

## Introduction

- Patients with end-stage renal disease (ESRD) receiving dialysis who are employed have been shown to have higher quality-of-life scores than those who are unemployed.<sup>1-3</sup>
  - Lower quality-of-life scores are associated with poorer outcomes in dialysis patients, including higher risk of mortality and hospitalization.<sup>4</sup>
- Patients on alternative modalities such as peritoneal dialysis (PD) and home hemodialysis (HHD) are often younger than patients receiving in-center hemodialysis (ICHD) and their dialysis schedules may additionally offer greater flexibility to work.<sup>5</sup>

## Objective

To inform the development of initiatives to help dialysis patients remain in employment or return to work, we sought to characterize patient employment status by treatment modality among patients of a large dialysis organization (LDO) in the United States.

## Methods

- Employment status information was derived from electronic health records for active LDO patients as of 15 November 2015.
- Employment information is collected by LDO social workers every 6 months for patients age < 60 years and at least annually for patients age ≥ 60 years during the course of routine care.
- Employment status categories considered were: working full-time, working part-time, working per diem (< 24 hours/week), short-term disability, long-term disability, unemployed, retired, caregiver, homemaker, student, training, volunteer, and receiving workers' compensation.
- Employment status was assessed for patients within dialysis modality groups (ICHD, PD, and HHD) and across patient age strata (0-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80-89, and 90+ years).

## Results

- There were 156,524 active patients in the LDO dataset as of 15 November 2015.
  - Of these, 23.7% (n = 37,160) were unemployed, 12.8% (n = 20,084) were employed (full-time, part-time, or per diem), and 41.2% (n = 64,427) were retired.
- Employment status of patients by modality is presented in Figure 1.
  - The proportion of patients classified as employed was lower for patients on ICHD than for those on PD and HHD (11.0% vs 25.1% and 27.8%)
  - The proportion classified as retired was higher for patients on ICHD than for those on PD and HHD (42.5% vs 33.0% and 25.8%).
  - The proportion of patients who were unemployed was largely consistent across modality types (24.2%, 20.3%, and 22.0% for ICHD, PD, and HHD, respectively).
- Age distributions for patients on each modality are shown in Figure 2: PD and HHD patients were generally younger than ICHD patients.
- Among patients < 60 years of age, a lower proportion were classified as retired and thus the proportions of both employed and unemployed patients were higher than that for the overall population (Figure 3).
  - Unemployment rates for patients < 60 years were 41.9%, 30.6%, and 29.4% for ICHD, PD, and HHD patients, respectively.

Figure 2: Age Distribution of LDO Patients, by Dialysis Modality

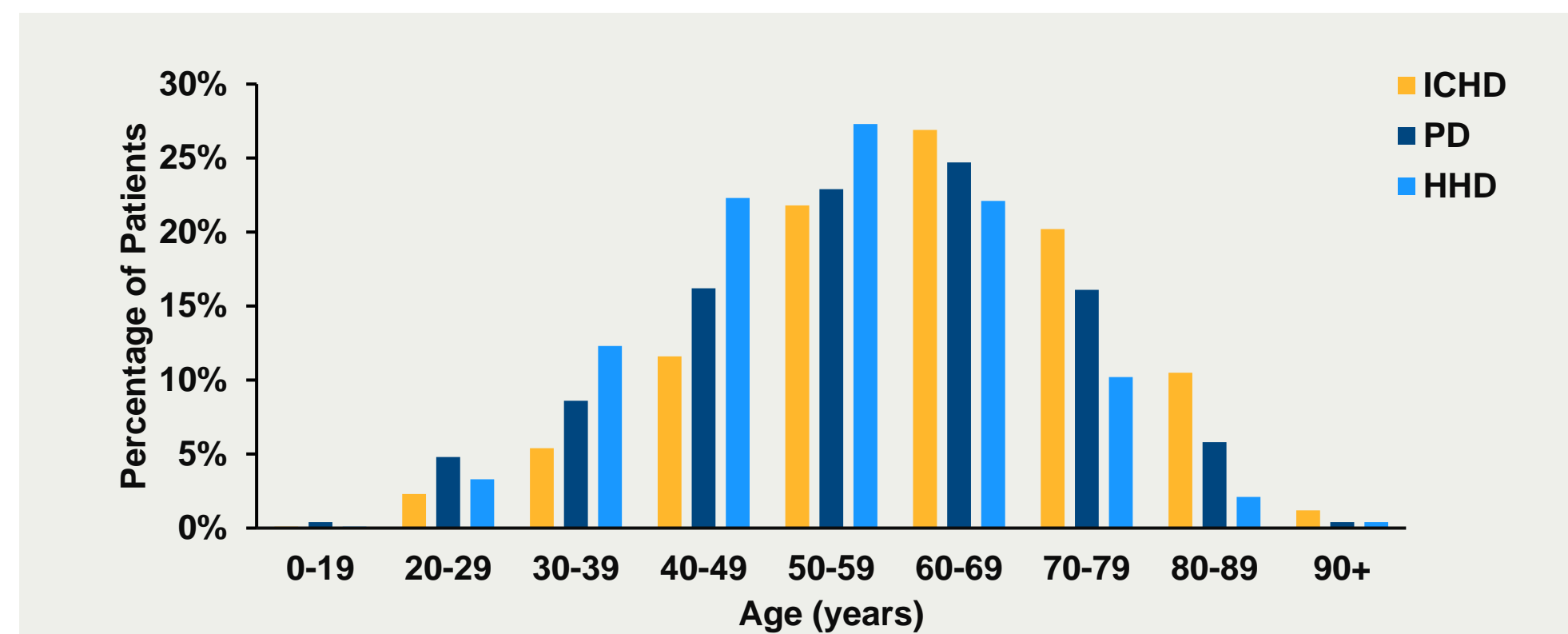


Figure 1: Employment Status of LDO Patients in November 2015, by Dialysis Modality

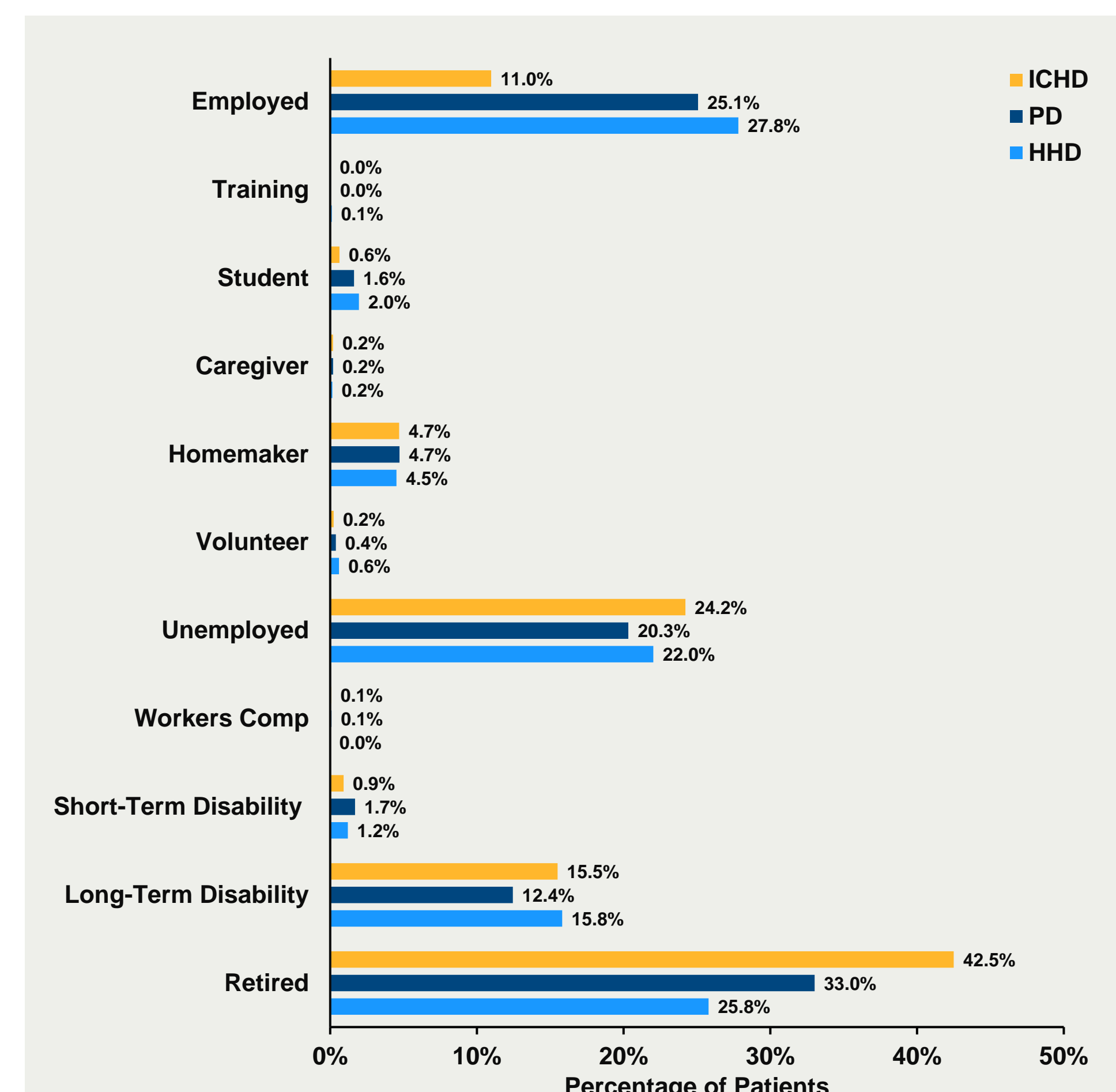
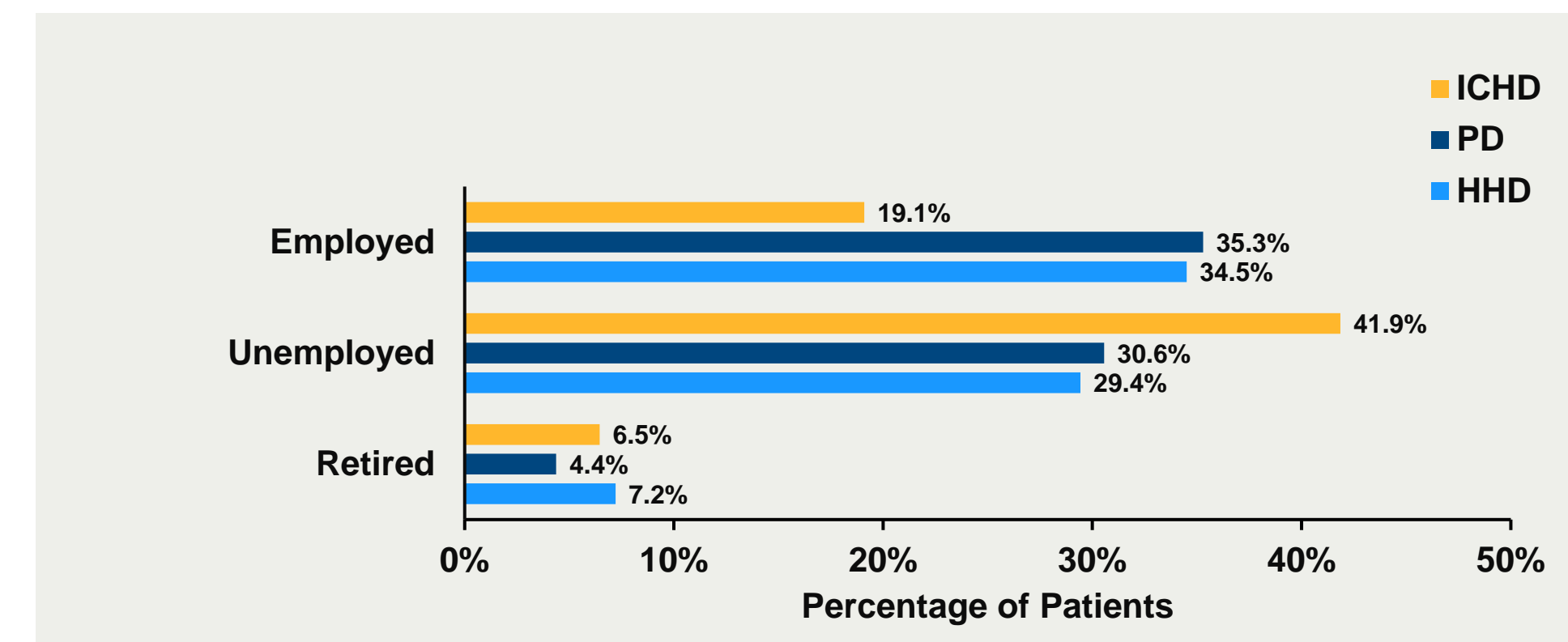


Figure 3: Employment Status of LDO Patients Age < 60 Years, by Dialysis Modality



## Summary and Conclusions

- Patients on PD and HHD are more likely to be employed and less likely to be retired than those receiving ICHD.
  - This difference reflects the fact that PD and HHD patients are, on average, younger than those on ICHD and may have dialysis schedules that offer greater flexibility.
  - Lack of energy is often cited as a barrier to employment by dialysis patients; higher employment rates among PD and HHD patients may therefore also be related to greater energy levels and general sense of well-being among patients on these modalities.
- However, unemployment rates are high (20%-25%) across all dialysis modalities.
- Initiatives designed to support patients who choose to continue working or return to employment should therefore target patients across all treatment modalities.

## References

- Lopes A, Bragg-Gresham J, Goodkin D, et al. Factors associated with health-related quality of life among hemodialysis patients in the DOPPS. *Qual Life Res.* 2007;16(4):545-557.
- Curtin RB, Oberley ET, Sacksteder P, Friedman A. Differences between employed and nonemployed dialysis patients. *Am J Kidney Dis.* 1996;27(4):533-540.
- Kutner NG, Zhang R, Huang Y, Johansen KL. Depressed mood, usual activity level, and continued employment after starting dialysis. *Clin J Am Soc Nephrol.* 2010;5(11):2040-2045.
- Mapes DL, Bragg-Gresham JL, Bommer J, et al. Health-related quality of life in the Dialysis Outcomes and Practice Patterns Study (DOPPS). *Am J Kidney Dis.* 2004;44(5 Suppl 2):54-60.
- United States Renal Data System. USRDS 2014 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States. National Institute of Diabetes and Digestive and Kidney Diseases. Bethesda, MD.

## Acknowledgments

We extend our sincere appreciation to more than 1800 social workers in more than 2000 DaVita clinics who work every day to take care of patients and also to ensure the extensive data collection on which our work is based. We thank DaVita Clinical Research® (DCR®), and specifically acknowledge Abigail Hunt, PhD, of DCR for editorial contributions in preparing this poster.

This study was funded by DaVita HealthCare Partners Inc.

\*Correspondence: duane.dunn@davita.com

Poster available at [www.davitaclinicalresearch.com](http://www.davitaclinicalresearch.com)

National Kidney Foundation Spring Clinical Meetings, April 27–May1, 2016; Boston, MA.