

**Title: Inpatient Palliative Care Utilization in Sickle Cell Disease: Temporal trends and factors associated with usage**

**Abstract:**

**Background:** Sickle cell disease (SCD) is a highly morbid condition notable for recurrent hospitalizations due to vaso-occlusive crises and complications of end organ damage. Palliative care (PC) aims to provide holistic care to patients with serious chronic illnesses. Little is known about the use of inpatient palliative care services in adult patients with SCD.

**Methods:** We conducted a retrospective cross-sectional study utilizing data from the National Inpatient Sample (NIS) from 2008-2017. Patients >18 years old hospitalized with a primary or secondary ICD-9-CM and ICD-10-CM diagnosis of SCD were included. Outcome of interest was PC service utilization using ICD-9-CM and ICD-10-CM diagnosis codes V66.7 and Z51.5. We used logistic regression models to examine socio-economic and hospital factors associated with palliative care utilization.

**Results:** 987,555 SCD related hospitalizations were identified, of which 4442 (0.45%) were associated with PC service. PC service utilization increased at a rate of 9.2% per year (CI, 5.6-12.9). NH-Black and Hispanic patients were 33% and 53% less likely to have PC services compared to NH-White (OR 0.67; CI 0.45-0.99 and OR 0.47; CI, 0.26-0.84). Female patients (OR 0.40; CI, 0.21-0.76), Medicaid use (OR 0.40; CI, 0.21-0.78), rural (OR 0.47; CI 0.28-0.79) and urban non-teaching hospitals (OR 0.61; CI 0.47-0.80) had decreased likelihood of PC services use.

**Conclusions and Global Health Implications:** Utilization of PC during SCD related hospitalizations is increasing but remains low. Disparities associated with race and gender exist for use of PC services during SCD related hospitalization. Further studies are needed to guide evidence-based PC interventions for more comprehensive and equitable care of adult SCD patients.