4e Standardized Hospitalization Ratio for Days (4c/4d)	0.88	0.89	0.90	0.91	1.00
4f P-value ^{*2}	<0.01	<0.01	<0.01	<0.01	n/a
Admission Statistics					
4g Total admissions (n)	56,522	57,988	60,075	61,983	601,379
4h Expected total admissions (n)	58,746	60,499	61,593	62,807	601,523
4i Standardized Hospitalization Ratio for Admissions (4g/4h)	0.96	0.96	0.98	0.99	1.00
4j P-value ^{*2}	.	.	.	.	n/a
4k Patients with septicemia (% of 4a)	11.8	12.1	12.0	12.8	11.3
4l One day admissions (% of 4g)	12.2	10.6	10.5	11.0	9.8
4m Average length of stay (days per admission)	6.7	6.9	6.8	6.7	7.3
Emergency Department (ED) Statistics					
4n Total ED visits (n)	88,153	91,361	96,129	99,714	1,052,363
4o Expected total ED visits (n)	101,816	105,951	110,293	111,870	1,052,465
4p Standardized Hospitalization Ratio for ED (4n/4o)	0.87	0.86	0.87	0.89	1.00
4q P-value ^{*2}	<0.01	<0.01	<0.01	<0.01	n/a
4r Patients with ED visit (% of 4a)	57.4	58.3	59.5	60.2	61.9
4s ED visits that result in hospitalization (% of 4p)	49.5	49.7	49.8	49.9	47.3
4t Admissions that originate in the ED (% of 4g)	77.2	78.3	79.7	80.2	82.7
Readmission Statistics					
4u Index discharges (n)	53,574	54,649	57,090	58,343	555,110
4v Total readmissions (n)	13,788	14,197	14,633	15,049	149,044
4w Expected total readmissions (n)	13,516	13,756	14,598	14,796	143,056
4x Standardized Readmission Ratio (SRR: 4v/4w)	1.02	1.03	1.00	1.02	1.04

n/a = not applicable.

[*1] 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.

TABLE 5: Transplantation Summary for Dialysis Patients under Age 70^{*1}, 2014-2017

Measure Name	This State				United States
	2014	2015	2016	2017	2017
5a Eligible patients (n)	51,902	53,675	55,283	55,829	n/a
5b Transplants (n)	1,609	1,732	1,834	1,815	n/a
Patients who have not Previously Received a Transplant					
5c Eligible patients (n)	47,946	49,620	51,257	51,824	n/a
5d Patient years (PY) at risk (n)	35,827	37,170	38,704	38,996	n/a
5e Actual 1st transplants ^{*2} (n)	1,411	1,458	1,554	1,574	13,363
5f Expected 1st transplants (n)	1,457	1,547	1,663	1,723	13,441
5g Standardized Transplantation Ratio (STR; 5e/5f)	0.97	0.94	0.93	0.91	0.99
5h P-value ^{*3}	.	0.429	0.368	0.178	n/a

TABLE 6: Waitlist Summary for Dialysis Patients under Age 70 Treated as of December 31st of Each Year^{*1}, 2014-2017

Measure Name	This State				United States
	2014	2015	2016	2017	2017
6a Eligible patients on 12/31 (n)	41,436	42,869	43,575	43,672	n/a
6b Patients on the waitlist (% of 6a)	32.3	31.3	30.5	29.9	20.1
6c P-value ^{*4} (compared to U.S. value)	<0.01	<0.01	<0.01	<0.01	n/a
6d Patients on the waitlist by subgroup (%) ^{*5}					
Age < 40	46.4	43.9	42.4	42.5	29.5
Age 40-69	30.3	29.6	29.0	28.2	19.0
Male	33.3	32.3	31.7	31.1	21.3
Female	30.9	29.9	28.8	28.1	18.6
African American	28.2	27.1	25.9	24.4	18.7
Asian/Pacific Islander	43.0	41.8	40.6	39.8	30.8
Native American	23.9	22.3	25.1	24.3	13.4
White, Hispanic	31.1	30.5	30.3	29.8	22.6
White, Non-Hispanic	30.8	29.2	27.7	27.6	19.0
Other/Unknown race	40.9	39.5	33.9	28.8	22.1
Diabetes	27.0	26.6	26.0	25.3	16.1
Non-diabetes	37.6	36.2	35.4	34.9	23.6
Previous kidney transplant	47.9	44.9	41.8	39.0	34.4
No previous kidney transplant	31.0	30.2	29.7	29.2	18.9
<2 years since start of ESRD	20.0	18.9	19.5	18.8	14.2
2-4 years since start of ESRD	38.3	37.3	35.2	34.8	24.9
5+ years since start of ESRD	38.9	37.8	36.7	35.5	21.9

n/a = not applicable.

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

[*2] Among first transplants that occurred after the start of dialysis from 2014-2017, 3.9% of transplants in the U.S. were not included because the transplant occurred less than 90 days after the start of ESRD and 0.9% were not included 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] This state waitlist percentage is compared to the U.S. value for that year: 24.0% (2014), 22.6% (2015), 21.3% (2016), 20.1% (2017). A p-value greater than or equal to 0.05 indicates that the difference between the percent of patients waitlisted in the state and in the nation is plausibly due to random chance.

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

TABLE 7: Influenza Vaccination Summary for Medicare Dialysis Patients Treated on December 31st of Each Year^{*1}, Flu Seasons August 2014-December 2017

Measure Name	This State				United States
	2014	2015	2016	2017	
					2017
7a Eligible patients on 12/31 (n)	35,288	35,792	36,311	35,857	n/a
7b Patients vaccinated between Aug. 1 and Dec. 31 (% of 7a)	73.0	72.8	70.4	70.5	72.1
7c P-value ^{*2} (for 7b compared to U.S. value) ^{*3}	<0.01	0.043	<0.01	<0.01	n/a
					2016
7d Patients vaccinated between Aug. 1 and Mar. 31 of following year (% of 7a)	73.4	73.3	70.9		69.6
7e P-value ^{*2} (for 7d compared to U.S. value) ^{*4}	<0.01	0.020	<0.01		n/a
7f Patients vaccinated between Aug. 1 and Dec. 31 by subgroup ^{*5}					2017
Age < 18	43.2	59.5	45.2	62.5	55.8
Age 18-39	69.3	68.7	67.1	67.6	68.6
Age 40-64	73.4	73.7	70.5	71.1	72.6
Age 65-74	72.9	71.4	69.6	69.5	71.8
Age 75+	73.5	74.0	72.0	71.2	72.7
Male	73.4	73.1	70.0	70.6	72.0
Female	72.4	72.6	70.9	70.3	72.2
African American	65.3	65.0	62.1	61.0	69.9
Asian/Pacific Islander	78.4	78.2	75.9	76.5	75.4
Native American	75.9	75.0	70.2	75.3	79.6
White	73.2	73.1	70.7	70.8	73.0
Other/unknown race	80.6	74.3	66.9	67.7	68.6
Hispanic	76.0	75.9	72.8	73.2	72.6
< 1 year since start of ESRD	59.5	58.0	57.6	57.9	58.8
1-2 years since start of ESRD	73.4	73.1	70.3	69.6	70.6
3+ years since start of ESRD	76.2	76.3	73.5	73.7	76.2

n/a = not applicable

[*1] Based on patients with Medicare as primary insurer; see *Guide, Section X*.

[*2] A p-value greater than or equal to 0.05 indicates that the difference between percent of patients vaccinated at the state 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): 73.9% (2014), 73.2% (2015), 68.9% (2016), 72.1% (2017).

[*4] Compared to the U.S. value for that year and time period (08/01-03/31): 74.4% (2014), 73.8% (2015), 69.6% (2016).

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

TABLE 8: Anemia Management Summaries for Adult Dialysis Patients^{*1}, 2014-2017

Measure Name	This State				United States
	2014	2015	2016	2017	2017
Hemoglobin and ESA-CROWNWeb					
8a Eligible patients (n) ^{*2}	67,390	70,007	72,590	74,139	557,445
8b Eligible patient-months (n) ^{*3}	660,427	684,189	709,948	722,998	5,360,104
8c Average hemoglobin ^{*4} (g/dL) (average of 8b)	10.8	10.8	10.8	10.8	10.8
8d Hemoglobin categories (% of 8b; sums to 100%)					
<10 g/dL	18.9	19.1	19.0	19.6	20.7
10-<11 g/dL	36.6	35.2	35.6	35.4	33.8
11-12 g/dL	27.7	29.4	30.2	30.3	29.8
>12 g/dL	9.9	11.3	11.8	12.3	13.3
Missing/Out of range	7.0	5.1	3.3	2.4	2.4
8e ESA prescribed (% of 8b)	67.8	68.0	69.1	69.5	72.5
Standardized Transfusion Ratio (STrR)					
8f Adult Medicare patients (n)	45,994	46,884	48,029	48,473	n/a
8g Patient years (PY) at risk (n)	27,847	28,309	28,737	28,656	n/a
8h Total transfusions (n)	10,784	10,091	9,750	9,232	n/a
8i Expected total transfusions (n)	11,849	11,395	11,198	10,689	n/a
8j Standardized Transfusion Ratio ^{*5}	0.91	0.89	0.87	0.86	1.01
8k P-value ^{*6}	0.036	<0.01	<0.01	<0.01	n/a
Hemoglobin-Medicare Claims^{*7}					
8l Eligible hemodialysis (HD) patients (n)	28,633	28,884	28,854	28,281	n/a
8m Hemoglobin categories among HD pts (% of 8l; sums to 100%)					
< 10 g/dL	11.6	11.9	12.1	13.2	16.8
10-<11 g/dL	70.4	67.3	65.9	65.1	63.9
11-12 g/dL	17.7	20.5	21.7	21.4	19.0
> 12 g/dL	0.2	0.3	0.4	0.3	0.3
8n Eligible peritoneal dialysis (PD) patients (n)	2,589	2,627	2,664	2,653	n/a
8o Hemoglobin categories among PD pts (% of 8n; sums to 100%)					
< 10 g/dL	22.4	22.9	20.6	20.9	26.2
10-<11 g/dL	58.2	57.8	59.6	58.5	56.7
11-12 g/dL	18.6	18.2	18.9	19.6	16.5
> 12 g/dL	0.8	1.2	0.9	0.9	0.6

n/a = not applicable.

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

[*2] Includes those 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] Based on in-range values; see *Guide* for range values.

[*5] Calculated as a ratio of observed transfusions to expected transfusions (8h to 8i); not shown if there are fewer than 10 patient-years at risk for transfusions.

[*6] 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.

[*7] Among ESA-treated dialysis patient with ESRD for 90+ days and 4 or more claims at this facility.

TABLE 9: Dialysis Adequacy Summaries for All Dialysis Patients ^{*1}, 2014-2017

Measure Name	2014	This State			United States 2017
		2015	2016	2017	
Adult Hemodialysis (HD) Adequacy					
9a Eligible HD patients (n)	60,482	62,722	65,049	66,369	n/a
9b Eligible HD patient-months (n) ^{*2}	588,054	607,210	630,521	641,214	n/a
9c Average serum albumin (g/dL) (average of 9b)	3.9	3.9	3.8	3.8	3.8
9d Serum albumin categories (% of 9b; sums to 100%)					
< 3.0 g/dL	2.3	2.5	3.3	3.3	3.6
3.0-<3.5 g/dL	8.9	9.0	12.9	13.2	14.3
3.5-<4.0 g/dL	36.6	38.8	47.3	47.7	48.0
>=4.0 g/dL	39.2	44.5	33.0	32.9	31.1
Missing	13.0	5.1	3.5	2.9	2.9
9e Ultrafiltration rate average ^{*3} (ml/kg/hr) (average of 9b)	9.0	8.8	8.4	8.2	7.8
9f Ultrafiltration rate categories (% of 9b; sums to 100%)					
<=13 (ml/kg/hr)	46.5	45.3	77.9	80.3	83.0
>13 (ml/kg/hr)	10.7	9.4	13.1	12.0	9.4
Missing/Out of range	42.8	45.3	9.0	7.7	7.6
9g Eligible HD Kt/V patients (n) ^{*4}	54,850	56,762	59,860	61,768	n/a
9h Eligible HD Kt/V patient-months (n) ^{*2 *4}	513,749	535,725	569,324	584,786	n/a
9i Average Kt/V (average of 9h) ^{*3 *4}	1.6	1.6	1.6	1.6	1.6
9j Kt/V categories (% of 9h; sums to 100%) ^{*4}					
<1.2	2.4	3.5	2.3	2.3	2.1
1.2-<1.8	65.2	69.1	72.4	73.4	72.0
>=1.8	24.0	23.7	22.7	22.5	24.2
Missing/Out of range	8.4	3.7	2.5	1.7	1.7
Adult Peritoneal Dialysis (PD) Adequacy					
9k Eligible PD patients (n)	8,137	8,594	8,886	9,257	63,702
9l Eligible PD patient-months (n) ^{*2}	71,638	76,131	78,702	80,923	535,190
9m Average Weekly Kt/V (average of 9l) ^{*3 *4}	2.3	2.3	2.2	2.2	2.2
9n Weekly Kt/V categories (% of 9l; sums to 100%) ^{*4}					
<1.7	6.0	7.3	6.1	5.5	5.2
1.7-<2.5	56.6	59.6	63.7	66.7	66.2
>=2.5	23.0	23.5	23.1	22.4	24.4
Missing/Out of range	14.5	9.6	7.1	5.4	4.2
9o Average serum albumin (g/dL) (average of 9l)	3.6	3.6	3.5	3.5	3.5
9p Serum Albumin Categories (% of 9l; sums to 100%)					
< 3.0 g/dL	6.6	6.9	9.0	9.5	11.4
3.0-<3.5 g/dL	22.4	23.5	29.0	29.2	31.3
3.5-<4.0 g/dL	37.6	40.5	41.1	42.3	40.7
>=4.0 g/dL	18.5	21.3	14.8	15.0	13.1
Missing	15.0	7.8	6.0	4.1	3.5

(continued)

TABLE 9 (continued): Dialysis Adequacy Summaries for All Dialysis Patients ^{*1}, 2014-2017

Measure Name	2014	This State			United States
		2015	2016	2017	2017
Pediatric Kt/V ^{*4}					
9q Eligible Pediatric HD patients (n)	88	80	92	90	n/a
9r Eligible Pediatric HD patient-months (n) ^{*2}	619	592	703	602	n/a
9s Average Kt/V (average of 9r) ^{*3}	1.6	1.6	1.6	1.6	1.7
9t Kt/V categories (% of 9r; sums to 100%)					
<1.2	9.4	6.6	6.3	5.6	2.8
1.2-<1.8	61.6	68.9	72.0	72.8	59.8
>= 1.8	18.6	18.8	18.6	18.4	33.5
Missing/Out of Range	10.5	5.7	3.1	3.2	3.9
9u Eligible Pediatric PD Patients (n)	133	148	146	115	n/a
9v Eligible Pediatric PD patient-months (n) ^{*2}	1,078	1,106	1,106	830	n/a
9w Average Weekly Kt/V (average of 9v) ^{*3}	2.1	2.1	2.2	2.3	2.4
9x Weekly Kt/V categories (% of 9v; sums to 100%)					
<1.7	9.0	10.5	10.5	12.7	15.5
1.7-<2.5	19.9	21.2	27.5	31.7	42.0
>=2.5	7.9	8.0	14.7	18.2	27.5
Missing/Out of Range	63.3	60.3	47.3	37.5	14.9

n/a = not applicable.

[*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 (adult) or 6-month (pediatric) period is selected for PD Kt/V.

TABLE 10: Mineral Metabolism Summaries for All Adult Dialysis Patients^{*1}, 2014-2017

Measure Name	This State				United States
	2014	2015	2016	2017	2017
10a Eligible adult patients (n) ^{*2}	67,390	70,007	72,590	74,139	557,445
10b Eligible adult patient-months (n) ^{*2 *3}	660,427	684,189	709,948	722,998	5,360,104
10c Average Phosphorous ^{*4} (mg/dL) (average of 10b ^{*5})	5.1	5.2	5.2	5.3	5.3
10d Phosphorous categories (% of 10b ^{*5} ; sums to 100%)					
<3.5 mg/dL	9.1	9.0	8.5	8.4	8.6
3.5-4.5 mg/dL	26.1	25.6	25.7	25.2	25.0
4.6-5.5 mg/dL	29.9	29.2	31.3	31.3	30.0
5.6-7.0 mg/dL	17.0	19.6	19.1	19.7	20.8
>7.0 mg/dL	9.5	10.9	11.6	12.5	12.6
Missing/Out of range	8.4	5.8	3.7	2.9	3.0
10e Average Calcium Uncorrected ^{*4} (mg/dL) (average of 10b)	9.0	9.0	8.9	8.9	8.9
10f Calcium Uncorrected categories (% of 10b; sums to 100%)					
<8.4 mg/dL	13.9	15.1	16.3	16.0	16.9
8.4-10.2 mg/dL	75.8	77.4	78.4	80.0	79.0
>10.2 mg/dL	2.2	2.1	1.4	1.3	1.3
Missing/Out of range	8.1	5.4	3.9	2.7	2.8
10g Average uncorrected calcium > 10.2 mg/dL (average of 10b ^{*4 *6})	7.2	4.9	3.0	2.2	2.1

n/a = not applicable.

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

[*5] Eligible patients included in the phosphorous summaries differ slightly from what is reported in 10b 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.

TABLE 11: Vascular Access Information for all Adult Dialysis Patients and Access-Related Infection Summaries for all Medicare Patients^{*1}, 2014-2017

Measure Name	2014	This State			United States 2017
		2015	2016	2017	
Vascular Access					
11a Prevalent adult hemodialysis (HD) patients	64,394	66,609	68,775	70,084	n/a
11b Prevalent adult hemodialysis patient months ^{*2}	619,519	638,949	663,215	672,769	n/a
11c Vascular access type in use (% of 11b; sums to 100%)					
Arteriovenous fistula	62.5	64.0	65.7	66.9	62.6
Arteriovenous graft	15.6	15.4	15.4	15.1	17.7
Catheter	15.6	15.8	15.8	15.8	17.3
Other/Missing	6.4	4.9	3.1	2.3	2.4
11d Arteriovenous fistulae placed ^{*3} (% of 11b)	63.6	64.9	66.7	67.7	63.8
11e Catheter only \geq 90 days ^{*4} (% of 11b)	9.5	10.1	9.8	10.0	10.7
Vascular Access at First Treatment					
11f Incident adult hemodialysis patients (n)	12,432	12,660	12,602	12,228	n/a
11g Vascular access type in use (% of 11f; sums to 100%)					
Arteriovenous fistula	17.9	17.4	17.5	17.9	15.6
Arteriovenous graft	3.9	3.8	3.7	3.5	3.5
Catheter	73.0	75.5	77.1	73.8	76.3
Other/Missing	5.2	3.3	1.7	4.8	4.6
11h Arteriovenous fistulae placed ^{*3} (% of 11f)	20.1	19.1	18.9	19.1	17.1
Infection: Peritoneal dialysis (PD)					
11i Eligible PD patients (n)	5,622	5,864	5,955	6,086	n/a
11j Eligible PD patient-months ^{*2}	40,303	41,602	42,053	42,031	n/a
11k PD catheter infection rate per 100 PD patient-months ^{*5}	2.8	2.6	2.6	2.6	2.9
11l P-value ^{*6} of 11k (compared to U.S. value ^{*7})	0.423	<0.01	<0.01	<0.01	n/a

n/a = not applicable

[*1] See *Guide, Section XIV*. Vascular Access type is based on data reported in CROWNWeb. For the prevalent summaries (rows 11a-11e), 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] Patients may be counted up to 12 times per year.

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

[*4] Catheter was used for treatment and has been in place for 90 days or more prior to treatment. Patient does not have a fistula or graft in place. Catheter is only access. Port access devices are reported as catheters for this project.

[*5] 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.

[*6] 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.

[*7] Compared to U.S. value for that year: 2.85 (2014), 2.94 (2015), 2.88 (2016), and 2.87 (2017).

TABLE 12: Comorbidities Reported on Medicare Claims for Medicare Dialysis Patients Treated as of December 31st of Each Year^{*1}, 2014-2017

Measure Name	This State				United States
	2014	2015	2016	2017	2017
12a Medicare dialysis patients on 12/31(n)	38,547	38,945	40,092	40,068	n/a
12b Comorbidity (% yes of 12a)					
Infections					
AIDS/HIV positive	0.8	0.9	0.8	0.9	1.7
Dialysis access-related	11.6	9.0	7.9	8.0	9.2
Hepatitis B	1.7	1.9	1.7	2.0	1.6
Hepatitis other	5.1	5.1	5.3	5.3	5.7
Metastatic	3.4	3.2	3.0	2.7	3.0
Pneumonia	6.4	6.3	6.9	8.6	8.4
Tuberculosis	0.9	0.7	0.7	0.7	0.5
Other	32.1	33.4	33.7	34.9	35.6
Cardiovascular					
Cardiac arrest	1.7	1.5	1.6	1.9	1.9
Cardiac dysrhythmia	35.7	35.6	34.7	36.2	36.9
Cerebrovascular disease	24.5	24.2	23.1	23.6	24.4
Congestive heart failure	47.6	48.6	48.9	50.3	52.9
Ischemic heart disease	45.9	46.0	46.4	47.0	49.4
Myocardial infarction	8.8	9.1	9.7	10.5	10.2
Peripheral vascular disease ^{*2}	43.6	45.2	45.0	45.9	44.2
Other					
Alcohol dependence	3.3	3.3	3.4	3.1	2.9
Anemia	7.9	8.8	9.0	9.8	9.4
Cancer	9.2	9.4	9.2	9.4	11.1
Chronic obstructive pulmonary disease	26.3	26.6	26.7	27.2	32.2
Diabetes	67.7	69.9	70.7	71.6	67.9
Drug dependence	2.7	3.0	3.1	3.1	3.6
Gastrointestinal tract bleeding	3.1	3.2	4.2	4.2	4.5
Hyperparathyroidism	86.8	88.1	86.5	86.7	85.6
12c Average number of comorbid conditions	4.8	4.8	4.8	4.9	5.0

n/a = not applicable.

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

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