Variation in Medicare Prospective Payment System Drug Costs by Dialysis Organization and Projection to 2014

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Introduction

- Beginning in 2011, injectable, dialysis-related medications and their oral equivalents were included in the Centers for Medicare & Medicaid Services (CMS) End-Stage Renal Disease (ESRD) Prospective Payment System (PPS) for outpatient maintenance dialysis services.
- According to most recent estimates (USRDS 2012 Annual Data Report), roughly 73% of Medicare hemodialysis patients and 61% of peritoneal dialysis patients are enrolled in Medicare Part D and receive many of their home medications through Part D plans.
- Beginning in 2014, calcimimetics (*i.e.*, cinacalcet) and phosphate binders will no longer be provided to dialysis patients through Part D, but instead through dialysis providers.
- Consequently, the costs of calcimimetics and binders will be shifted to the ESRD PPS.
- Because of differences in patient mix (*e.g.*, in race and in socioeconomic status) and current prescribing patterns for calcimimetics and binders, we hypothesized that dialysis providers may be heterogeneously impacted by this cost shift.
- We examined variation in ESRD PPS drug costs across dialysis providers, according to the 2011 and 2014 PPS designs, as well as variation in total Medicare drug costs and gross Part D drug costs.

Methods

- The cohort comprised ESRD patients who were alive during all of 2009.
- Patients received dialysis treatment, carried Medicare Parts A and B as primary payer of health care services, and were enrolled in Medicare Part D during all of 2009.
- Only patients who were enrolled in standalone Part D plans were retained for analysis.
- Total Medicare and ESRD PPS drug costs were ascertained from Part B claims and, as was applicable, Part D prescription events. Part B costs included Medicare payment amounts; Part D costs included plan payment and low-income subsidy (LIS) amounts.
- Analyses of gross Part D drug costs also included out-of-pocket payments.
- Injectable drugs in the ESRD PPS included epoetin alfa, darbepoetin, intravenous (IV) iron agents, deferoxamine, IV vitamin D analogs, bisphosphonates, levocarnitine, diazepam, midazolam, daptomycin, vancomycin, and thrombolytic agents.
- Oral agents added to the ESRD PPS in 2011 included calcitriol, doxercalciferol, paricalcitol, and levocarnitine.
- Oral agents presumed to be added to the ESRD PPS in 2014 included cinacalcet, calcium acetate, lanthanum carbonate, and sevelamer (carbonate or hydrochloride).
- Costs were stratified by dialysis provider and directly adjusted for age, race, and sex; costs were not inflation-adjusted.

Results

- Patient populations of the dialysis providers were similar with respect to age, sex, and LIS receipt, but not with respect to race.
- Total Medicare drug costs by in 2009 ranged from $10,312 to $12,021 per person per year (PPPY) in non-LIS patients (maximum-to-minimum ratio, 1.17) and from $15,597 to $18,074 in LIS patients (ratio, 1.16).
- Total Medicare drug costs for DaVita patients were higher than for patients with other dialysis providers, regardless of LIS receipt.
- For all dialysis providers, black patients had the highest total Medicare drug costs.
- ESRD PPS drug costs in the 2011 and 2014 designs were highest for DaVita patients and lowest for patients within small dialysis organizations and independent providers.
- Part D drug costs were highest for DaVita patients and lowest for Fresenius patients.
- When calcimimetics and phosphate binders are included in the ESRD PPS, the largest shifts in Part D drug costs are projected to occur in DaVita patients: $2,409 and $5,020 PPPY will shift from Part D to the PPS in non-LIS and LIS patients, respectively.
- Residual Part D drug costs (in the 2014 PPS design) were similar across dialysis providers.
- Part D drug costs per medication per day were lowest in DCI patients, regardless of LIS receipt. Costs per medication per day were highest in DaVita and hospital-based patients.

Characteristics of dialysis patients alive during all of 2009 and enrolled in Medicare Parts A, B, and D, stratified by provider

Abbreviations: SDO, small dialysis organization; Ind., independent; HB, hospital-based

	Fresenius (FMC)	DaVita (DVA)	Dialysis Clinic, Inc. (DCI)	SDO	Ind.	HB
Sample size	44,836	37,329	5,300	13,320	18,333	21,860
Age (years)						
18-44	16.9%	17.4%	18.5%	16.1%	16.3%	19.1%
45-64	43.0%	42.8%	42.8%	42.1%	41.6%	42.8%
65-74	23.4%	23.2%	23.1%	23.8%	23.9%	21.1%
75+	16.7%	16.6%	15.6%	18.0%	18.2%	16.9%
Race						
White	49.8%	50.6%	43.9%	54.2%	55.8%	48.4%
Black	45.7%	42.7%	51.3%	36.6%	37.2%	44.5%
Native American	1.4%	2.0%	2.2%	0.8%	1.5%	2.3%
Asian	3.1%	4.6%	2.6%	8.3%	5.6%	4.7%
Sex						
Female	50.1%	48.1%	50.2%	49.5%	47.7%	45.3%
Male	49.9%	51.9%	49.8%	50.5%	52.3%	54.7%
Low-income subsidy (LIS)						
No	22.1%	20.1%	20.1%	19.1%	21.0%	20.8%
Yes	77.9%	79.9%	79.9%	80.9%	79.0%	79.2%
Mean Part D-covered medications taken per day, adjusted for age, race, and sex						
In non-LIS patients	3.63	3.74	3.92	3.66	3.75	3.69
In LIS patients	5.25	5.62	5.47	5.26	5.48	5.16

ESRD PPS drug costs (top) and gross Part D drug costs (bottom) per person per year, stratified by provider; non-LIS patients on left and LIS patients on right

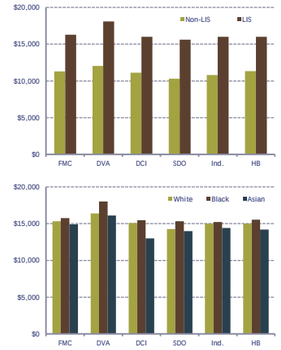
Adjusted for age, race, and sex

Total Medicare drug costs per person per year, stratified by provider and by LIS receipt (top) or race (bottom), 2009

In dialysis patients alive during all of 2009 and enrolled in Medicare Parts A, B, and D

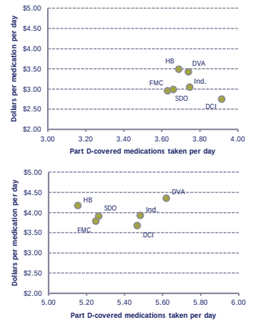
Medicare drug costs include Medicare payment amounts for Part B drugs and the sum of plan payment amounts and LIS amounts for Part D drugs

Adjusted for age, race, and sex (top) or age, sex, and LIS receipt (bottom)



Mean Part D-covered medications taken per day and dollars per medication per day; non-LIS patients on top and LIS patients on bottom

Adjusted for age, race, and sex



Conclusions

- There is significant variation in Part D drug costs across dialysis providers.
- Shifting coverage of calcimimetics and phosphate binders from Part D to ESRD PPS will substantially increase costs for providers.
- Dialysis providers with relatively higher shares of black patients and/or LIS patients (*e.g.*, institutionalized and poor patients who are dually enrolled in Medicare and Medicaid) may face relatively higher costs in 2014.
- Neither race nor socioeconomic status is currently included as a case-mix adjuster in the ESRD PPS, so providers with higher shares of black and/or poor patients may not receive sufficient reimbursement to support use of calcimimetics and binders at the levels of use that occurred in 2009.
- However, the relationship between cost and quality merits further analysis. The USRDS has previously identified lowest adjusted risks of death and hospitalization in DCI patients, yet costs per medication per day were lowest in DCI patients, regardless of LIS receipt.
- Finally, some patients (*e.g.*, non-LIS patients) may face higher out-of-pocket costs in 2014 if marginal increases in Part B copayments that occur when phosphate binders and cinacalcet shift to bundle exceed Part D copayments for these agents, as might be expected if reaching catastrophic coverage becomes less likely.

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