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Title

Exploring Primary Care Utilization and Emergency Department Visits Using the Virginia All-Payer Claims Database (APCD)

Priority 1 (Research Category)

Population health and epidemiology

Presenters

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Abstract

Context: Emergency department visits are costly and often preventable. Increasing access to primary care can help reduce unnecessary emergency department visits and associated costs. Objective: To explore the relationship between primary care utilization and emergency department (ED) visits and identify areas with better-than-expected ED visit rates in the state of Virginia. Study Design and Analysis: Cross sectional approach includes regression analysis, residual analysis, and hot spot mapping (using the Local Moran's I). We first utilize an Empirical Bayes approach for smoothing various rates from the Virginia All-Payer Claims Database (APCD) and model ED visit rates on primary visit rates controlling for mental health and type 2 diabetes prevalence, health insurance status, and race. We then use Local Moran's I on the residuals to identify geographic clusters of better-than-expected bright spots ED visit rates and compare them with areas with worse-than-expected cold spots rates. Setting/Dataset: Data from the Virginia All-Payer Claims Database, HealthLandscape Virginia, and CDC PLACES are aggregated to the Zip Code Tabulation Area (ZCTAs, n=866). Outcome Measures: ED visits per 1,000 population. Results: Primary care visit rates have a significant, negative relationship with ED visit rates. Geographic clusters of bright spots (n=98) are concentrated throughout central and southwestern Virginia, while clusters of cold spots (n=70) are concentrated in northern Virginia and along the West Virginia border. Compared to cold spots, bright spots have significantly higher rates of social deprivation, lower percentages of racial and ethnic minorities, and higher rates of primary care utilization for several chronic conditions, including diabetes, and mental health. Further, bright spots have significantly higher percentages of social needs addressed by primary care. Conclusions: Consistent with previous literature, the results suggest that primary care utilization, including primary care visits for various chronic conditions and social needs, is associated with lower ED visit rates. Future research could explore qualitative approaches for better understanding the socio-environmental factors contributing to better-than-expected ED visit rates in bright spot areas. Increasing access to innovative data sources such as the All-Payer Claims Database allows for combining multiple data sources to explore primary care utilization.