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 other states. This profile has been prepared for this state by the University of Michigan Kidney Epidemiology and Cost Center (UM-KECC) with funding from the Centers for Medicare & Medicaid Services (CMS). The statistics reported here are based on the dialysis patients treated during 2005-2008 in the chronic dialysis facilities in this state (see the facility list).

For comparison purposes, statistics are also reported for all patients in the United States. Selected statistics from this profile are summarized here. See the *Charts and Tables of Key Statistics* section for state-to-state comparisons of key statistics.

What's New This Year: As part of a continuing effort to improve the quality and relevance of this report for your state, the percent of cardiac related deaths has been added to Table 1. First year mortality statistics for new dialysis patients who started dialysis between January 1, 2005 and December 31, 2007 are calculated and reported in the second half of Table 1. Comorbidity data on Medicare dialysis patients treated each year from 2005-2007 have been added (see Table 9). Please refer to the section entitled "What's New" in Section I of the *Guide to the 2009 State Profiles for Dialysis Patients and Facilities* for greater detail on these changes.

Mortality: There were 2,503 deaths among the patients treated in this state during 2008, while 2,677 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 0.93, which is 7% below the 4-year (2005-2008) national reference value of 1.0. Of the deaths in this state in 2008, 28% were preceded by withdrawal from dialysis, compared to the national average of 25%. See Table 1 of this profile for more detailed mortality statistics.

First Year Mortality: There were 876 deaths among the patients treated in this state during 2007, while 944 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 Standardized Mortality Ratio (SMR) of observed to expected deaths is 0.93, which is 7% below the 3-year (2005-2007) national reference value of 1.0. Of the deaths in this state in 2007, 28% were preceded by withdrawal from dialysis, compared to the national average of 26%. See Table 1 of this profile for more detailed first year mortality statistics.

Hospitalization: The Standardized Hospitalization Ratio (SHR) compares the observed hospitalization to what would be expected based on national hospitalization rates for patients with the characteristics of the patients in this state. Two SHR values are calculated --- one for days in the hospital and another for hospital admissions. Both measures are adjusted for patient age, race, ethnicity, sex, diabetes, duration of ESRD, nursing home status, and BMI. The SHR for days for patients in this state during 2007 is 1.07, indicating that these patients had 7% more days in the hospital than expected. The SHR for admissions for patients in this state during 2007 is 1.11, indicating that these patients had 11% more hospital admissions than expected. See Table 2 of this profile for additional hospitalization statistics.

Transplantation: Based on analogous methods, 435 patients under age 70 in this state during 2008 received their first transplant, while 386 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 1.13, which is 13% higher than expected. See Table 3 of this profile for additional transplantation statistics.

Kidney Transplant Waitlist: On December 31, 2008, 22% of the dialysis patients under age 70 being treated in this state were on the kidney transplant waitlist compared to 21% nationally. This difference is not statistically significant ($p > 0.05$) and is plausibly due to random chance. See Table 4 of this profile for more information about patients on the kidney transplant waitlist in this state.

Practice Patterns: During 2008, 68% of the dialysis patients in this state treated with erythropoiesis stimulating agents (ESA) had a hemoglobin between 10-12 g/dL, compared to 71% nationally. Of the hemodialysis patients in this state, 96% had a Urea Reduction Ratio (URR) that met KDOQI guidelines (URR ≥ 65%), compared to 96% nationally.

In 2008, 54% of the prevalent and 25% of the incident hemodialysis patients in this state had an arteriovenous (AV) fistula in place. Nationally, 58% of the prevalent patients and 31% of the incident patients had a fistula in place. Of the prevalent patients receiving hemodialysis treatment in this state, 12% had a catheter which had been in place for more than 90 days as their only vascular access, compared to 11% nationally. See Tables 5 and 6 of this profile for more information about practice patterns in this state.

Patient Characteristics: Form CMS-2728 collected data from 3,720 incident patients in this state for the year 2008. Table 7 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 2008, 69% of incident patients in this state were informed of their transplant options, compared to 72% nationally. Also in 2008, 33% of incident patients in this state were not under the care of a nephrologist prior to ESRD therapy, compared to 31% nationally.

Patients' age, race, sex, and cause of ESRD are key factors that influence the outcome of treatment. The standardized mortality and hospitalization outcomes listed above already account appropriately for these factors. The standardized transplantation outcome is adjusted only for age. The average age of patients in this state was 62 years, compared to the national average of 61 years. 14% of patients in this state on December 31, 2008 were treated in a nursing home during the year, compared to 13% nationally. See Table 8 for detailed summaries of all patients treated during 2005-2008 in this state.

Medicare claims report comorbidity data on Medicare dialysis patients treated each year. There were 8,670 Medicare dialysis patients on December 31, 2007 in this state. The average number of comorbidities reported for patients in 2007 is 4.6, which is higher than the average of 4.1 reported nationally in 2007. See Table 9 for detailed information on all cormorbidities reported during 2005-2007 for this state.

Clinical Performance Measures: The Clinical Performance Measures (CPM) project collected data from a sample of 278 hemodialysis (HD) patients and 42 peritoneal dialysis (PD) patients in this state for the year 2007. For the HD patients in the sample, the average duration of dialysis in this state was 3.6 hours, compared to the national average of 3.6 hours. The average serum albumin for these patients was 3.8 g/dL, compared to the national average of 3.8 g/dL. For the PD patients in the sample, the average serum albumin was 3.5 g/dl, compared to the national average of 3.6 g/dl. The percent of PD patients with average weekly Kt/V greater than 2.0 was 72% compared to the national average of 69%. The average weekly creatinine clearance for these PD patients was 94 L/week/1.73m^2, compared to the national average of 79 L/week/1.73m^2. See Tables 10 and 11 of this profile for detailed summaries of CPM data for patients in this state.

Sources of Patient Data: This profile is based primarily on Medicare claims and data collected for CMS. Patients were assigned to this state based on the Standard Information Management System (SIMS) database, Medicare claims, and the Medical Evidence Form (Form CMS-2728). These are just a few highlights of the statistics you will find in this profile based on the data for this state. For comparison, the tables also report data for all patients or facilities in the United States. We hope that this profile is of interest to you and is helpful in your survey efforts. We would appreciate your feedback on ways to improve future profiles. If you have questions or comments please contact us at keccdfr@umich.edu or (734)998-9823.

For a complete description of the methods and data reported here please see the *Guide to the 2009 State Profiles for Dialysis Patients and Facilities*, included in this notebook. The *Guide* is also available on the UM-KECC web site at *www.sph.umich.edu/kecc*.

Prepared by
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under contract to the Centers for Medicare & Medicaid Services

2009 State Profile for Dialysis Patients and Facilities
STATE SAMPLE

TABLE 1: Mortality Summary for All Dialysis Patients (2005-2008) & New Dialysis Patients (2005-2007)[1]

		This State				United States
	Measure Name	**2005**	**2006**	**2007**	**2008**	**2008**
All Dialysis Patients						
1a	Patients (n=number)	15,005	15,735	16,305	16,640	n/a
1b	Patient years (PY) at risk (n)	10,414	10,961	11,263	11,571	n/a
1c	Deaths (n)	2,296	2,367	2,468	2,503	n/a
1d	Expected deaths (n)	2,253	2,442	2,553	2,677	n/a
1e	Withdrawal from dialysis prior to death (% of 1c)	27.2	27.4	26.8	28.5	24.8
1f	Deaths due to infections (% of 1c)	18.0	17.2	17.6	16.6	16.1
1g	Deaths due to cardiac causes (% of 1c)	31.4	33.2	31.5	28.3	25.4
1h	Dialysis unrelated deaths[2] (n; excluded from SMR)	24	28	16	26	n/a
1i	Standardized Mortality Ratio (SMR; 1c /1d)	1.02	0.97	0.97	0.93	0.94
1j	P-value[3]	0.37	0.13	0.09	<.01	n/a
New Dialysis Patients						**2007**
1k	Patients (n=number)	3,781	3,749	3,632		n/a
1l	Patient years (PY) at risk (n)	3,157	3,144	3,078		n/a
1m	Deaths (n)	955	936	876		n/a
1n	Expected deaths (n)	971	984	944		n/a
1o	Withdrawal from dialysis prior to death (% of 1m)	32.3	28.4	27.6		25.8
1p	Deaths due to infections (% of 1m)	16.5	16.3	15.6		14.8
1q	Deaths due to cardiac causes (% of 1m)	28.5	27.2	26.4		24.2
1r	Standardized Mortality Ratio (SMR; 1m /1n)	0.98	0.95	0.93		0.99
1s	P-value[3]	0.62	0.12	0.03		n/a

TABLE 2: Hospitalization Summary for Medicare Dialysis Patients[1], 2005-2007

		This State			United States
	Measure Name	**2005**	**2006**	**2007**	**2007**
2a	Medicare dialysis patients (n)	11,901	12,601	12,517	n/a
2b	Patient years (PY) at risk (n)	8,171	8,701	8,524	n/a
2c	Days hospitalized rate per PY	16.3	16.5	15.3	14.2
2d	Expected days hospitalized rate per PY	15.3	15.2	14.2	14.2
2e	Standardized Hospitalization Ratio for Days (2c/2d)	1.07	1.08	1.07	1.00
2f	Admission rate per PY	2.1	2.2	2.1	1.85
2g	Expected admission rate per PY	1.9	1.9	1.9	1.85
2h	Standardized Hospitalization Ratio for Admissions (2f/2g)	1.10	1.13	1.11	1.00
2i	Patients with septicemia (% of 2a)	15.2	15.3	15.3	12.0
2j	One day admissions (%)	12.3	12.5	12.3	13.6
2k	Average length of stay (days per admission)	7.6	7.6	7.4	7.7

n/a = not applicable.
[1] See *Guide.*
[2] Defined as deaths due to street drugs and accidents unrelated to treatment.
[3] A p-value less than or equal to 0.05 indicates that the difference between the actual and expected mortality is probably real and not due to random chance alone, while a p-value greater than 0.05 indicates that the difference could plausibly be due to random chance.

TABLE 3: Transplantation Summary for Dialysis Patients under Age 70, 2005-2008

		This State				United States
	Measure Name	**2005**	**2006**	**2007**	**2008**	**2008**
3a	Eligible patients[1] (n)	9,902	10,291	10,759	11,028	n/a
3b	Transplants (n)	489	498	514	478	n/a
	Patients who have not Previously Received a Transplant					
3c	Eligible patients[1] (n)	8,962	9,291	9,701	9,963	n/a
3d	Patient years (PY) at risk (n)	6,275	6,547	6,793	7,030	n/a
3e	Actual 1st transplants[2] (n)	432	440	446	435	n/a
3f	Expected 1st transplants (n)	353	364	376	386	n/a
3g	Standardized Transplantation Ratio (STR; 3e/3f)	1.22	1.21	1.19	1.13	0.93
3h	P-value[3]	<.01	<.01	<.01	0.01	n/a
3i	95% confidence interval for STR[4]					
	Upper limit	1.34	1.33	1.30	1.24	n/a
	Lower limit	1.11	1.10	1.08	1.02	n/a

TABLE 4: Waitlist Summary for Dialysis Patients under Age 70 Treated as of December 31st of Each Year[1], 2005-2008

		This State				United States
	Measure Name	**2005**	**2006**	**2007**	**2008**	**2008**
4a	Eligible patients on 12/31 (n)	7,576	7,877	8,131	8,276	n/a
4b	Patients on the waitlist (% of 4a)	24.5	25.5	25.0	21.5	21.4
4c	P-value[5] (compared to U.S. value)	<.01	<.01	<.01	0.4	n/a
4d	Patients on the waitlist by subgroup (%)					
	Age < 40	40.3	43.5	42.9	36.4	32.0
	Age 40-69	21.8	22.5	22.2	19.3	19.8
	Male	25.6	26.9	26.1	22.1	22.0
	Female	23.1	23.8	23.7	20.9	20.7
	African American	23.2	23.7	23.0	19.7	20.0
	Asian/Pacific Islander	36.1	41.8	37.3	28.4	32.6
	Native American	33.3	37.8	37.5	31.3	17.2
	White, Hispanic	23.8	25.3	26.7	19.4	23.8
	White, Non-Hispanic	25.7	27.1	26.9	23.7	20.6
	Other/Unknown race	11.1	8.3	12.5	8.6	26.1
	Diabetes	19.3	20.1	19.7	16.7	16.3
	Non-diabetes	28.3	29.4	28.8	25.0	25.5
	Previous kidney transplant	47.0	52.8	48.0	42.9	43.7
	No previous kidney transplant	22.1	22.6	22.6	19.2	19.2
	<2 years since start of ESRD	17.3	18.3	17.5	12.0	11.1
	2-4 years since start of ESRD	29.1	30.8	31.5	28.7	26.8
	5+ years since start of ESRD	30.5	30.7	29.0	26.3	29.2

n/a = not applicable. [1] See *Guide.*
[2] Among first transplants that occurred after the start of dialysis from 2005-2008, 4.2% of transplants in the U.S. were not included because the transplant occurred less than 90 days after the start of ESRD and 0.2% were not included because the patient was not assigned to a facility at time of transplant.
[3] A p-value less than or equal to 0.05 indicates that the difference between the actual and expected transplantations is probably real and not due to random chance alone, while a p-value greater than 0.05 indicates that the difference could plausibly be due to random chance. [4] Confidence interval (C.I.) range represents uncertainty in value of STR due to random variation. [5] State waitlist percentage is compared to the U.S. value for that year: 22.6% (2005), 23.0% (2006), 23.7% (2007), 21.4% (2008). A p-value > 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.

TABLE 5: Facility Modality, Hemoglobin and Urea Reduction Ratio[1], 2005-2008

		This State				United States
	Measure Name	**2005**	**2006**	**2007**	**2008**	**2008**
Modality (among all dialysis patients with ESRD for 90+ days and 1+ claim in this state)						
5a	Patients treated during year[1] (n)	11,745	12,251	12,111	11,755	n/a
5b	Modality[2] (% of 5a; sums to 100%)					
	Hemodialysis	88.7	89.2	89.1	89.1	89.5
	CAPD/CCPD	5.8	5.2	4.8	4.7	5.6
	Other dialysis	5.5	5.6	6.1	6.2	4.8
Hemoglobin (among ESA treated dialysis patients with ESRD for 90+ days and 4+ hemoglobin claims in this state)						
5c	Eligible patients[1] (n)	9,126	9,662	9,394	9,270	n/a
5d	Average hemoglobin (g/dL)	12.1	12.0	12.0	11.6	11.6
5e	Hemoglobin categories (% of 5c; sums to 100%)					
	< 10 g/dL	1.7	1.9	1.6	2.6	2.3
	10-12 g/dL	41.9	43.7	47.0	68.4	71.3
	> 12 g/dL	56.4	54.5	51.4	29.0	26.4
5f	Hemoglobin 10-12 g/dL (% of HD pts)	41.0	43.0	46.2	68.2	71.1
	Hemoglobin 10-12 g/dL (% of PD pts)	55.5	55.0	58.9	64.9	68.9
Urea Reduction Ratio (URR; among HD patients with ESRD for 183+ days and 4+ URR claims in this state)						
5g	Eligible patients (n)	7,534	8,253	8,585	8,441	n/a
5h	URR categories (% of 5g; sums to 100%)					
	< 60.0 %	1.2	1.2	1.4	1.7	1.5
	60.0-64.9 %	3.5	3.1	3.0	2.5	2.7
	65.0-69.9 %	15.3	13.7	13.1	11.3	11.0
	70.0-74.9 %	41.5	40.1	39.8	39.1	36.0
	75+ %	38.6	41.9	42.8	45.4	48.8
5i	URR 65+ (% of 5g) [Meets a KDOQI guideline]	95.3	95.7	95.6	95.8	95.8

n/a = not applicable.
[1] See *Guide*.
[2] Other dialysis includes patients who switch between HD and PD during the year and patients for whom modality is unknown.

TABLE 6: Vascular Access Information[1] (CMS Fistula First), 2005-2008

		This State				United States
	Measure Name	**2005**	**2006**	**2007**	**2008**	**2008**
Vascular Access						
6a	Vascular access type in use[2] (%; sums to 100%)					
	Arteriovenous fistula	32.1	36.4	41.7	46.5	50.2
	Arteriovenous graft	38.6	35.1	31.0	27.1	22.7
	Catheter	28.7	28.3	26.9	26.1	26.7
	Other	0.1	0.1	0.1	0.1	0.0
	Missing	0.6	0.2	0.3	0.2	0.3
6b	Arteriovenous fistulae placed[3] (%)	39.3	44.6	50.0	54.1	58.1
6c	Catheter only > 90 days[4] (%)	12.6	11.9	11.7	11.6	11.5
Vascular Access at First Treatment						
6d	Vascular access type in use[2] (%; sums to 100%)					
	Arteriovenous fistula	11.3	13.3	14.3	14.6	15.8
	Arteriovenous graft	9.8	8.7	6.5	5.3	6.8
	Catheter	73.5	75.4	76.3	77.7	74.9
	Other	0.4	0.2	0.4	0.8	0.1
	Missing	5.1	2.4	2.4	1.5	2.4
6e	Arteriovenous fistulae placed[3] (%)	19.9	24.1	24.3	25.3	30.8

[1] See *Guide.*
[2] Patients listed as arteriovenous (AV) graft or catheter may have AV fistulae in place for future use, but they actually received their treatment through a graft or catheter.
[3] Includes all patients with AV fistulae, regardless of whether 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 an AV fistula or AV graft in place. Catheter is only access. Note: Port access devices are reported as catheters for this project.

TABLE 7: Characteristics of New Dialysis Patients (Form CMS-2728)[1], 2006-2008

		This State			United States
	Measure Name	**2006**	**2007**	**2008**	**2008**
Patient Characteristics[2]					
7a	Total number of patients with forms (n)	3,749	3,632	3,720	n/a
7b	Age (average years [0-95])	63.7	63.4	64.3	63.3
7c	Female (% of 7a)	44.3	44.7	44.8	44.0
7d	Race[3] (% of 7a; sums to 100%)				
	African American	34.9	35.1	33.5	28.4
	Asian/Pacific Islander	1.2	1.1	1.1	4.2
	Native American	0.3	0.5	0.5	1.1
	White	63.3	63.0	64.1	65.8
	Other/Unknown/Missing	0.3	0.3	0.8	0.5
7e	Hispanic (% of 7a)	2.6	2.3	3.0	13.4
7f	Primary cause of ESRD (% of 7a; sums to 100%)				
	Diabetes	42.1	42.6	40.8	45.1
	Hypertension	30.0	29.2	30.4	28.7
	Glomerulonephritis	7.0	6.4	6.3	6.4
	Other/Missing	20.9	21.7	22.6	19.9
7g	Medical Coverage[4] (% of 7a; sums to 100%)				
	Employer group only	17.1	19.7	17.8	16.1
	Medicare only	10.6	13.2	16.2	20.4
	Medicaid only	11.7	10.6	10.3	11.4
	Medicare and Medicaid only	10.9	11.2	11.2	12.6
	Medicare and Other	40.6	35.8	36.0	23.8
	Other/Unknown	4.8	4.4	4.0	8.6
	None	4.3	5.1	4.6	7.1
7h	Body Mass Index[5] (Median; Weight/Height^2)				
	Male	26.6	27.0	26.8	26.6
	Female	28.8	28.2	28.8	28.0
7i	Employment[6]				
	Six months prior to ESRD treatment	34.5	33.2	34.8	36.2
	At first ESRD treatment	18.2	17.9	18.1	22.0
7j	Primary Modality (% of 7a; sums to 100%)				
	Hemodialysis	94.1	94.0	94.4	93.9
	CAPD/CCPD	5.9	6.0	5.6	6.1
	Other/Unknown/Missing	0.0	0.0	0.0	0.0
7k	Number of incident hemodialysis patients (n)	3,526	3,407	3,506	n/a
7l	Access used at first outpatient dialysis (% of 7k; sums to 100%)				
	Arteriovenous fistula	11.1	12.6	12.7	13.6
	Arteriovenous graft	6.1	3.7	2.9	3.3
	Catheter	82.8	83.7	84.3	81.9
	Other/Unknown/Missing	0.1	0.0	0.1	1.2
7m	Arteriovenous fistulae placed[7] (% of 7a)	22.7	24.3	22.9	29.2
Average Lab Values Prior to Dialysis[2]					
7n	Hemoglobin (g/dL [3-18])	10.1	10.0	9.9	9.9
7o	Serum Albumin (g/dL [0.8-6.0])	3.2	3.2	3.2	3.1
7p	Serum Creatinine (mg/dL [2-33])	6.2	6.0	5.8	6.3
7q	GFR (ml/min [0-60])	11.3	11.6	11.9	11.0

TABLE 7 (continued): Characteristics of New Dialysis Patients (Form CMS-2728)[1], 2006-2008

		This State			United States
	Measure Name	**2006**	**2007**	**2008**	**2008**
Care Prior to ESRD Therapy					
7r	Received ESA prior to ESRD (% of 7a)	30.5	28.6	26.1	26.3
7s	Pre-ESRD nephrologist care (% of 7a; sums to 100%)				
	No	34.6	34.4	33.0	31.0
	Yes, <6 months	4.6	5.1	3.8	11.6
	Yes, 6-12 months	23.4	21.7	20.1	20.8
	Yes, >12 months	29.0	30.2	32.8	24.2
	Unknown	8.3	8.7	10.3	12.4
7t	Informed of transplant options (% of 7a)	69.5	70.0	69.0	72.4
7u	Patients not informed of transplant options (n)	1,142	1,083	1,148	n/a
7v	Reason not informed (% of 7u; may not sum to 100%)				
	Medically unfit	37.7	38.1	38.4	30.9
	Unsuitable due to age	41.9	39.9	33.4	23.9
	Psychologically unfit	3.9	3.1	2.1	2.8
	Patient declined information	1.3	2.2	1.3	1.3
	Patient has not been assessed	26.1	30.3	33.2	44.9
Cormorbid Conditions					
7w	Pre-existing Comorbidity (% yes of 7a)				
	Congestive heart failure	42.0	39.6	41.5	32.8
	Atherosclerotic heart disease[8]	28.4	25.6	26.8	21.0
	Other cardiac disorder[8]	19.0	19.1	19.8	17.1
	CVD, CVA, TIA	12.1	10.1	10.7	9.5
	Peripheral vascular disease	17.3	15.0	15.4	14.0
	History of hypertension	87.5	86.1	86.1	84.7
	Diabetes[8]	55.8	56.4	57.4	57.8
	Diabetes on insulin	37.0	38.7	38.3	36.3
	COPD	14.1	12.0	13.0	9.3
	Current smoker	9.3	9.0	8.2	6.2
	Cancer	9.6	10.5	11.2	7.4
	Alcohol dependence	2.5	2.2	2.1	1.6
	Drug dependence	2.7	2.2	1.8	1.3
	Inability to ambulate	7.9	7.6	8.8	6.9
	Inability to transfer	4.0	4.0	5.1	3.5
7x	Average number of comorbid conditions	3.5	3.4	3.5	3.1

n/a= not applicable.
[1] See *Guide.*
[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.
[6] Full-time, part-time, or student (% of 18-60 year olds).
[7] Includes all patients with AV fistulae, regardless of whether they recieved their hemodialysis treatments using their fistulae.
[8] 'AHD' 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 8: Summaries for All Dialysis Patients Treated as of December 31 of each Year[1], 2005-2008

		This State				United States
	Measure Name	**2005**	**2006**	**2007**	**2008**	**2008**
8a	Facilities (n)	141	147	155	161	5,183
8b	Patients treated on 12/31 of year (n)	10,741	11,179	11,415	11,682	n/a
8c	Average age (years)	61.2	61.5	61.5	61.6	60.9
8d	Age (% of 8b; sums to 100%)					
	< 20	0.7	0.5	0.6	0.5	0.5
	20-64	54.7	54.4	54.9	54.9	56.2
	65+	44.6	45.0	44.6	44.6	43.3
8e	Female (% of 8b)	46.2	45.9	45.6	45.4	45.3
8f	Race (% of 8b; sums to 100%)					
	African American	45.8	45.2	45.6	45.2	37.4
	Asian/Pacific Islander	1.2	1.3	1.3	1.3	4.8
	Native American	0.5	0.5	0.6	0.5	1.5
	White	52.5	52.8	52.3	52.6	55.1
	Other/Unknown/Missing	0.1	0.2	0.2	0.4	1.2
8g	Ethnicity (% of 8b; sums to 100%)					
	Hispanic	3.3	3.2	3.0	3.3	15.3
	Non-Hispanic	94.2	94.8	95.3	95.3	82.7
	Unknown	2.5	2.0	1.7	1.4	1.9
8h	Cause of ESRD (% of 8b; sums to 100%)					
	Diabetes	41.3	41.0	41.0	41.0	43.7
	Hypertension	29.8	29.4	29.9	29.8	27.7
	Glomerulonephritis	10.2	10.0	10.0	10.0	10.2
	Other/Unknown	16.1	16.8	16.6	16.8	17.3
	Missing	2.7	2.7	2.5	2.3	1.1
8i	Average duration of ESRD (years)	4.0	4.1	4.2	4.3	4.3
8j	Years since start of ESRD (% of 8b; sums to 100%)					
	<1	20.3	19.4	18.9	18.5	18.1
	1-2	20.0	20.2	19.6	18.6	18.7
	2-3	15.1	15.1	15.6	15.3	14.9
	3-6	25.2	25.6	25.6	26.5	25.9
	6+	19.5	19.8	20.3	21.1	22.4
8k	Nursing facility patients[2] (% of 8b)	10.3	12.7	13.0	14.2	13.3
8l	Modality (% of 8b; sums to 100%)					
	In-center hemodialysis	90.7	90.7	90.7	90.9	90.6
	In-center self hemodialysis	0.0	0.0	0.0	0.0	0.0
	Home hemodialysis	0.5	1.0	1.3	1.5	1.1
	Continuous ambulatory peritoneal dialysis	4.3	4.1	4.0	3.8	2.7
	Continuous cycling peritoneal dialysis	4.0	3.6	3.3	3.2	4.9
	Other modality[3]	0.5	0.6	0.7	0.7	0.7

n/a = not applicable.
[1] See *Guide.*
[2] 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.
[3] 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 9: Comorbidities Reported on Medicare Claims for Medicare Dialysis Patients Treated as of December 31 of Each Year[1], 2005-2007

		This State			United States
	Measure Name	**2005**	**2006**	**2007**	**2007**
9a	Medicare dialysis patients on 12/31(n)	8,497	8,889	8,670	n/a
9b	Comorbidity (% yes of 9a)				
	AIDS/HIV Positive	1.0	1.1	1.2	1.8
	Alcohol Dependence	2.4	2.5	2.4	2.2
	Anemia	10.9	10.9	9.8	7.3
	Cancer	12.6	12.2	12.1	10.7
	Cardiac Arrest	1.5	1.2	1.5	1.5
	Cardiac Dysrhythmias	44.7	44.4	43.4	35.1
	Cerebrovascular Disease	31.3	31.5	30.9	27.3
	Chronic Obstructive Pulmonary Disease	34.9	35.9	35.9	29.6
	Congestive Heart Failure	56.9	57.8	57.6	51.8
	Diabetes	60.7	63.2	63.2	62.3
	Drug Dependence	2.5	2.2	2.4	1.9
	Gastro-Intestinal Tract Bleeding	3.6	3.2	3.4	2.9
	Hepatitis B	1.4	1.5	1.3	1.2
	Hepatitis Other	4.2	3.8	4.6	3.8
	Hyperparathyroidism	7.2	7.9	8.0	8.8
	Infection	56.9	57.1	55.4	51.1
	Ischemic Heart Disease	60.8	60.1	59.7	51.0
	Myocardial Infarction	11.3	11.9	11.5	8.5
	Peripheral Vascular Disease[2]	50.5	51.2	49.8	46.5
	Pneumonia	5.6	4.9	5.5	5.3
9c	Average number of comorbid conditions	4.6	4.6	4.6	4.1

n/a = not applicable.
[1] Based on patients with Medicare as primary insurer on 12/31 each year; See *Guide*, *Section XII.*
[2] Peripheral vascular disease includes both venous and arterial diseases.

TABLE 10: Descriptive and Clinical Data for Adult HD Patients[1], 2005-2007

		This State			United States
	Measure Name	2005	2006	2007	2007
Patient Characteristics					
10a	Patients in the sample (n)	273	241	278	8,916
10b	Age group (years) (% of 10a; sums to 100%)				
	18-44	12.8	15.8	16.2	13.9
	45-54	17.9	16.6	13.3	16.4
	55-64	24.2	22.8	21.2	23.6
	65-74	23.1	22.0	19.4	23.1
	75+	22.0	22.8	29.9	23.0
10c	Female (% of 10a)	49.8	52.7	46.4	44.9
10d	Race (% of 10a; sums to 100%)				
	African American	46.5	44.8	47.1	35.8
	Asian/Pacific Islander	0.4	1.7	1.4	4.7
	Native American	0.7	0.0	1.1	1.7
	White	52.4	53.5	50.4	57.6
	Other/Unknown/Missing	0.0	0.0	0.0	0.1
10e	Hispanic (% of 10a)	4.8	2.1	2.5	14.4
10f	Cause of ESRD (% of 10a; sums to 100%)				
	Diabetes	43.2	41.5	46.4	44.3
	Hypertension	31.9	28.6	32.4	27.6
	Glomerulonephritis	12.5	15.4	9.7	12.0
	Other/Unknown/Missing	12.5	14.5	11.5	16.0
10g	Starting treatment during year (% of 10a)	25.6	22.8	24.5	23.4
10h	Average years since start of ESRD	3.6	4.1	3.8	3.9
Anemia Management[2]					
10i	Average hemoglobin [5.0-20.0 g/dL]	12.0	12.1	11.9	11.9
	Hemoglobin categories[3] (sums to 100%)				
	<10.0 g/dL	6.7	3.7	7.4	5.6
	10.0-10.9 g/dL	14.6	10.8	12.6	12.8
	11.0-11.9 g/dL	26.2	28.2	28.9	35.8
	12.0-12.9 g/dL	30.7	36.1	33.0	32.0
	13+ g/dL	21.7	21.2	18.1	13.8
10j	ESA prescription (% of 10a)	87.5	86.3	88.5	90.6
10k	Average serum ferritin [10-4000 ng/mL]	508	535	561	583
	Serum ferritin 100+ ng/mL[3](%)	94.8	96.2	96.1	95.0
	Serum ferritin 200+ ng/mL[3](%)	82.1	85.0	87.2	87.4
	Serum ferritin 500+ ng/mL[3](%)	48.4	47.4	52.3	54.4

TABLE 10 (continued): Descriptive and Clinical Data for Adult HD Patients[1], 2005-2007

		This State			United States
	Measure Name	**2005**	**2006**	**2007**	**2007**
	Anemia Management[2]				
10l	Average transferrin saturation (TSAT) [3-120%]	27.7	27.6	28.9	28.5
	TSAT 20+[3] (%)	79.2	81.7	84.8	79.7
10m	Iron prescription (% of 10a)	72.9	70.5	71.6	71.4
	Hemodialysis Adequacy[2]				
10n	Average dose of dialysis (Kt/V) [0.5-2.5]	1.6	1.6	1.6	1.6
	Average dose of dialysis[3] (URR %)	71.5	71.3	72.5	72.8
	URR categories[3] (sums to 100%)				
	<60.0%	4.2	5.0	3.4	4.2
	60.0-64.9%	10.2	10.0	5.2	6.3
	65.0-69.9%	22.6	17.8	17.9	16.9
	70.0-74.9%	33.6	39.0	40.3	33.0
	75.0-79.9%	21.5	21.6	25.4	27.8
	80+%	7.9	6.6	7.8	11.8
	URR 65+[3] (%)	85.7	85.1	91.4	89.5
10o	Average length of dialysis session (hours)	3.6	3.5	3.6	3.6
	Serum Albumin[2]				
10p	Average Serum Albumin (BCG or BCP +0.3) [1.0-5.5 g/dL]	3.8	3.8	3.8	3.8
	Serum Albumin BCG 3.5+ g/dL or BCP 3.2+ g/dL[3] (%)	81.6	78.4	81.1	80.7
	Vascular Access				
10q	Vascular access type[4] (% of 10a; sums to 100%)				
	Graft	34.8	29.5	31.3	22.3
	AV fistula	32.2	34.0	37.8	48.4
	Catheter short term (0-89 days)	6.6	4.6	7.9	6.4
	Catheter long term (90+ days)	19.0	22.8	18.3	21.1
	Other/Unknown/Missing	7.3	9.1	4.7	1.9
10r	Patients with catheter present[4] (n)	70	66	73	2,449
	Reason for catheter placement[5] (%)				
	No fistula or graft surgically planned	31.4	40.9	32.9	28.2
	Fistula or graft maturing, not ready to cannulate	30.0	22.7	28.8	27.7
	Interruption of fistula/graft due to clot/revisions	11.4	10.6	12.3	9.9
	No fistula or graft surgically created at this time	34.3	39.4	34.2	36.9
	All fistula or graft sites have been exhausted	22.9	16.7	17.8	18.9
	Other reason for catheter placement	11.4	10.6	8.2	9.8

TABLE 10 (continued): Descriptive and Clinical Data for Adult HD Patients[1], 2005-2007

	Measure Name	This State 2005	This State 2006	This State 2007	United States 2007
	Vascular Access				
10s	Patients with AV fistula or graft present (n)	183	153	192	6,297
	Surveillance for presence of stenosis if AV fistula or graft (%)	46.9	49.8	52.9	50.5
	Type of Surveillance[5] (%)				
	Color flow doppler	2.6	0.7	0.0	1.5
	Static venous pressure	7.1	0.0	7.1	3.8
	Dynamic venous pressure	45.5	39.9	50.0	37.9
	Dilution techniques	8.3	8.7	7.1	6.3
	Other techniques	23.7	15.9	13.7	15.1
	Mineral Metabolism[2]				
10t	Mean serum calcium [0.1-20.0 mg/dL]	9.1	9.1	9.1	9.1
	Serum calcium between 8.4 and 10.2[3] (%)	82.3	84.4	85.2	83.1
10u	Mean serum phosphorus [0.1-20.0 mg/dL]	5.3	5.2	5.4	5.4
	Serum phosphorus between 3.5 and 5.5[3] (%)	60.5	55.7	54.4	52.3
	Clinical Performance Measures[3,6]				
10v	Adequacy				
	Monthly measurement of delivered dose (%)	81.3	87.1	83.8	86.1
	Method of measurement was UKM or Daugirdas (%)	87.0	84.1	85.0	75.8
	Mean delivered dose Kt/V 1.2+ (%)	90.9	90.3	88.7	90.8
10w	Anemia Management				
	Mean hemoglobin 11-12 g/dl	25.6	25.3	25.9	34.8
	At least one TSAT and one serum ferritin value (%)	92.2	97.1	94.1	96.3
	Iron stores maintained at KDOQI thresholds (%)	83.6	92.1	86.7	83.1
	Administration of IV iron to anemic patients (%)	76.6	75.4	78.3	76.2
10x	Vascular Access				
	Incident patients with an AV fistula (%)	42.5	26.2	41.5	41.2
	Prevalent patients with an AV fistula (%)	32.2	34.0	37.8	48.5
	Dialyzed with chronic catheter (%)	19.0	22.8	18.3	21.1
	AV fistula or graft was monitored for stenosis (%)	82.9	81.2	78.8	78.7

[1] These data were collected for the time period Oct-Dec, 2005-2007 in order to calculate selected CPMs and other indicators of quality of care. See *Guide.*
[2] For continuous variables, all summaries are computed based only on responses in range indicated in brackets for the variable.
[3] Calculated as the percent of patients with non-missing values.
[4] Port access devices are reported as catheters for this project.
[5] Items are not mutually exclusive and may not add to 100%.
[6] Clinical Performance Measures reported are based upon the ESRD CPM Project, Phase II.

TABLE 11: Descriptive and Clinical Data for Adult PD Patients[1], 2005-2007

		This State			United States
	Measure Name	**2005**	**2006**	**2007**	**2007**
Patient Characteristics					
11a	Patients in the sample (n)	55	35	42	1,494
11b	Age group (years) (% of 11a; sums to 100%)				
	18-44	12.7	28.6	35.7	25.2
	45-54	25.5	17.1	11.9	20.4
	55-64	36.4	34.3	26.2	24.6
	65-74	10.9	14.3	21.4	18.5
	75+	14.5	5.7	4.8	11.3
11c	Female (% of 11a)	45.5	48.6	57.1	48.9
11d	Race (% of 11a; sums to 100%)				
	African American	21.8	42.9	35.7	25.7
	Asian/Pacific Islander	5.5	0.0	2.4	6.4
	Native American	0.0	0.0	0.0	0.9
	White	72.7	57.1	61.9	67.0
	Other/Unknown/Missing	0.0	0.0	0.0	0.1
11e	Hispanic (% of 11a)	1.8	0.0	2.4	13.1
11f	Cause of ESRD (% of 11a; sums to 100%)				
	Diabetes	32.7	28.6	26.2	34.3
	Hypertension	27.3	22.9	33.3	23.6
	Glomerulonephritis	21.8	22.9	16.7	19.0
	Other/Unknown/Missing	18.2	25.7	23.8	23.2
11g	Starting treatment during year (% of 11a)	20.0	42.9	35.7	27.0
11h	Average years since start of ESRD	4.5	3.8	3.7	3.3
11i	Peritoneal dialysis modality (% of 11a; sums to 100%)				
	CAPD	45.5	40.0	45.2	25.5
	Cycler	34.5	28.6	47.6	61.6
	Both CAPD and Cycler	0.0	8.6	0.0	3.4
	Unknown	20.0	22.9	7.1	9.4
Anemia Management[2]					
11j	Average hemoglobin [5.0-20.0 g/dL]	11.9	12.4	12.0	11.8
	Hemoglobin categories[3](sums to 100%)				
	<10.0 g/dL	8.0	0.0	0.0	5.5
	10.0-10.9 g/dL	12.0	2.9	17.1	15.6
	11.0-11.9 g/dL	34.0	25.7	34.1	35.4
	12.0-12.9 g/dL	32.0	40.0	41.5	29.5
	13+ g/dL	14.0	31.4	7.3	14.0
11k	ESA prescription (% of 11a)	80.0	97.1	88.1	85.8

TABLE 11 (continued): Descriptive and Clinical Data for Adult PD Patients[1], 2005-2007

	Measure Name	This State 2005	This State 2006	This State 2007	United States 2007
	Anemia Management[2]				
11l	Average serum ferritin [10-4000 ng/mL]	477	258	408	460
	Serum ferritin 100+ ng/mL[3] (%)	87.5	91.4	95.1	90.4
	Serum ferritin 200+ ng/mL[3] (%)	72.9	42.9	82.9	74.8
	Serum ferritin 500+ ng/mL[3] (%)	37.5	14.3	29.3	36.3
11m	Average transferrin saturation (TSAT) [3-120%]	27.9	29.2	30.5	31.0
	TSAT 20+[3] (%)	80.0	88.6	92.7	87.3
11n	Iron prescription (% of 11a)	61.8	65.7	61.9	51.9
	Peritoneal Dialysis Adequacy[2]				
11o	Average weekly Kt/V [0.5-5.0]	2.4	2.7	2.5	2.3
	Average weekly Kt/V 2.0+[3] (%)	78.6	74.1	71.8	68.6
11p	Average weekly creatinine clearance [10-200 L/wk]	78.0	92.2	94.1	78.8
	Average weekly creatinine clearance 60+ L/week/1.73m^2 (%)[3]	70.3	66.7	65.7	62.6
	Serum Albumin[2]				
11q	Average serum albumin (BCG or BCP +0.3) [1.0-5.5 g/dL]	3.6	3.6	3.5	3.6
	Serum albumin BCG 3.5+ g/dL or BCP 3.2+ g/dL[3](%)	68.0	77.1	58.5	60.0
	Mineral Metabolism[2]				
11r	Mean serum calcium [0.1-20.0 mg/dL]	9.0	9.1	9.1	9.1
	Serum calcium between 8.4 and 10.2[3] (%)	86.0	80.0	87.8	79.0
11s	Mean serum phosphorus[0.1-20.0 mg/dL]	5.2	5.0	5.0	5.3
	Serum phosphorus between 3.5 and 5.5[3] (%)	50.0	60.0	73.2	56.5
	Clinical Performance Measures[3,4]				
11t	Adequacy				
	At least one measured total solute clearance for urea and creatinine (%)	64.8	68.6	85.0	77.1
	Total solute clearance for urea and creatinine calculated in standard way (%)	38.2	37.1	66.7	46.2
	CAPD delivered dose meets KDOQI thresholds (%)	72.2	55.6	81.3	66.7
	Cycler delivered dose meets KDOQI thresholds (%)	64.7	50.0	64.3	57.3
11u	Anemia management				
	Mean hemoglobin 11-12 g/dL (%)	29.1	28.6	31.0	33.7
	At least two TSAT and two serum ferritin values	78.0	82.9	85.4	83.9
	Iron stores maintained at KDOQI thresholds (%)	88.0	91.4	80.5	86.1
	Administration of IV iron to anemic patients (%)	20.5	21.9	37.1	33.0

[1] These data were collected for the time period Oct-Mar, 2005-2007 in order to calculate selected CPMs and other indicators of quality of care. See *Guide.*
[2] For continuous variables, all summaries are computed based only on responses in range indicated in brackets for the variable.
[3] Calculated as the percent of patients with non-missing values.
[4] Clinical Performance Measures reported are based upon the ESRD CPM Project, Phase II.