Chapter 10: Dialysis Providers

- In 2013, collectively the three large dialysis organizations treated 71% of patients in 67% of all dialysis units. In the Small Dialysis Organizations, the numbers of patients and units declined over the period from 2010 to 2013.
- Nearly 90% of all dialysis patients in 2013 received hemodialysis; hospital-based providers had the highest proportion of peritoneal dialysis patients at 21%, more than double the national average.
- Dialysis providers of all types experienced an overall 5% decline in Standardized Mortality Ratios between 2010 and 2013.
- All provider types also experienced an overall decline in Standardized Hospitalization Ratios between 2010 and 2013, by 6%.
- For this 2015 report, we introduce new tables illustrating one-year Standardized Mortality Ratios and Standardized Hospitalization Ratios, to allow a simpler and more direct comparison of each facility-type's measure with the 2013 national norms. Notably, hospital-based units continue to perform better than the national average on both measures.
- This year we have included sex-, race-, and ethnicity-specific breakdowns of patient outcomes for home-based dialysis modality, hemodialysis vascular access types, and kidney transplant waiting list participation to highlight the complex differences between demographic groups in these areas. For example, although Native American patients were more likely than the average patient to have a fistula as their first access type, they were less likely to be on a kidney transplant waiting list.

Introduction

As in previous years, this chapter focuses on the provider organizations involved in delivering care to dialysis patients. Particularly during the last two decades, there has been continued growth in the for-profit large dialysis organizations (LDOs). Two LDOs in particular, Fresenius Medical Care (Fresenius) and DaVita Healthcare Partners, Inc. (DaVita), now dominate as providers of dialysis services in the United States (U.S.), with nearly two-thirds of facilities; their industry dominance is also growing on an international level. In contrast, there has been little to no growth in the provision of dialysis services by small dialysis organizations (SDOs), not-for-profit organizations such as Dialysis Clinics, Inc. (DCI), or hospital-based dialysis facilities.

As in the 2014 Annual Data Report (ADR), this chapter begins with a description of growth in dialysis facilities by the type of provider organization, followed by updated coverage of three key areas of clinical practice related to care of patients on dialysis. These include (i) choice of dialysis modality, (ii) patterns of vascular access type for both incident and prevalent dialysis patients, and (iii) the proportion of patients younger than age 70 who are wait-listed for kidney transplantation. We conclude the chapter with an analysis of standardized mortality and hospitalization ratios (SMRs and SHRs) by provider type, namely, LDOs, SDOs, and independent and hospital-based providers.

In the 2014 ADR, we introduced a new approach to the methodology used to calculate and present the standardized measures of major dialysis clinical outcomes. This methodology constituted a departure from previous ADRs but was designed to facilitate comparison of the SMR and the SHR across years. We now report these measures with the year adjustment removed from the risk-adjustment model. That is, the measures are no longer standardized to a national norm annually, but instead are compared with the aggregated national population across the entire referenced reporting period (i.e., 4 years). This method facilitates identification of short-term trends

in the standardized measures, while retaining the ability to compare these measures across different types of providers within a single year. To emphasize the variation that exists at the level of the individual dialysis facilities, this year the chapter also displays facility-level variation in some key clinical practices, including choice of dialysis modality, vascular access type, and wait-listing for a kidney transplant.

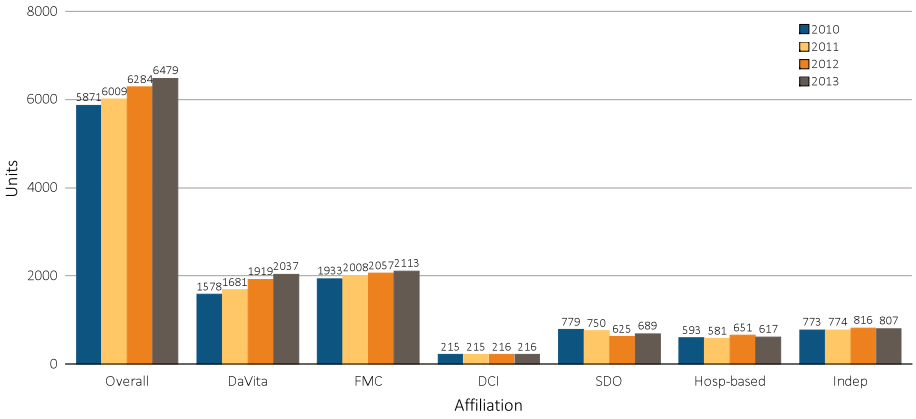
Analytical Methods

See the ESRD Analytical Methods chapter for an explanation of methods used to generate the figures and tables in this chapter.

Provider Growth

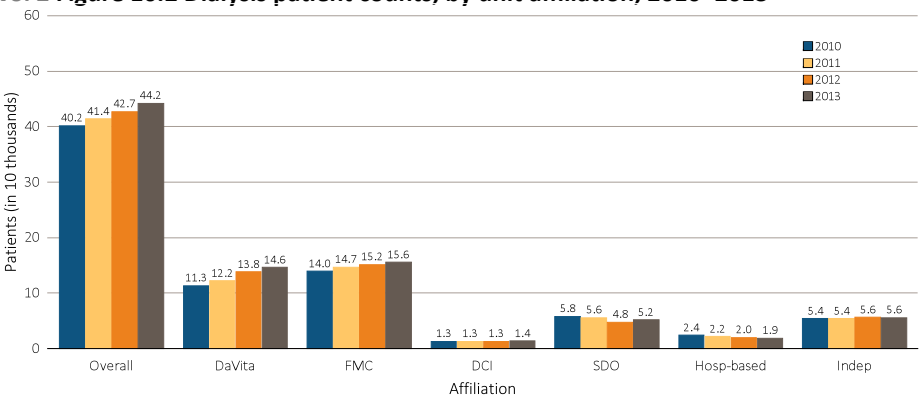
At the end of 2013, there were 6,479 dialysis units (Figure 10.1) and 442,218 dialysis patients (Figure 10.2) in the U.S. Together the three LDOs (DaVita, Fresenius, and DCI) treated 315,594 of these patients (71%) in 4,366 dialysis units (67%). SDOs treated 51,937 patients (12%) in 689 units (11%), and independent and hospital-based providers treated 55,637 (13%) and 19,050 (4%) patients, respectively, in 807 (12%) and 617 (10%) units. Nationwide, 608 dialysis units were added during the four-year period from 2010 to 2013, with most belonging to the LDOs; DaVita experienced the largest growth in both facilities and patients. In the SDOs, the numbers of patients and units declined over the same period.

vol 2 Figure 10.1 Dialysis unit counts, by unit affiliation, 2010–2013



Data source: Special analyses, USRDS ESRD Database. Abbreviations: DCI, Dialysis Clinic, Inc.; FMC, Fresenius; Hosp-based, hospital-based dialysis centers; Indep, independent dialysis providers; SDO, small dialysis organizations.

vol 2 Figure 10.2 Dialysis patient counts, by unit affiliation, 2010–2013



Data source: Special analyses, USRDS ESRD Database. Abbreviations: DCI, Dialysis Clinic, Inc.; FMC, Fresenius; Hosp-based, hospital-based dialysis centers; Indep, independent dialysis providers; SDO, small dialysis organizations.

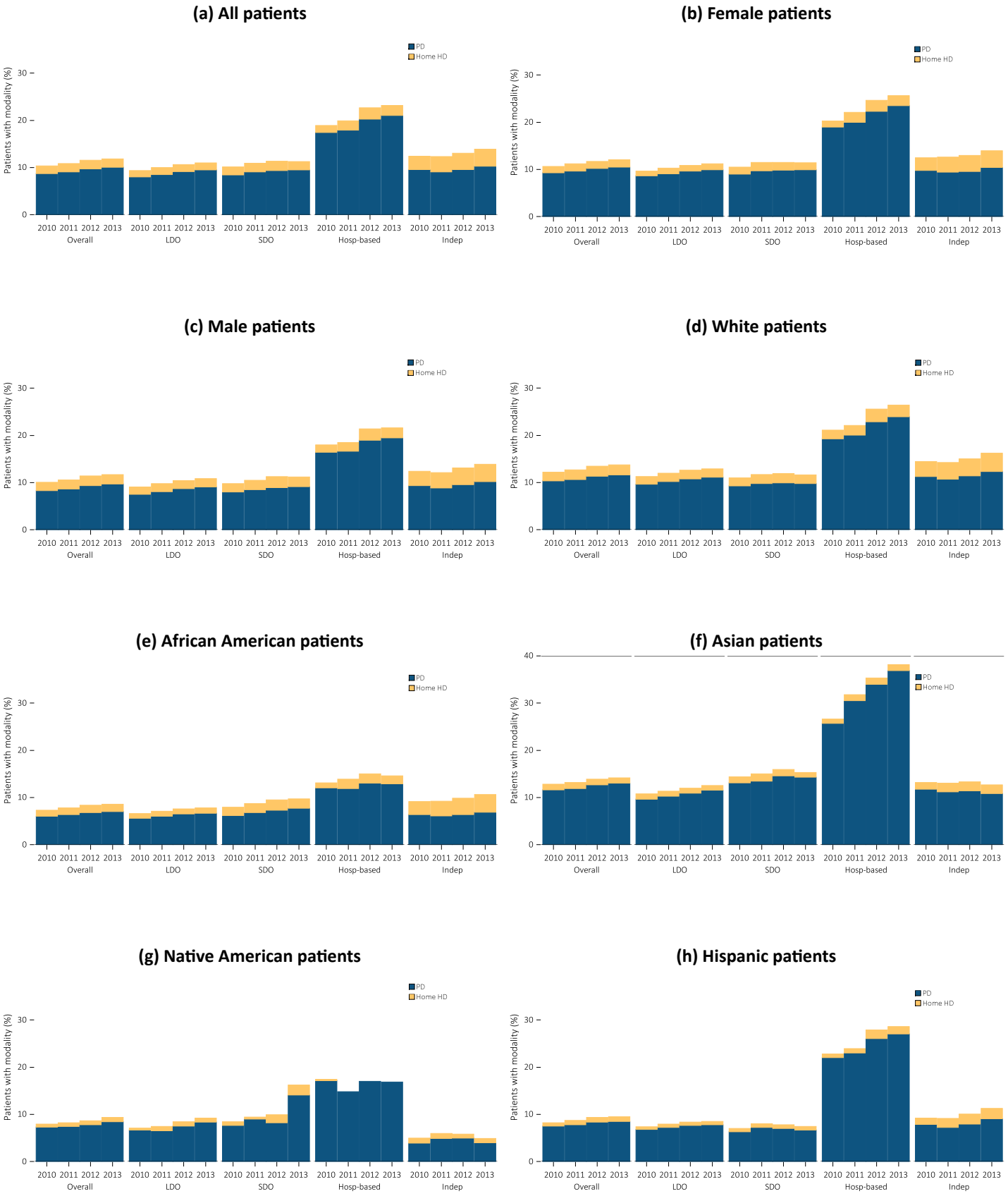
Key Dialysis Clinical Practices

Choice of Dialysis Modality

In 2013, nearly 90% of all dialysis patients received hemodialysis (HD) (Figures 10.3 a–h). This proportion was relatively consistent across provider types. However, hospital-based providers had the lowest proportion of patients on HD at 77% and the highest proportion of peritoneal dialysis (PD) patients at 21%, more than double the national average. Nationwide, the prevalence of PD increased from 9% in 2010 to 10% in 2013. (For additional information on trends in the modality of dialysis see Vol. 2, Chapter 1, Incidence, Prevalence, Patient Characteristics, and Modalities.) The largest increase in uptake of PD appeared to be among patients of Asian descent, particularly at hospital-based facilities. This trend may in part be due to lower rates of obesity or greater acceptance of PD by this patient subgroup, and requires further investigation.

Home dialysis therapies have been associated with greater patient independence and improved quality of life. Younger, more educated patients and those with fewer comorbid conditions and greater access to care tend to adopt these treatments more frequently, making comparisons of survival between in-center and home dialysis fraught with a high degree of confounding. Home hemodialysis remains uncommon in all racial and ethnic groups and types of facilities, representing fewer than 2% of all ESRD patients in 2013.

vol 2 Figure 10.3 Prevalence of dialysis modality, by unit affiliation, 2010–2013

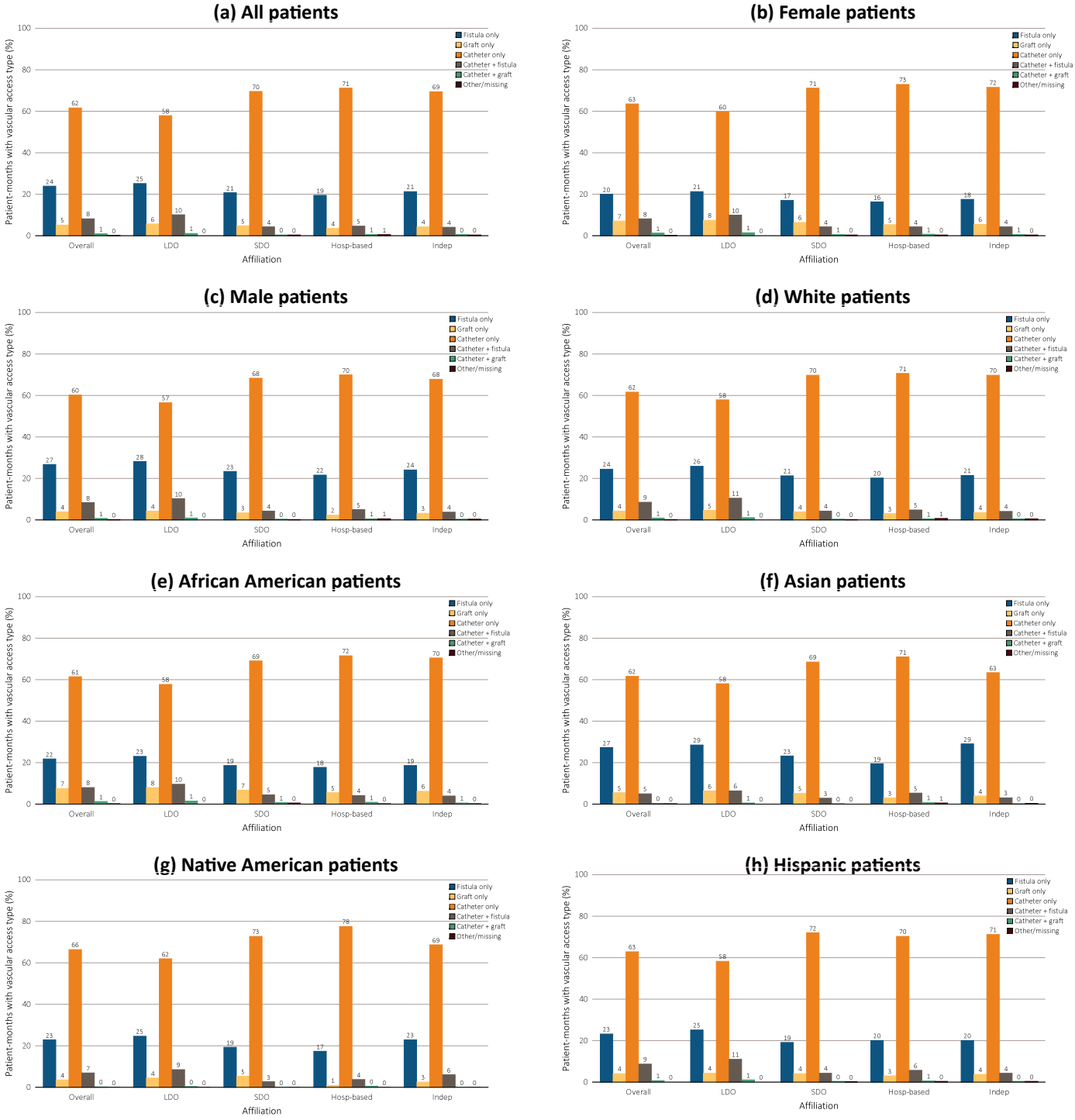


Data source: Special analyses, USRDS ESRD Database. Abbreviations: HD, hemodialysis; Hosp-based, hospital-based dialysis centers; Indep, independent dialysis providers; LDO, large dialysis organizations; PD, peritoneal dialysis; SDO, small dialysis organizations.

TYPE OF VASCULAR ACCESS

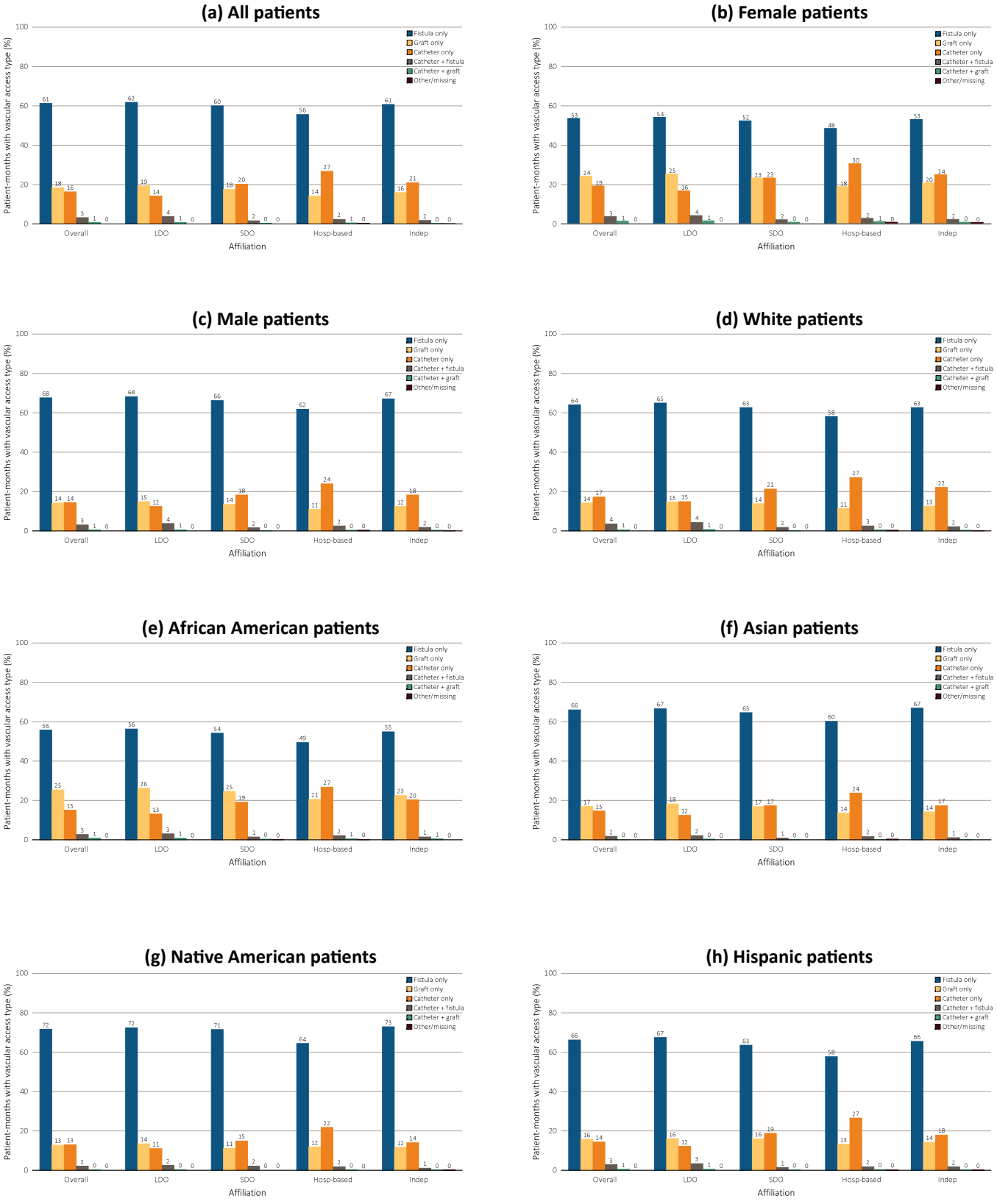
In 2013, 61% of prevalent HD patients in the U.S. received their treatment via an arteriovenous (AV) fistula and 16% via an indwelling catheter (Figures 10.5 a-h). Fistula use was highest among LDOs at 62%; catheter use was highest at 27% among hospital-based providers. During their first 30 days of ESRD, most incident patients (70%) received dialysis via a catheter; LDOs had the highest proportion of incident patients with a fistula alone (25%), compared with the 24% national average (Figure 10.4 a). The distribution of vascular access types (by provider) for both incident and prevalent patients are presented by sex, race, and ethnicity in Figures 10.4 a–h and 10.5 a-h, respectively.

vol 2 Figure 10.4 Prevalence of vascular access types among incident hemodialysis patients, by unit affiliation, 2013



Data source: Special analyses, USRDS ESRD Database. Abbreviations: Hosp-based, hospital-based dialysis centers; Indep, independent dialysis providers; LDO, large dialysis organizations; SDO, small dialysis organizations.

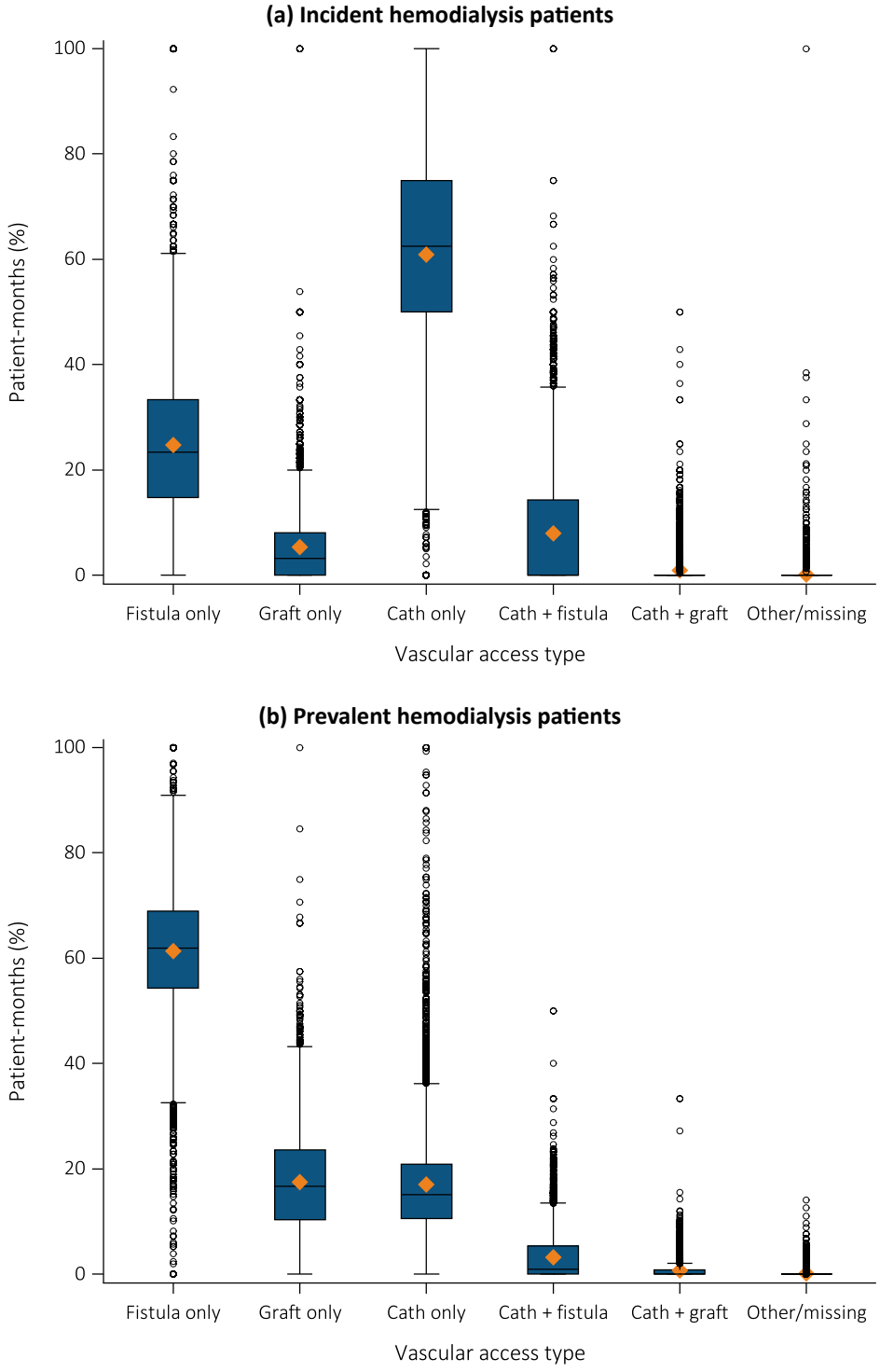
vol 2 Figure 10.5 Prevalence of vascular access types among prevalent hemodialysis patients, by unit affiliation, 2013



Data source: Special analyses, USRDS ESRD Database. Period prevalent hemodialysis patients. Abbreviations: Hosp-based, hospital-based dialysis centers; Indep, independent dialysis providers; LDO, large dialysis organizations; SDO, small dialysis organizations.

In 2013, although catheter alone was the most common vascular access type among patients in their first 30 days of dialysis (Figure 10.6 a), considerable variation was observed with respect to the long-term distribution of the types in use at dialysis facilities. More than three-quarters of facilities successfully achieved the use of an AV fistula in the majority of their prevalent patients (Figure 10.6 b). More than 15% of facilities achieved at least 70% fistula prevalence, with the top 5% in the nation achieving AV fistula use in more than 90% of their patients. Conversely, 5% of facilities had 30% or fewer of their prevalent patients using a fistula.

vol 2 **Figure 10.6 Facility-level distribution of vascular access type among HD patients during the first 30 days of dialysis, 2013**



Data source: Special analyses, USRDS ESRD Database. The orange diamonds represent the average facility-level rate of each type of vascular access. The bars within each box represent the median. The boxes represent the interquartile range. The vertical lines are capped at the 5th and 95th percentile of these facility-level rates. Abbreviations: Cath, catheter.

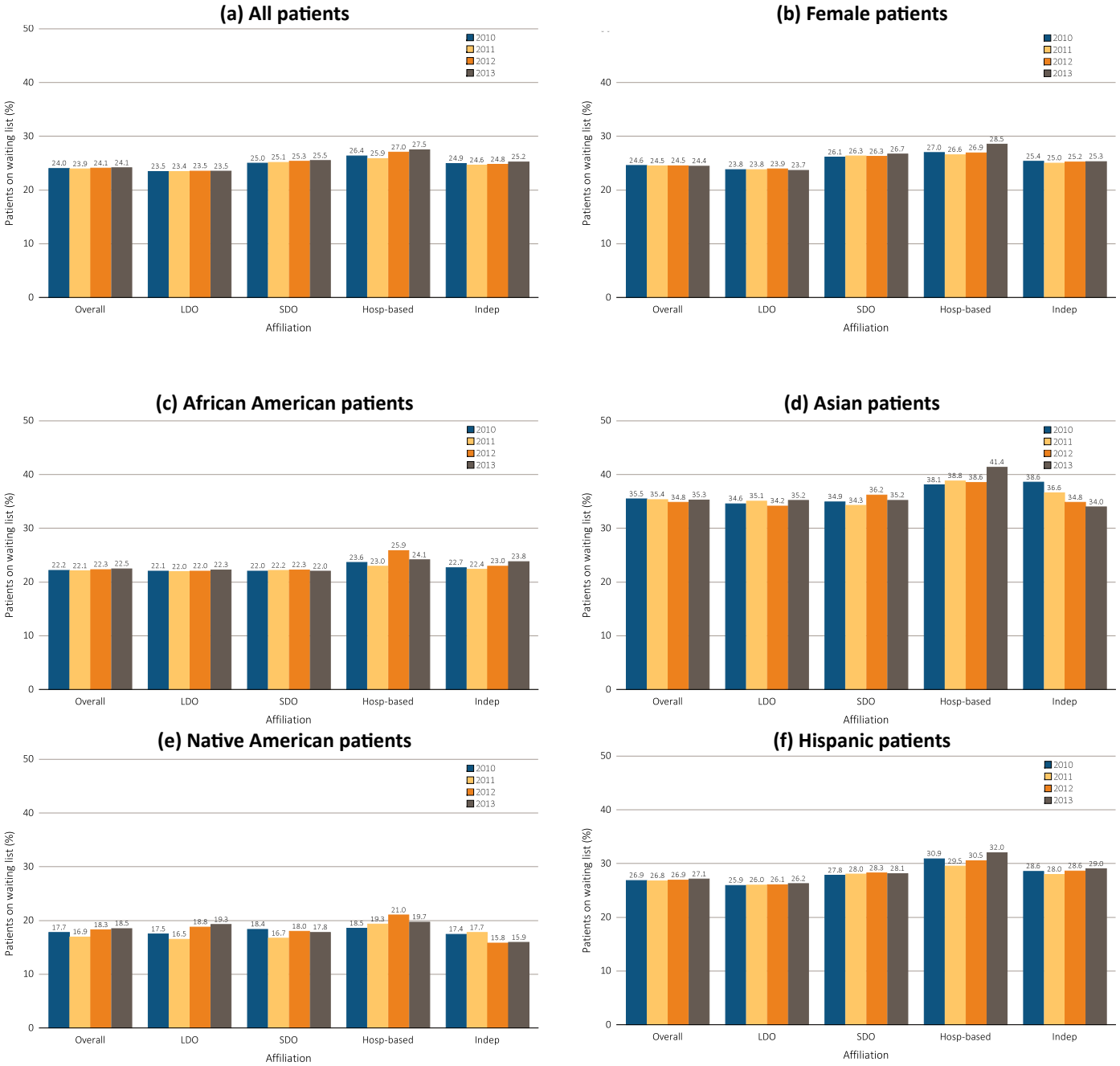
Wait-listing for Kidney Transplantation

Kidney transplantation is the modality of choice for most individuals with ESRD and is associated with the highest quality of life and survival. Nationally, the percentage of patients on a kidney transplant waiting list remained fairly consistent between 2010 and 2013, with 24% of patients younger than age 70 on a waiting list (Figure 10.7 a). This measure is limited to patients younger than age 70, to be comparable to the Healthy People 2020 goals (see Vol. 2, Chapter 2).

Hospital-based dialysis providers had the highest rates of wait-listed patients in 2013, at 27%.

The overall percentages of patients on a kidney transplant waiting list in 2013 varied substantially by race and ethnicity, ranging from 19% among Native American patients to 35% among Asian patients. Within each racial and ethnic group, hospital-based facilities again had the highest percentages of patients on a transplant waiting list.

vol 2 Figure 10.7 Percentage of patients younger than 70 on a kidney transplant waiting list, by unit affiliation, 2010–2013



Data source: Special analyses, USRDS ESRD Database. Dialysis patients younger than 70 years on December 31. Abbreviations: Hosp-based, hospital-based dialysis centers; Indep, independent dialysis providers; LDO, large dialysis organizations; SDO, small dialysis organizations.

Standardized Measures of Clinical Outcomes

Standardized measures of the major clinical outcomes of dialysis treatment include assessments of mortality (SMR) and hospitalization (SHR). These measures were designed to reflect the number of observed events (i.e., deaths and hospitalizations) for patients of a provider or organization, relative to the number of events that would be expected to occur. Expected values were based on both the national rates during the reporting period and the characteristics of patients treated by a specific provider or organization. Specifically, the SMR and SHR are calculated as the ratio of two numbers: the numerator ("observed") is the actual number of events for the patients of a provider or organization over the specified period, and the denominator ("expected") is the number of events that would have been expected to occur for the same patients if they were with a provider or organization conforming to the national norm during the same reporting period (e.g., 2010–2013).

Standardized Mortality Ratios

All provider types experienced declines in SMRs (Table 10.1) between 2010 and 2013. Among the LDOs, DaVita experienced the greatest decline in SMR, from 1.05 in 2010 to 0.99 in 2013. DCI had the lowest SMR in 2013 at 0.92, compared with 0.99 and 0.98, respectively, for DaVita and Fresenius. In 2013, SDOs and independent providers had the highest SMRs at 1.00.

Between 2010 and 2013, White patients experienced lesser decreases in SMR compared with the overall population (Table 10.1). For White patients, SMR fell 3% overall in the 4-year period, compared with 5% for all patients.

Compared with the overall dialysis population, the decrease in SMR between 2010 and 2013 was of greater magnitude in the Black, Asian, and Hispanic cohorts (Table 10.1). Among Black patients, overall SMR decreased significantly by 9%; this outcome decreased significantly among all provider types, with hospital-based providers experiencing the greatest decrease at 14%. Among both Asian and Hispanic patients, overall SMR decreased significantly by 10% and 9%, respectively. SMRs for these groups decreased significantly among all provider types, except DCI, which experienced non-significant increases among Asian (17%) and Hispanic (6%) patients.

Native American patients experienced an average decrease in SMR of 5%, similar in magnitude to the overall population (Table 10.1). SMRs for Native American patients treated in SDO's increased substantially from 0.74 to 1.06, and to a lesser degree in units owned by DCI (from 0.67 to 0.77) and hospital-based units (from 0.75 to 0.79). Native American patients treated by all other provider types experienced decreases in SMR.

vol 2 **Table 10.1 All-cause standardized mortality ratio, by unit affiliation, 2010–2013**

	Affiliation		2010	2011	2012	2013
All patients	**Overall**		1.03 (1.02-1.04)	1.01 (1.00-1.02)	0.99 (0.98-0.99)	0.98 (0.97-0.98)
	LDO	DaVita	1.05 (1.04-1.06)	1.03 (1.02-1.04)	0.99 (0.98-1.00)	0.99 (0.98-1.00)
		Fresenius	1.04 (1.03-1.05)	1.03 (1.01-1.04)	1.00 (0.99-1.01)	0.98 (0.97-0.99)
		DCI	0.95 (0.92-0.99)	0.93 (0.90-0.96)	0.95 (0.92-0.99)	0.92 (0.88-0.95)
	SDO		1.03 (1.01-1.04)	1.03 (1.02-1.05)	1.01 (0.99-1.03)	1.00 (0.98-1.02)
	Hospital-based		0.98 (0.95-1.00)	0.93 (0.91-0.96)	0.95 (0.92-0.98)	0.95 (0.92-0.98)
	Independent		1.05 (1.03-1.06)	1.03 (1.01-1.05)	1.02 (1.00-1.04)	1.00 (0.98-1.01)
White patients	**Overall**		1.15 (1.14-1.16)	1.13 (1.12-1.14)	1.11 (1.11-1.12)	1.11 (1.10-1.12)
	LDO	DaVita	1.18 (1.16-1.19)	1.16 (1.14-1.18)	1.12 (1.10-1.13)	1.13 (1.11-1.14)
		Fresenius	1.16 (1.14-1.18)	1.16 (1.14-1.17)	1.13 (1.12-1.15)	1.11 (1.10-1.13)
		DCI	1.11 (1.06-1.15)	1.09 (1.05-1.14)	1.12 (1.08-1.17)	1.07 (1.02-1.12)
	SDO		1.15 (1.12-1.17)	1.14 (1.12-1.16)	1.11 (1.09-1.14)	1.12 (1.10-1.15)
	Hospital-based		1.09 (1.05-1.12)	1.04 (1.00-1.07)	1.06 (1.02-1.09)	1.11 (1.07-1.15)
	Independent		1.15 (1.13-1.18)	1.14 (1.12-1.16)	1.15 (1.12-1.17)	1.14 (1.11-1.16)
Black/African American patients	**Overall**		0.89 (0.88-0.90)	0.85 (0.84-0.86)	0.83 (0.82-0.84)	0.81 (0.80-0.82)
	LDO	DaVita	0.90 (0.88-0.92)	0.85 (0.83-0.87)	0.81 (0.79-0.83)	0.83 (0.81-0.84)
		Fresenius	0.88 (0.86-0.90)	0.85 (0.83-0.87)	0.82 (0.80-0.83)	0.81 (0.79-0.82)
		DCI	0.80 (0.75-0.85)	0.76 (0.71-0.81)	0.75 (0.71-0.80)	0.74 (0.70-0.79)
	SDO		0.88 (0.85-0.91)	0.89 (0.86-0.92)	0.87 (0.84-0.90)	0.81 (0.79-0.84)
	Hospital-based		0.88 (0.84-0.93)	0.80 (0.75-0.85)	0.89 (0.84-0.95)	0.76 (0.71-0.82)
	Independent		0.91 (0.88-0.94)	0.89 (0.86-0.92)	0.85 (0.83-0.88)	0.80 (0.78-0.83)
Asian patients	**Overall**		0.71 (0.69-0.74)	0.71 (0.69-0.73)	0.68 (0.66-0.70)	0.64 (0.62-0.66)
	LDO	DaVita	0.73 (0.69-0.78)	0.77 (0.73-0.82)	0.73 (0.69-0.78)	0.64 (0.61-0.68)
		Fresenius	0.74 (0.70-0.78)	0.71 (0.68-0.75)	0.70 (0.66-0.74)	0.70 (0.66-0.74)
		DCI	0.58 (0.42-0.78)	0.55 (0.40-0.73)	0.78 (0.61-1.00)	0.68 (0.52-0.88)
	SDO		0.77 (0.71-0.83)	0.84 (0.78-0.91)	0.69 (0.63-0.75)	0.71 (0.66-0.77)
	Hospital-based		0.74 (0.64-0.84)	0.78 (0.68-0.90)	0.55 (0.46-0.66)	0.62 (0.53-0.73)
	Independent		0.79 (0.72-0.85)	0.73 (0.67-0.79)	0.76 (0.71-0.82)	0.70 (0.65-0.75)
Native American patients	**Overall**		0.85 (0.80-0.90)	0.83 (0.78-0.88)	0.83 (0.78-0.88)	0.81 (0.76-0.86)
	LDO	DaVita	0.76 (0.67-0.86)	0.84 (0.74-0.94)	0.75 (0.67-0.84)	0.72 (0.64-0.80)
		Fresenius	0.99 (0.88-1.11)	0.92 (0.81-1.03)	1.01 (0.90-1.13)	0.88 (0.78-0.99)
		DCI	0.67 (0.50-0.88)	0.75 (0.57-0.98)	0.71 (0.54-0.92)	0.77 (0.58-0.99)
	SDO		0.74 (0.64-0.85)	0.65 (0.56-0.76)	1.20 (0.98-1.46)	1.06 (0.84-1.31)
	Hospital-based		0.75 (0.60-0.92)	0.80 (0.64-0.98)	0.78 (0.63-0.96)	0.79 (0.63-0.97)
	Independent		1.09 (0.95-1.25)	0.98 (0.84-1.13)	0.71 (0.62-0.82)	0.80 (0.70-0.90)
Hispanic patients	**Overall**		0.81 (0.79-0.82)	0.80 (0.79-0.82)	0.77 (0.75-0.78)	0.74 (0.72-0.75)
	LDO	DaVita	0.76 (0.73-0.79)	0.77 (0.75-0.80)	0.75 (0.72-0.77)	0.74 (0.72-0.76)
		Fresenius	0.85 (0.83-0.88)	0.84 (0.81-0.86)	0.79 (0.76-0.81)	0.74 (0.71-0.76)
		DCI	0.77 (0.65-0.91)	0.67 (0.57-0.80)	0.82 (0.70-0.96)	0.81 (0.69-0.95)
	SDO		0.85 (0.81-0.88)	0.85 (0.81-0.88)	0.82 (0.78-0.86)	0.79 (0.75-0.82)
	Hospital-based		0.83 (0.75-0.90)	0.80 (0.72-0.88)	0.76 (0.69-0.85)	0.68 (0.61-0.76)
	Independent		0.83 (0.79-0.87)	0.82 (0.79-0.86)	0.79 (0.76-0.83)	0.80 (0.76-0.83)

Data source: Special analyses, USRDS ESRD Database. Period prevalent dialysis patients; 95% confidence intervals are shown in parentheses. The overall measure is adjusted for patient age, race, ethnicity, sex, diabetes, duration of ESRD, nursing home status, patient comorbidities at incidence, body mass index (BMI) at incidence, and population death rates. The race-specific measures are adjusted for all the above characteristics except patient race. The Hispanic-specific measure is adjusted for all the above characteristics except patient ethnicity. Abbreviations: DCI, Dialysis Clinic, Inc.; LDO, large dialysis organizations; SDO, small dialysis organizations.

Table 10.1 presents data with which to compare a dialysis unit's performance on the SMR across multiple years. Table 10.2 provides an alternate perspective for 2013 only. This example is designed to provide a simpler and more direct comparison of a given provider type to other providers and to the national value in a single year.

vol 2 **Table 10.2 All-cause standardized mortality ratio, by unit affiliation, 2013**

Affiliation	All	White	Black/African American	Asian	Native American	Hispanic
Overall	1.00 (0.99-1.01)	1.13 (1.13-1.14)	0.83 (0.83-0.84)	0.66 (0.64-0.68)	0.83 (0.78-0.88)	0.76 (0.75-0.77)
LDO						
DaVita	1.02 (1.01-1.03)	1.15 (1.14-1.17)	0.85 (0.83-0.87)	0.66 (0.63-0.70)	0.74 (0.66-0.82)	0.76 (0.74-0.79)
Fresenius	1.00 (0.99-1.02)	1.14 (1.12-1.15)	0.83 (0.81-0.85)	0.72 (0.68-0.77)	0.90 (0.80-1.02)	0.76 (0.73-0.78)
DCI	0.94 (0.90-0.97)	1.09 (1.04-1.14)	0.76 (0.72-0.81)	0.71 (0.54-0.91)	0.78 (0.60-1.01)	0.84 (0.71-0.98)
SDO	1.02 (1.01-1.04)	1.15 (1.13-1.18)	0.84 (0.81-0.87)	0.73 (0.68-0.79)	1.08 (0.86-1.35)	0.81 (0.77-0.85)
Hospital-based	0.98 (0.95-1.01)	1.14 (1.10-1.18)	0.79 (0.74-0.84)	0.64 (0.54-0.76)	0.80 (0.64-0.99)	0.71 (0.63-0.79)
Independent	1.02 (1.01-1.04)	1.17 (1.14-1.19)	0.83 (0.80-0.86)	0.72 (0.67-0.77)	0.81 (0.71-0.92)	0.82 (0.79-0.86)

Data source: Special analyses, USRDS ESRD Database. Period prevalent dialysis patients; 95% confidence intervals are shown in parentheses. The overall measure is adjusted for patient age, race, ethnicity, sex, diabetes, duration of ESRD, nursing home status, patient comorbidities at incidence, body mass index (BMI) at incidence, and population death rates. The race-specific measures are adjusted for all the above characteristics except patient race. The Hispanic-specific measure is adjusted for all the above characteristics except patient ethnicity. Abbreviations: DCI, Dialysis Clinic, Inc.; LDO, large dialysis organizations; SDO, small dialysis organizations.

Standardized Hospitalization Ratios

All types of providers experienced significant declines in SHRs between 2010 and 2013 (Table 10.3). Of the three LDOs, DCI exhibited the lowest SHR, at 0.87, compared with 0.97 and 0.95 for DaVita and Fresenius, respectively. In 2013 only, units owned by DaVita had the highest SHRs at 0.97 (Table 10.4).

Between 2010 and 2013, White patients experienced decreases in SHR of similar magnitude as those in the overall population (Table 10.3). For these patients, SHR fell by 5%, as compared with 6% for all patients.

The decreases in SHR between 2010 and 2013 were of greater magnitude in the Black, Asian, Hispanic, and Native American populations (Table 10.3) as compared with the overall dialysis population. Reductions in SHR among these three groups were significant, declining by 8% among Black patients, 6% among Asian patients, 9% among Hispanic patients, and 8% among Native American patients.

All provider types experienced significant decreases in SHR among Black patients, with SDOs showing the greatest reduction at 11%. The SHR for Asian patients increased significantly in Fresenius facilities by 4%, but Asian patients treated by all other provider types experienced an SHR reduction. SHRs for Hispanic patients decreased significantly across all provider types, with hospital-based units and SDOs experiencing the greatest reductions at 12%. The SHR for Native American patients increased significantly by 10% in SDOs; Native American patients treated by all other provider types experienced decreases in SHR.

vol 2 **Table 10.3 All-cause standardized hospitalization ratio, by unit affiliation, 2010–2013**

	Affiliation	2010	2011	2012	2013
All patients	**Overall**	1.03 (1.03-1.03)	1.02 (1.02-1.02)	0.99 (0.99-0.99)	0.97 (0.96-0.97)
	LDO DaVita	1.04 (1.03-1.04)	1.02 (1.02-1.02)	0.99 (0.99-0.99)	0.97 (0.97-0.97)
	Fresenius	1.02 (1.02-1.03)	1.01 (1.01-1.02)	0.98 (0.98-0.98)	0.95 (0.95-0.96)
	DCI	0.92 (0.91-0.93)	0.92 (0.91-0.93)	0.90 (0.89-0.91)	0.87 (0.86-0.88)
	SDO	1.03 (1.02-1.03)	1.03 (1.03-1.04)	1.00 (0.99-1.00)	0.95 (0.95-0.96)
	Hospital-based	0.97 (0.96-0.98)	0.94 (0.93-0.95)	0.95 (0.94-0.96)	0.91 (0.90-0.92)
	Independent	1.01 (1.00-1.02)	1.01 (1.00-1.01)	0.99 (0.98-0.99)	0.95 (0.94-0.95)
White patients	**Overall**	1.04 (1.04-1.05)	1.04 (1.03-1.04)	1.02 (1.01-1.02)	0.99 (0.99-0.99)
	LDO DaVita	1.05 (1.05-1.06)	1.04 (1.04-1.05)	1.02 (1.01-1.02)	1.00 (0.99-1.00)
	Fresenius	1.06 (1.06-1.07)	1.05 (1.05-1.06)	1.02 (1.01-1.02)	0.99 (0.99-1.00)
	DCI	0.98 (0.96-1.00)	0.98 (0.96-1.00)	0.97 (0.96-0.99)	0.92 (0.90-0.94)
	SDO	1.02 (1.01-1.03)	1.03 (1.02-1.03)	0.99 (0.98-1.00)	0.96 (0.95-0.97)
	Hospital-based	0.95 (0.94-0.96)	0.92 (0.90-0.93)	0.93 (0.92-0.94)	0.91 (0.89-0.92)
	Independent	1.01 (1.01-1.02)	1.01 (1.00-1.02)	1.01 (1.00-1.01)	0.96 (0.96-0.97)
Black/African American patients	**Overall**	1.04 (1.04-1.04)	1.02 (1.02-1.03)	0.99 (0.99-0.99)	0.96 (0.96-0.96)
	LDO DaVita	1.05 (1.04-1.06)	1.02 (1.01-1.02)	0.99 (0.98-1.00)	0.97 (0.96-0.98)
	Fresenius	1.01 (1.00-1.01)	0.99 (0.98-0.99)	0.95 (0.95-0.96)	0.92 (0.92-0.93)
	DCI	0.88 (0.87-0.90)	0.87 (0.85-0.89)	0.86 (0.84-0.88)	0.85 (0.83-0.86)
	SDO	1.10 (1.09-1.11)	1.11 (1.10-1.12)	1.04 (1.03-1.05)	0.99 (0.98-1.00)
	Hospital-based	1.04 (1.02-1.06)	1.05 (1.03-1.07)	1.04 (1.02-1.06)	0.97 (0.95-0.99)
	Independent	1.04 (1.03-1.05)	1.04 (1.03-1.05)	1.01 (1.00-1.02)	0.96 (0.95-0.97)
Asian patients	**Overall**	0.78 (0.77-0.79)	0.79 (0.78-0.80)	0.75 (0.74-0.76)	0.73 (0.72-0.74)
	LDO DaVita	0.78 (0.76-0.80)	0.78 (0.76-0.80)	0.71 (0.70-0.73)	0.71 (0.69-0.72)
	Fresenius	0.74 (0.72-0.75)	0.78 (0.77-0.80)	0.79 (0.77-0.81)	0.76 (0.75-0.78)
	DCI	0.67 (0.61-0.74)	0.82 (0.75-0.89)	0.74 (0.67-0.81)	0.63 (0.57-0.69)
	SDO	0.76 (0.74-0.79)	0.79 (0.77-0.81)	0.69 (0.67-0.71)	0.67 (0.65-0.69)
	Hospital-based	0.81 (0.77-0.85)	0.70 (0.66-0.74)	0.68 (0.63-0.72)	0.74 (0.69-0.79)
	Independent	0.82 (0.80-0.85)	0.78 (0.75-0.80)	0.73 (0.71-0.75)	0.73 (0.71-0.75)
Native American patients	**Overall**	0.87 (0.85-0.88)	0.84 (0.83-0.86)	0.81 (0.80-0.83)	0.80 (0.78-0.81)
	LDO DaVita	0.89 (0.86-0.93)	0.85 (0.82-0.88)	0.80 (0.78-0.83)	0.79 (0.77-0.82)
	Fresenius	0.91 (0.87-0.94)	0.91 (0.87-0.94)	0.84 (0.80-0.87)	0.83 (0.80-0.86)
	DCI	0.76 (0.70-0.83)	0.77 (0.71-0.84)	0.60 (0.55-0.66)	0.65 (0.59-0.71)
	SDO	0.71 (0.68-0.74)	0.71 (0.68-0.75)	0.92 (0.86-0.99)	0.78 (0.71-0.84)
	Hospital-based	1.03 (0.97-1.10)	0.96 (0.90-1.02)	0.95 (0.89-1.01)	0.84 (0.78-0.90)
	Independent	0.85 (0.81-0.90)	0.81 (0.76-0.86)	0.70 (0.67-0.74)	0.73 (0.70-0.76)
Hispanic patients	**Overall**	0.96 (0.96-0.97)	0.93 (0.92-0.93)	0.92 (0.92-0.93)	0.88 (0.87-0.88)
	LDO DaVita	0.93 (0.92-0.94)	0.91 (0.90-0.92)	0.90 (0.89-0.91)	0.86 (0.85-0.87)
	Fresenius	0.98 (0.97-0.99)	0.92 (0.92-0.93)	0.92 (0.91-0.93)	0.87 (0.86-0.88)
	DCI	0.88 (0.83-0.93)	0.86 (0.82-0.91)	0.85 (0.81-0.90)	0.80 (0.76-0.85)
	SDO	0.94 (0.92-0.95)	0.90 (0.89-0.92)	0.88 (0.87-0.89)	0.83 (0.81-0.84)
	Hospital-based	0.97 (0.94-1.00)	0.92 (0.90-0.95)	0.94 (0.91-0.98)	0.85 (0.82-0.89)
	Independent	0.98 (0.97-1.00)	0.95 (0.93-0.96)	0.95 (0.94-0.97)	0.92 (0.90-0.93)

Data source: Special analyses, USRDS ESRD Database. Period prevalent dialysis patients with Medicare as primary payer; 95% confidence intervals are shown in parentheses. Adjusted for patient age, race, ethnicity, sex, diabetes, duration of ESRD, nursing home status, patient comorbidities at incidence, and body mass index (BMI) at incidence. The race-specific measures are adjusted for all the above characteristics except patient race. The Hispanic-specific measure is adjusted for all the above characteristics except patient ethnicity. Abbreviations: DCI, Dialysis Clinic, Inc.; LDO, large dialysis organizations; SDO, small dialysis organizations.

Similar to the SMR presentation, Table 10.4 displays the 2013-only SHR, which is constructed to provide a simpler and more direct comparison of a given provider type to the national value in a given year, versus comparing a provider type's performance on the SHR across years, as Table 10.3 is designed to facilitate.

vol 2 **Table 10.4 All-cause standardized hospitalization ratio, by unit affiliation, 2013**

Affiliation	All	White	Black/African American	Asian	Native American	Hispanic
Overall	1.00 (1.00-1.00)	1.03 (1.02-1.03)	1.00 (0.99-1.00)	0.75 (0.75-0.76)	0.82 (0.81-0.84)	0.91 (0.90-0.92)
LDO						
DaVita	1.01 (1.00-1.01)	1.03 (1.03-1.04)	1.01 (1.00-1.01)	0.73 (0.71-0.74)	0.82 (0.79-0.85)	0.89 (0.89-0.90)
Fresenius	0.99 (0.98-0.99)	1.03 (1.02-1.03)	0.96 (0.95-0.96)	0.79 (0.77-0.80)	0.86 (0.82-0.89)	0.91 (0.90-0.92)
DCI	0.90 (0.89-0.91)	0.95 (0.93-0.97)	0.88 (0.86-0.90)	0.64 (0.58-0.71)	0.67 (0.61-0.74)	0.83 (0.79-0.88)
SDO	0.99 (0.98-1.00)	1.00 (0.99-1.01)	1.02 (1.01-1.04)	0.69 (0.67-0.71)	0.80 (0.74-0.87)	0.86 (0.84-0.87)
Hospital-based	0.94 (0.93-0.95)	0.94 (0.92-0.95)	1.01 (0.99-1.03)	0.76 (0.72-0.81)	0.87 (0.81-0.93)	0.89 (0.85-0.92)
Independent	0.98 (0.98-0.99)	1.00 (0.99-1.01)	1.00 (0.99-1.01)	0.75 (0.73-0.77)	0.75 (0.72-0.79)	0.95 (0.93-0.96)

Data source: Special analyses, USRDS ESRD Database. Period prevalent dialysis patients with Medicare as primary payer; 95% confidence intervals are shown in parentheses. Adjusted for patient age, race, ethnicity, sex, diabetes, duration of ESRD, nursing home status, patient comorbidities at incidence, and body mass index (BMI) at incidence. The race-specific measures are adjusted for all the above characteristics except patient race. The Hispanic-specific measure is adjusted for all the above characteristics except patient ethnicity. Abbreviations: DCI, Dialysis Clinic, Inc.; LDO, large dialysis organizations; SDO, small dialysis organizations.

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