

Hemodialysis Patients Utilizing Kidney Specialty Pharmacy have Higher Medication Adherence, Fewer Hospitalizations and Lower Healthcare Costs

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INTRODUCTION

Hemodialysis (HD) patient medication adherence and healthcare utilization patterns based upon pharmacy type selection (chain, independent, or specialty) are unknown. In 2004, DaVita Rx (DVA Rx), a kidney specialty pharmacy, was created to provide integrated pharmacy services to kidney disease patients with the goal of improving medication adherence and improving clinical outcomes. We hypothesized that HD patient medication adherence and healthcare utilization are impacted by pharmacy selection. We evaluated HD patient medication adherence and per member per month (PMPM) healthcare costs and hospitalization rate (per member per thousand days, PMPT) based on pharmacy type (e.g., chain, independent, DVA Rx).

METHODOLOGY

- We conducted a retrospective review of all pharmacy (Rx) and medical claims for 750 HD patients from 1/06 to 6/09 enrolled in an ESRD Medicare Demonstration project.
- Patients who filled >70% of all prescriptions using a specific pharmacy type were assigned to a specific group.
- We created a 1:1:1 propensity matched sample of patients in each group using age, sex and CMS risk score.
- We calculated medication adherence behavior using medication possession ratio (MPR): $MPR = \frac{\sum \text{Medication Day's Supply}}{(\# \text{ Days between the first fill \& the last refill} + \text{Day's supply last refill})}$.
- We used a multivariate analysis to estimate pharmacy type effect on MPR, PMPM costs, and PMPT hospitalization rates after controlling for confounding variables (age, sex and CMS risk score).

RESULTS

Table 1. Patients Demographics

Mean ± SD	DaVita Rx	Chain	Independent
N	62	355	55
Age (yr)	53.9±13.9	57.6±13.9	58.8±13.2
<i>Age, by group</i>			
0-44	22.6%	17.2%	20.0%
45-59	41.9%	36.3%	25.5%
60-69	24.2%	25.6%	36.4%
70-79	11.3%	16.3%	14.6%
80-89	0.0%	4.5%	3.6%
% Male	48.4%	57.8%	61.8%
<i>Race and Ethnicity</i>			
% African American	11.3%	18.0%	16.4%
% Asian, Pacific Islander	4.8%	4.0%	0.0%
% Native American	1.6%	0.0%	0.0%
% Unknown ethnicity/race	16.1%	14.9%	18.2%
% Hispanic	51.6%	47.9%	60.0%
% Diabetic	54.8%	53.5%	65.5%
Risk Score	0.98	1.11	1.23

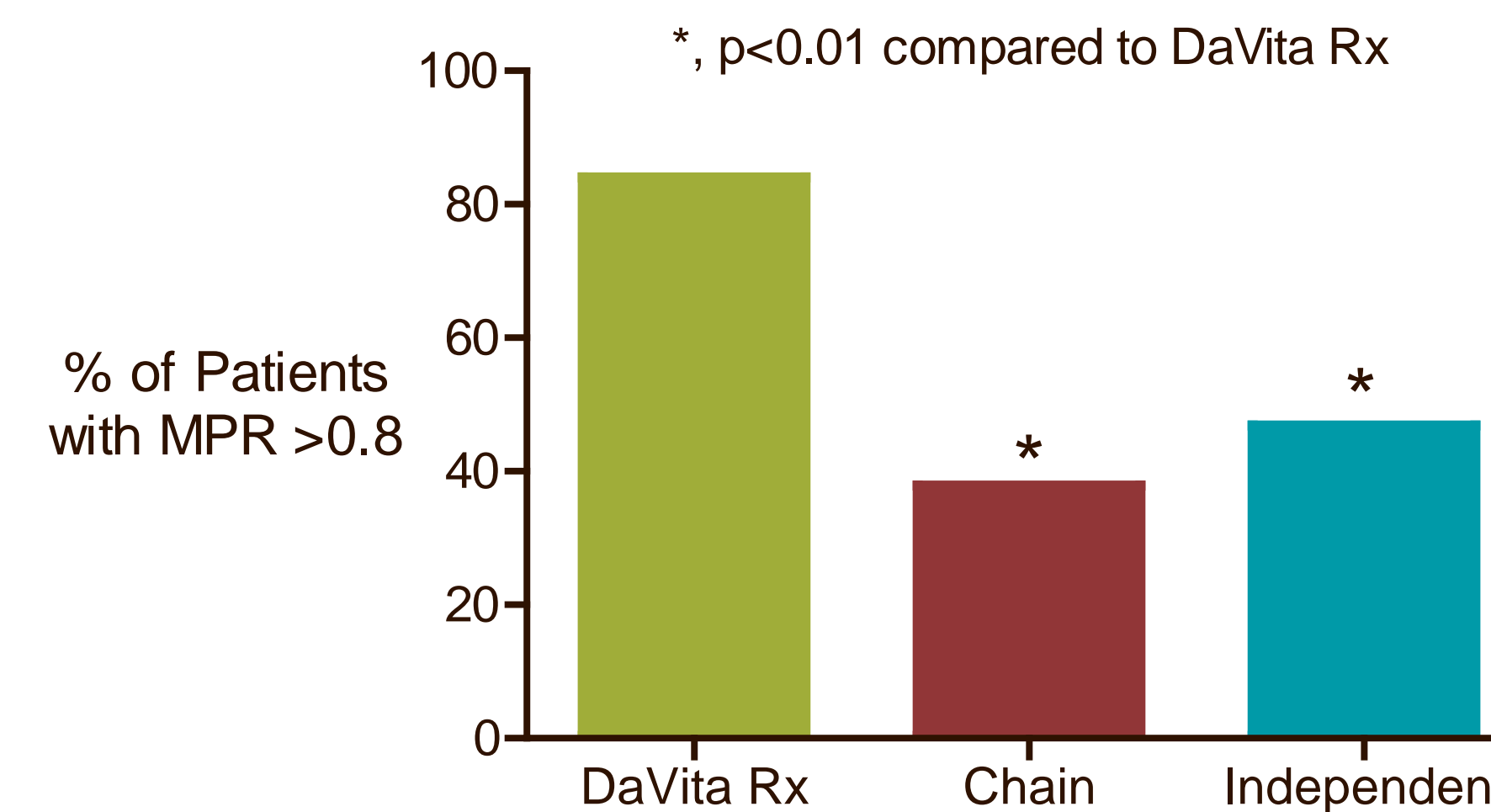


Figure 1. Patients with MPR >0.8 by Pharmacy Type

Table 2. PMPM and Costs Stratified by Pharmacy Type (Propensity Matched)

	DaVita Rx (N=59)	Non-DaVita (N=59)
Medical PMPM	\$4,477	\$4,791
Medication PMPM	\$637	\$745
Total Cost	\$5,114	\$5,536
Admits PMPT	1024	1435

SUMMARY of RESULTS

- 472 HD patients were assigned into a specific pharmacy type (62 DVA Rx; 355 Chain, 55 Independent; Table 1).
- DVA Rx patients had more patients with MPR values >0.8 than either pharmacy type: DVA RX 84.0%, Chain 37.9%, Independent 46.9% (p<0.003; Figure 1).
- Utilizing a 1:1 propensity match, DVA Rx patients had lower PMPT and PMPM costs compared to non-DVA Rx patients (Table 2).

KEY LEARNINGS

- ✓ Use of specialty pharmacy by HD patients was associated with higher medication adherence rates, fewer hospitalizations, and lower total healthcare costs compared to those filling their prescriptions at a chain or independent pharmacy.

LIMITATIONS

- These results should be considered preliminary.
- The small sample size prevents propensity matching on more than a few variables. As such, there is high potential for residual confounding.
- A randomized controlled trial should be conducted to test whether specialized pharmacy management is causally related to improved outcomes.

Note: This is a DaVita analysis of CMS demonstration experience; CMS will conduct an independent evaluation.

We express our sincere appreciation to the teammates in our nearly 1600 clinics who work every day not only to take care of patients but also to ensure the extensive data collection on which our work is based. We thank DaVita Clinical Research® for support in preparing this poster. DCR is committed to advancing the knowledge and practice of kidney care.

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