Participation in a Specialty Pharmacy's Refill Management System and Control of Secondary Hyperparathyroidism among Prevalent Hemodialysis Patients

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INTRODUCTION

- The renal-focused, specialty pharmacy, DaVita Rx was created in 2005 to provide tailored prescription drug services to patients with ESRD.
- A unique component of DaVita Rx, is the Refill Management System (RMS) which provides a refill reminder and support system for DaVita Rx participants.
- The effect of participation in the RMS on control of secondary hyperparathyroidism (SHPT) is unknown. This study evaluates change in control of SHPT associated with participation in the DaVita Rx RMS.

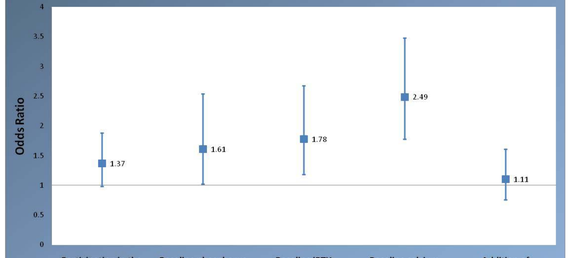
METHODOLOGY

- We performed a retrospective analysis of patients undergoing hemodialysis in DaVita® clinics before 09/01/2004 and who were also enrolled in DaVita Rx (n=1603). Using patients as their own controls, outcomes while using DaVita Rx were compared to outcomes without Davita Rx.
- We compared control of SHPT according to KDOQI definitions for both RMS and Non-RMS patients before and after enrollment into DaVita Rx using average calcium, phosphorus, and intact parathyroid hormone (iPTH) levels during the three months before (baseline) and 6 months (+/- 45 days) post-enrollment.
- Change in SHPT control was assessed using the McNemar test and logistic regression.

Table 1. Baseline Characteristics of DaVita Rx Patients according to Refill Management System Participation

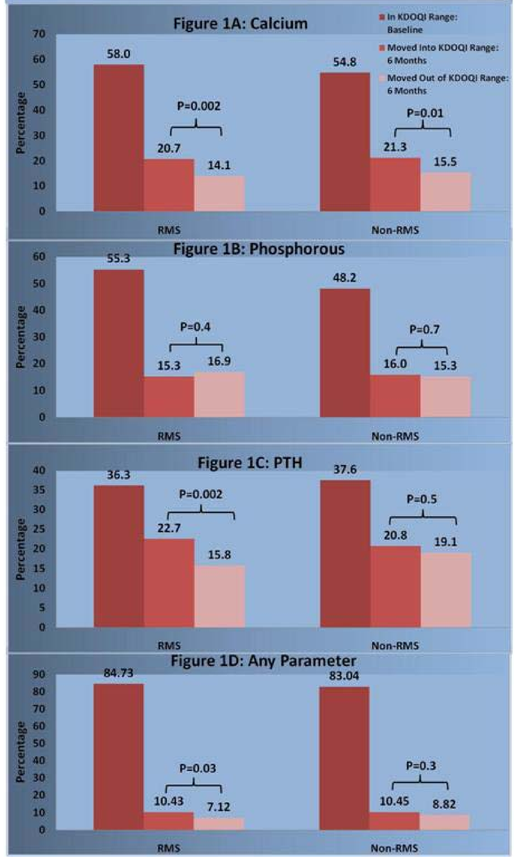
Baseline Measure	All DaVita Rx Patients (n=1603)	RMS Patients (n=844)	Non-RMS Patients (n=759)
Patient Characteristics			
Age (years) (Mean, SD)	55.87 (14.3)	54.67 (14.3)	57.2 (14.1)
BMI (kg/m^2) (Mean, SD)	28.42 (8.3)	28.33 (8.8)	28.51 (7.6)
African American (%)	36	36	36
Medication Use (%)			
Cinacalcet HCl	37.7	37.3	38.1
Calcium-Based Binders	43.2	41.1	45.6
Lanthanum carbonate	19.5	20.7	20.7
Sevelamer HCL	63.7	65.9	61.3
Labs (Mean, SD)			
PTH (pg/mL)	445.59 (513)	447.39 (557.5)	443.58 (458.9)
Calcium (mg/dL)	9.23 (0.66)	9.23 (0.65)	9.21 (0.68)
Phosphorus (mg/dL)	5.55 (1.40)	5.47 (1.40)	5.63 (1.39)
CaxPhos (mg^2/dl^2)	51.09 (12.8)	50.51 (13.0)	51.73 (12.6)
Albumin (g/dl)	3.95 (0.34)	3.98 (0.33)	3.91 (0.34)
Kt/V	1.68 (0.30)	1.69 (0.29)	1.68 (0.31)
Hemoglobin (g/dL)	12.25 (1.16)	12.30 (1.16)	12.21 (1.15)
URR (%)	74.52 (5.43)	74.72 (5.21)	74.30 (5.66)
Past Medical History (%)			
History of Myocardial Infarction	15	13	17
History of Congestive Heart Failure	59	58	60
History of Peripheral Vascular Disease	69	67	71
History of Cardiovascular Disease	73	72	74
Access type in use (%)			
Fistula	39	41	37
Graft	31	31	32
Catheter	30	29	31
Hospitalizations in Past 6 months (Mean, SD)	0.48 (1.09)	0.42 (1.01)	0.54 (1.17)

Figure 2: Adjusted * Odds Ratio Estimates for Achieving K/DOQI target values for Calcium, Phosphorus or Intact Parathyroid Hormone at 6 Months after enrollment in the DaVita Rx Refill Management System



*Adjusted for age, race, gender, BMI, comorbidities, baseline biochemical markers, dialysis adequacy, medicare as insurance provider, dialysis access, and concomitant medication use at baseline.
†Cinacalcet HCl, calcium based binders, lanthanum carbonate, sevelamer HCl

Figures 1A-D: Patients with laboratory parameters in K/DOQI range at baseline and movement into or out of K/DOQI range at 6 months



RESULTS

- Patients participating in the RMS were more likely to be younger in age and had fewer comorbidities. Additionally, patients participating in the RMS had fewer hospitalizations in the 6 months prior to baseline (Table 1).
- Control of calcium levels was more likely to improve vs. worsen following 6 months participation in DaVita Rx for both RMS and non-RMS patients (Figure 1A).
- Improvement in phosphorus control was not statistically significant in either group (Figure 1B).
- Control of iPTH as well as control of any of the three laboratory parameters was more likely to improve vs. worsen following 6 months participation in DaVita Rx for RMS patients. This same improvement was not observed in non-RMS patients (Figures 1C and 1D).
- After adjustment, improved control was not due to an increase in prescriptions to manage SHPT (Figure 2).

KEY POINTS

- ✓ RMS participation was associated with improved control for some measurements of SHPT. While this association remained, it was not statistically significant after full adjustment.
- ✓ Given the trend toward improved SHPT control, reasons for improved control, such as removal of access barriers or improved compliance, warrant further investigation.

We thank the patients who participated in this study and DaVita Clinical Research® (DCR) for support in preparing this poster. DCR is committed to advancing the knowledge and practice of kidney care.

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