

# First-Year Dialysis Outcomes in Patients Enrolled in a Structured Chronic Kidney Disease Program

Joel Topf, MD<sup>1\*</sup>; Robert Provenzano, MD, FACP, FASN<sup>2</sup>; Steven M. Wilson, PhD<sup>2</sup>; Ajay Chokshi, MBA<sup>2</sup>; Amy Bogan, BSN, RN<sup>2</sup>  
 (1) St. John Hospital & Medical Center, Detroit, MI. (2) DaVita Inc., Lakewood, CO.

## INTRODUCTION

**Objective:** To determine the effects of a structured chronic kidney disease (CKD) program on the dialysis outcomes of a patient cohort.

One goal of structured CKD programs—in addition to delaying the progression of kidney disease—is to improve patient outcomes should dialysis be required.

CKD programs offer specific therapy and education on treating the comorbidities of CKD, such as blood pressure, anemia, and mineral bone disorder. They also prepare patients for dialysis by providing modality education, and they encourage the use of optimal vascular access should hemodialysis be selected.

## METHODOLOGY

- Retrospective, matched cohort analysis
- Patients in treatment group were enrolled in multiple Detroit-Area CKD clinics and subsequently initiated dialysis at DaVita dialysis units
- Patients in the control group were treated at the same dialysis units and were of similar vintage, but had no documented CKD care

## RESULTS

Table 1. First-year outcomes of control and CKD care patients

|                                 | Control Group<br>n (%) | Treatment Group<br>n (%) | p-value |
|---------------------------------|------------------------|--------------------------|---------|
| <b>N</b>                        | 2,050                  | 148                      |         |
| <b>AVF (in use or in place)</b> |                        |                          |         |
| Baseline                        | 375 (18.3)             | 43 (29.1)                | .0006   |
| Day 90                          | 330 (16.1)             | 39 (26.4)                | .0006   |
| Day 180                         | 514 (25.1)             | 47 (31.8)                | .0444   |
| <b>Kt/V in range</b>            |                        |                          |         |
| Baseline                        | 1,111 (54.2)           | 71 (48.0)                | .0408   |
| Day 90                          | 1,194 (58.2)           | 81 (54.7)                | NS      |
| Day 180                         | 1,098 (53.6)           | 84 (56.8)                | NS      |
| <b>Hemoglobin in range</b>      |                        |                          |         |
| Baseline                        | 469 (23.5)             | 47 (32.2)                | .0175   |
| Day 90                          | 1,385 (84.7)           | 102 (79.7)               | NS      |
| Day 180                         | 1,092 (78.6)           | 87 (82.1)                | NS      |
| <b>Prescribed vitamin D</b>     |                        |                          |         |
| Baseline                        | 1,156 (56.4)           | 79 (53.4)                | NS      |
| Day 90                          | 1,226 (59.8)           | 88 (59.5)                | NS      |
| Day 180                         | 1,077 (52.5)           | 77 (52.0)                | NS      |
| <b>Prescribed iron</b>          |                        |                          |         |
| Baseline                        | 1,235 (60.2)           | 94 (63.5)                | NS      |
| Day 90                          | 1,268 (61.9)           | 100 (67.6)               | NS      |
| Day 180                         | 1,012 (49.4)           | 75 (50.7)                | NS      |
| <b>1-year mortality</b>         | 318 (15.5)             | 19 (12.8)                | NS      |

There were no significant demographic differences between groups.

## CONCLUSIONS

- Patients receiving structured CKD care were significantly more likely to have an AVF in use or in place at the start of dialysis. This advantage continues through at least 180 days. They were also more likely to start dialysis in a clinic rather than in a hospital.
- Structured CKD care did not appear to have any significant effects on laboratory values or mortality.
- Previous studies have shown CKD patients under the care of a nephrologist initiate dialysis sooner than patients without prior care. The increased hemoglobin may reflect a higher GFR or less inflammation than in the experimental group.
- Despite a 50% higher fistula rate, CKD clinic patients did not demonstrate expected improvements in clearance or survival. This lack of benefit does not preclude other advantages from fistulas that we did not measure such as decreased hospitalization.

## KEY LEARNINGS

- ✓ Structured CKD care can improve some aspects of patient care, including vascular access and setting of dialysis initiation.

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.



\*Correspondence: jtopf@scsp.net