

5.4.6. Interpretation of Risk/Case-mix Factor Findings

CBE ID 3566, Standardized Ratio of Emergency Department Encounters Occurring Within 30 Days of Hospital Discharge (ED30) for Dialysis Facilities

The following adjustment factors were included in the final model:

- Sex
- Age
- Medicare Advantage coverage
- Years on dialysis
- Diabetes as cause of ESRD
- Nursing Home status in previous 365 days
 - No Nursing Home care (0 days)
 - Short-term Nursing Home care (1 - 89 days)
 - Long-term Nursing Home care (90 - 365 days)
- BMI at incidence of ESRD
 - <18.5
 - 18.5-25
 - 25-30
 - ≥30
- Length (days) of index hospitalization
- A set of prevalent comorbidities based on Medicare inpatient claims (individual comorbidities categorized into 66 groups).

Risk adjustment factors excluded from the final model:

- Race: Black
- Race: AAPI
- Race: Native American
- Race: Other
- Hispanic Ethnicity
- Dual Eligibility
- Dual Eligibility*Female
- ADI National Rank of Patient's ZIP Code of Residence

In order to present the most parsimonious, accurate and implementable model, we elected to exclude these covariates as they were found to have very little effect on facility-level flagging (see table below). Specifically, 98.8% of facilities performed the same whether SDS covariates were included or not. For the remainder of facilities, including SDS covariates improved performance for 0.7% of facilities and this was offset by 0.5% of facilities that had lower performance.

Higher odds of an ED visit within 4-30 days of discharge were associated with black race, Hispanic ethnicity, and dual eligible status in the model adjusting for SDS/SES. Race, ethnicity, and dual eligible status are not included in the final risk adjusted model. Other studies have reported associations between patient-level race, ethnicity, dual eligible status, neighborhood deprivation and acute care utilization; however, it is unclear whether these differences are due to underlying biological or other

patient factors, or represent disparities in care. Adjusting for these social risk factors could have the unintended consequence of creating or reinforcing disparities and limiting access to care. The primary goal should be to implement quality measures that result in the highest quality of patient care and equitable access for all patients.

We also observed a 17% higher odds of an ED encounter within 4-30 days of inpatient discharge for patients with Medicare Advantage at the time of discharge. This result is similar to a study comparing utilization in MA and FFS, whereby beneficiaries with MA tend to be higher users of the ED compared to those in traditional FFS Medicare in the general Medicare population [1] However other studies have reported lower utilization of the ED among MA beneficiaries compared to FFS [2]

In the baseline model female sex does not have an impact on ED30 however we continue to include sex (SDS factor) for risk adjustment in ED30. This approach is consistent with the consensus opinion that adjustment for sex is appropriate based on biologic differences (e.g. genetic, hormonal, metabolic) that may account for higher acute care use (and hospital utilization), suggesting a physiologic effect rather than a systematic difference or disparity in care by sex. Our adjustment for sex in ED30 also aligns with the SRR, as well as SEDR and SHR.

Without SDS Adjustment	With SDS Adjustment		
	Better than Expected	As Expected	Worse than Expected
Better than Expected	138 (1.8%)	22 (0.3%)	0
As Expected	26 (0.3%)	7,208 (94.8%)	18 (0.2)
Worse than Expected	0	28 (0.4%)	165 (2.2%)

References:

1. Beckman AL, Frakt AB, Duggan C, Zheng J, Orav EJ, Tsai TC, Figueroa JF. Evaluation of Potentially Avoidable Acute Care Utilization Among Patients Insured by Medicare Advantage vs Traditional Medicare. JAMA Health Forum. 2023 Feb 3;4(2):e225530. doi: 10.1001/jamahealthforum.2022.5530.
2. Agarwal R, Connolly J, Gupta S, Navathe AS. Comparing Medicare Advantage And Traditional Medicare: A Systematic Review. Health Aff (Millwood). 2021 Jun;40(6):937-944. doi: 10.1377/hlthaff.2020.02149.