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Variation in Infection-Related Hospitalization Rates Among Home Hemodialysis Centers

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Background: Relative to thrice-weekly in-center hemodialysis, frequent home hemodialysis (HHD) is associated with higher risk of infection-related hospitalization (Weinhandl et al, *Am J Kidney Dis*, 2015;65:98-108). However, there is little contemporary data about the incidence of infection necessitating inpatient care in HHD patients; there is also little data about variation in such incidence among HHD centers. We analyzed Medicare claims to characterize the risk of infection-related hospitalization on HHD.

Methods: We analyzed Medicare Limited Data Sets (100% sample). Using outpatient facility claims, we identified all patient-months from January 2014 to September 2015 with Medicare Part B payment for home hemodialysis. For each patient-month, we included both the calendar month at hand and the subsequent calendar month (if not otherwise identified) as follow-up months. Using inpatient facility claims, we identified hospital admissions that were attributable to infection, according to the principal discharge diagnosis code, during aforementioned follow-up months. We calculated the rate of infection-related hospitalization, both in aggregate and in HHD centers.

Results: We identified 12,766 unique HHD patients in 1438 HHD centers. During 10,665 patient-years of follow-up, the rate of infection-related hospitalization was 62 admissions per 100 patient-years. There were no infection-related hospitalizations in 548 (38%) centers; these centers tended to be small and contributed only 949 patient-years of follow-up. Among 570 (40%) centers with ≥ 5 patient-years of follow-up, the median rate was 42 admissions per 100 patient-years, with 10th, 25th, 75th, and 90th percentiles of 13, 27, 66, and 99 admissions per 100 patient-years.

Conclusions: The infection-related hospitalization rate in HHD patients remains elevated. There is also tremendous variation in risk among HHD centers, thus pointing toward opportunities for quality improvement in HHD training, infection diagnosis, and infection treatment.

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