

Introduction

- Hospitalizations and readmissions pose a significant burden to endstage renal disease (ESRD) patients and result in significant costs to the US health care system.¹
- There is increasing focus on patient outcomes and cost advantages for patients starting ESRD treatment on a home dialysis modality.²
- Understanding the impact that specific modalities can have on hospitalizations may assist in changing physician behavior regarding initial modality selection.

Objective

To describe characteristics of hospitalizations among a contemporary population of in-center hemodialysis (ICHD), peritoneal dialysis (PD), and home hemodialysis (HHD) patients.

Methods

Data Source and Study Patients

- Data for this study were derived from the electronic health records of a large dialysis organization within the US.
- Patients eligible for inclusion in this study were those who between March 2016 and March 2019:
- were \ge 18 years of age
- were receiving ICHD, PD or HHD treatments

Outcomes

- The following were assessed as 12-month rolling averages for ICHD, PD, and HHD patients, separately:
- All-cause hospitalization rates
- Length of stay
- 30-day readmissions
- Causes of initial hospitalization
- Hospitalization rates among PD and HHD were also assessed as 12-month rolling averages by the number of PD and HHD patients in a clinic.
- Comparisons were not adjusted for differences in patient characteristics or predialysis care between groups.

Assessing the Impact of Dialysis Modality on Hospitalization in a Large Population of End-Stage Renal Disease Patients Martin J. Schreiber, Bram van Hout, Zachariah Peterson, Michelle Cassin

Results





Hospitalization Rates, Length of Stay, and 30-Day Readmissions

- All-cause hospitalization rates, length of stay, and 30-day readmissions are shown in Figure 1.
- Hospitalization rates during the study period were 1.80, 1.24, and 1.41 admissions per patient year for ICHD, PD, and HHD patients, respectively.
- The mean \pm standard deviation length of stay was 4.7 \pm 4.5, 4.8 ± 4.8 , and 4.5 ± 4.4 days for ICHD, PD, and HHD patients, respectively.
- Readmission to the hospital occurred in 32.1%, 26.2%, and 24.3% of ICHD, PD, and HHD patients, respectively.

Causes of Hospital Admissions

- Causes of initial hospital admissions are shown in Figure 2.
- Admissions for respiratory causes were more common in ICHD patients (11.6%) than PD (6.5%) or HHD patients (8.6%).

Cardiovascula Respirator Gastrointest Infectio Unknow Unkno 6.4% Neurologic 6.4% Acces 4.5% Planned procedur 3.5% Trauma/fa Electroly Diabete Psychosoci % Hospitalizations % Hospitalizations HHD Cardiovascul Unknov Neurologic Planned procedu Trauma/fa Electrolyte Diabete Psychosocial **0.3%** % Hospitalization

Figure 2. Causes of Hospital Admissions

- Admissions for infection were more common in PD (14.5%) and HHD patients (15.4%) than ICHD patients (8.6%).
- Admissions for gastrointestinal causes were also more common among PD (12.8%) and HHD patients (11.5%) than in ICHD patients (9.9%).

Hospitalization Rates by Clinic Home Patient Census

- Hospitalization rates by PD and HHD program size are presented in Figure 3.
- PD patient hospitalization rates were 1.55, 1.24, and 1.18 admissions per patient year for clinics with <10, 10-30, and >30 PD patients on the roster, respectively.
- HHD patient hospitalization rates were 1.51, 1.36, and 1.35 admissions per patient year for clinics with <9, 9-18, and >18 HHD patients on the roster, respectively.





Conclusions

- Here we demonstrate that initial hospitalization and readmission rates were consistently lower for patients using home dialysis modalities (PD and HHD) than those receiving ICHD.
- The pattern of hospitalization causes differed between modalities, indicating the need for modality-specific hospitalization risk reduction strategies.
- We also observed that clinics with larger home dialysis programs had lower hospitalization rates compared to clinics with smaller home dialysis programs

References

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