



Summary

The National Renal Administrators Association (NRAA) engaged Avalere Health to analyze whether and the extent to which cost differentials may exist between large and small dialysis organizations. NRAA's concern is that, because small dialysis organizations (SDOs) generally serve a lower volume of patients and therefore purchase fewer supplies and drugs, they may not have the negotiating power of large dialysis organizations (LDOs). Our previous analysis found that dialysis facilities belonging to LDOs reported lower costs per treatment, on average, than those belonging to SDOs. Avalere Health originally conducted this analysis in May 2008, based on 2005 cost reports. NRAA used the analysis to inform lawmakers as they drafted the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) which stipulated changes to the payment method for outpatient dialysis facilities. As the Centers for Medicare & Medicaid Services (CMS) is currently drafting the proposed regulation to implement MIPPA, NRAA requested that Avalere revisit the analysis using more recent (2006) cost report data.

In our updated analysis, we continue to find differences in costs, with providers belonging to LDOs reporting lower costs, on average, than providers belonging to SDOs. The differences we observe can be attributed largely to higher costs associated with salaries, one of the primary cost drivers for dialysis providers. Higher supply and lab costs also contribute to overall higher costs for facilities that belong to SDOs. We also observed differences between organization types in unit costs for erythropoietin (EPO), indicating that facilities belonging to SDOs may not have the purchasing power of LDOs.

The results of these analyses are important to consider as CMS develops and implements the newly bundled prospective payment system for dialysis facilities. Recognizing the differences in the costs of delivering end stage renal disease (ESRD) services will help to inform the new payment system and ensure it includes appropriate incentives for delivering quality care.

Background

Medicare currently pays a composite payment rate for the majority of outpatient dialysis services for ESRD patients. Payments are made on a per treatment basis. The composite rate excludes payment for certain laboratory services and certain drugs used to treat ESRD; facilities bill separately for and receive separate payment for these services. Payments for composite rate services represent about 60 percent of total Medicare payments to ESRD facilities, while payments for services outside the composite rate make up the remaining 40 percent of total Medicare payments.¹

In July 2008, Congress passed MIPPA, which requires CMS to develop a comprehensive bundled payment. This bundled payment will cover the routine services previously included in the composite rate, as well as the majority of services that facilities previously billed for separately. MIPPA requires that the estimated total payments beginning in 2011 for renal dialysis services equal 98 percent of the estimated total payments that CMS would have made had Congress not

¹ CMS Report to Congress, *A Design for a Bundled End Stage Renal Disease Prospective Payment System*. Available at: <http://www.cms.hhs.gov/ESRDGeneralInformation/downloads/ESRDReportToCongress.pdf>



implemented the new bundled system. In addition, MIPPA calls for a phase-in transition period so that the new ESRD payment system will be fully implemented in 2014.

MIPPA provisions allow for adjustments to be made to the bundled payment amount to account for cost variations among different patient populations and types of dialysis providers. The law specifies that CMS adjust the base payment for case-mix to account for patient variables such as weight, body mass index, comorbidities, length of time on dialysis, age, and other factors that affect the cost of providing care to patients. Also, MIPPA mandates that CMS make an adjustment that reflects the extent to which costs incurred by low-volume dialysis facilities exceed the cost incurred by other facilities for furnishing such services. MIPPA states, however, that CMS has the discretion to define "low-volume". It also allows CMS to create other adjustors to account for characteristics that affect the cost of providing care. For example, the law suggests adjustments for facilities that provide pediatric care, differences in price inputs across geographic areas, and facilities in rural areas.

Previous work by the Department of Health and Human Services Office of the Inspector General (OIG) and the Medicare Payment Advisory Commission (MedPAC) found that SDOs have higher costs per treatment than LDOs. A 2004 study conducted by the OIG analyzed the acquisition costs for 10 drugs used in dialysis facilities. The OIG found that SDO providers' costs for the drugs were, on average, 8 percent higher, than that of LDOs.² More recently, in its March 2009 Report to the Congress, MedPAC described outpatient ESRD facilities in a manner that articulates the unique nature of this provider sector. To this end, MedPAC characterizes the dialysis industry as an oligopoly, in which two LDOs comprise about 60 percent of all facilities. It also describes how one of the larger organizations not only provides ESRD services, but also supplies inputs to these services through vertical integration.³ SDOs provide similar services as LDOs, but do not generally engage in vertical integration.

Additionally, the March 2009 MedPAC Report to the Congress highlighted the difference in margins between LDOs and other freestanding dialysis facilities. MedPAC found that in 2007, dialysis facilities belonging to the two LDOs had a 6.9 percent Medicare margin compared with other freestanding dialysis facilities that had a 0.2 percent Medicare margin. Furthermore, MedPAC noted that this gap expanded compared to 2006, when dialysis facilities belonging to the LDOs had a 7.6 percent Medicare margin, and the other freestanding dialysis facilities had a 2.0 percent Medicare margin.⁴

Methodology

Using fiscal year 2006 cost report data, we obtained cost, utilization, and provider characteristic data for freestanding renal dialysis facilities. Our analysis eliminated cost reports that are considered "as submitted"; these reports are not considered finalized reports and, as such, data from these cost reports could inappropriately influence results. We identified providers as LDOs if the facility belonged to a chain that includes more than 300 facilities. To group providers into SDOs, we identified those providers that were either independent or part of a chain with fewer

² Office of Inspector General, *Medicare Reimbursement for Existing End-Stage Renal Disease Drugs*. Available at: www.oig.hhs.gov/oei/reports/oei-03-04-00120.pdf

³ MedPAC, *Report to the Congress: Medicare Payment Policy*, March 2009, page 133.

⁴ MedPAC, *Report to the Congress: Medicare Payment Policy*, March 2009, page 149.



than 50 providers.⁵ As a result of these criteria, we included two LDOs and 549 SDOs in our analysis.

We then sought to describe and analyze average cost and utilization data among LDOs and SDOs. To do this, we identified major cost categories from the cost reports—salaries, drugs, labs, and supplies—and calculated the average treatment costs for each category. This was done by dividing the total costs for each of these cost categories by the facilities' reported total number of treatments. We also computed the average total cost for each facility by including costs associated with all cost categories, not just the major categories discussed above. To ensure that extreme values from the cost reports would not skew our results, we eliminated outlier values that were plus or minus three times the standard deviation from the geometric mean.

Because EPO is the largest driver of Medicare reimbursement for separately billable drugs, we examined it as a separate item in this analysis. We analyzed unit costs rather than average EPO costs per treatment to neutralize variations in dosage that may be systematic among different types of providers (i.e., one provider's EPO unit cost may be less than another, but its average EPO cost per treatment may be higher due to a higher average amount of EPO prescribed to patients). Although cost report data for other types of providers does not typically contain cost information for a specific drug or supply, independent renal dialysis facility cost reports contain detailed information that can be used to calculate EPO per unit costs.

Results

Consistent with our previous analysis of 2005 cost report data, we continue to find higher per unit EPO costs for SDOs relative to LDOs. Specifically, we found that average per unit EPO costs were 13 percent higher for SDOs than for LDOs in 2006. Table 1 below illustrates the average per unit EPO cost for LDOs and SDOs. Although more specific information is not available on cost reports that would enable us to determine an average unit cost for other drugs, it is likely that this result exists for other drugs used by ESRD facilities, particularly when the OIG and MedPAC findings are considered.

Table 1. Average EPO Unit Costs, 2006 Cost Report Data (Settled)

<i>Cost Category</i>	<i>LDOs</i>	<i>SDOs</i>	<i>Cost Differentials Between SDOs and LDOs</i>
Average EPO Unit Cost	\$7.72	\$8.70	13%

To better understand the volume differences between LDOs and SDOs, we summed the number of treatments within each chain and then calculated the average number of treatments for each type of organization. The results of this analysis are illustrated in Table 2 below. As shown, LDOs, on average, provided significantly more treatments than SDOs.

⁵ Four chains—with between 50 and 300 locations each—are neither LDOs nor SDOs by the definitions we applied. These chains were not included in the analyses.



Table 2. Volume Differences by Organization Type, 2006 Cost Report Data (Settled)

<i>Volume by Organization Type</i>	<i>LDOs</i>	<i>SDOs</i>
Average Number of Treatments Per Organization	13,618,633	15,583

Next, we examined differences in various cost categories between LDOs and SDOs. Overall, we found that SDOs had 8 percent higher total costs per treatment on average compared to LDOs in 2006. As shown in Table 3 below, we found that in most categories we examined, SDOs had higher costs than LDOs.

Table 3. Average Cost Per Treatment, 2006 Cost Report Data (Settled)

<i>Cost Category</i>	<i>LDOs</i>	<i>SDOs</i>	<i>Cost Differentials Between SDOs and LDOs</i>
Average Salary Cost Per Treatment	\$63.92	\$82.20	29%
Average Drug Cost Per Treatment	\$71.48	\$69.95	-2%**
Average Lab Cost Per Treatment	\$0.37	\$0.84	124%
Average Supply Cost Per Treatment	\$21.27	\$27.83	31%
Average Total Cost Per Treatment	\$264.55	\$285.75	8%

* We eliminated outlier values in each cost category; thus, population size varies by cost category.

** These results may be influenced by factors such as differences in dosage patterns between SDOs and LDOs. Dosage patterns were not considered for this analysis.

The average salary costs per treatment for SDOs were 29 percent higher than those of LDOs in 2006. Because salaries constitute a significant portion of costs for ESRD providers, these costs contribute to higher overall costs for SDOs. As previously discussed, these higher costs may be associated with higher overhead costs per patient due to smaller patient loads in SDOs relative to LDOs.

Although lab costs are not a large portion of total costs for renal dialysis facilities, SDOs had significantly higher average lab costs—that is, 124 percent more—than LDOs. The average supply cost per treatment was also higher for SDOs than LDOs; supply costs were, on average, 31 percent higher for SDOs than LDOs in 2006.

When analyzing drug cost differentials, we found that the average drug cost per treatment for SDOs was 2 percent lower than that of LDOs. This result may be attributable to lower dosage patterns of SDOs relative to LDOs, rather than to lower costs. For example, the total average costs for drugs may be less for SDOs if the doses given at SDOs are lower than those given at LDOs. However, we did not consider dosage patterns for this analysis. Our finding that the average EPO unit cost was higher for SDOs compared to LDOs and the fact that EPO comprises a significant portion of a dialysis facility's drug costs are indications that SDOs likely have higher drug costs on a per unit basis than LDOs.



Conclusions

Our analysis continues to show that cost differentials between LDOs and SDOs exist, with SDOs having higher average costs associated with salaries, supplies, and lab services. Further, while average drug costs per treatment may appear to be lower for SDOs, gaining a better understanding of unit costs per drug and utilization would help inform a new payment system.

Our updated findings of the cost differences between LDOs and SDOs are consistent with both the recent findings from MedPAC as well as older analyses by the OIG. Factors that likely influence these cost differences include lower SDO purchasing power and economies of scale, the oligopoly structure of the dialysis industry, and recent LDO vertical integration activity.