

Introduction

- Social Determinants of Health (SDOH) are the “conditions in the environments where people are born, live, work... that affect a wide range of health, functioning and quality-of-life outcomes...”
- Since Q4 2015, hospitals can use SDOH diagnosis codes to record SDOH needs
- However, data on the uptake and usage of these SDOH codes has been sparse. There is a need to characterize the temporal trends and associated predictors of SDOH code usage

Objectives

- To examine the temporal trends in the use of SDOH codes from 2016-2019, and to examine the encounter-level predictors of SDOH code utilization

Methods

- **Design:** Secondary Analysis using data from the 2016-2019 National Inpatient Sample (NIS)
- **Sample:** We used the National Inpatient Sample dataset, a de-identified publicly available all-payer sample of approximately 7 million inpatient hospital encounters each year

Temporal Trends Analysis

- Percentage of encounters with SDOH was plotted by year. Results were also stratified by category of SDOH code

Encounter level analysis

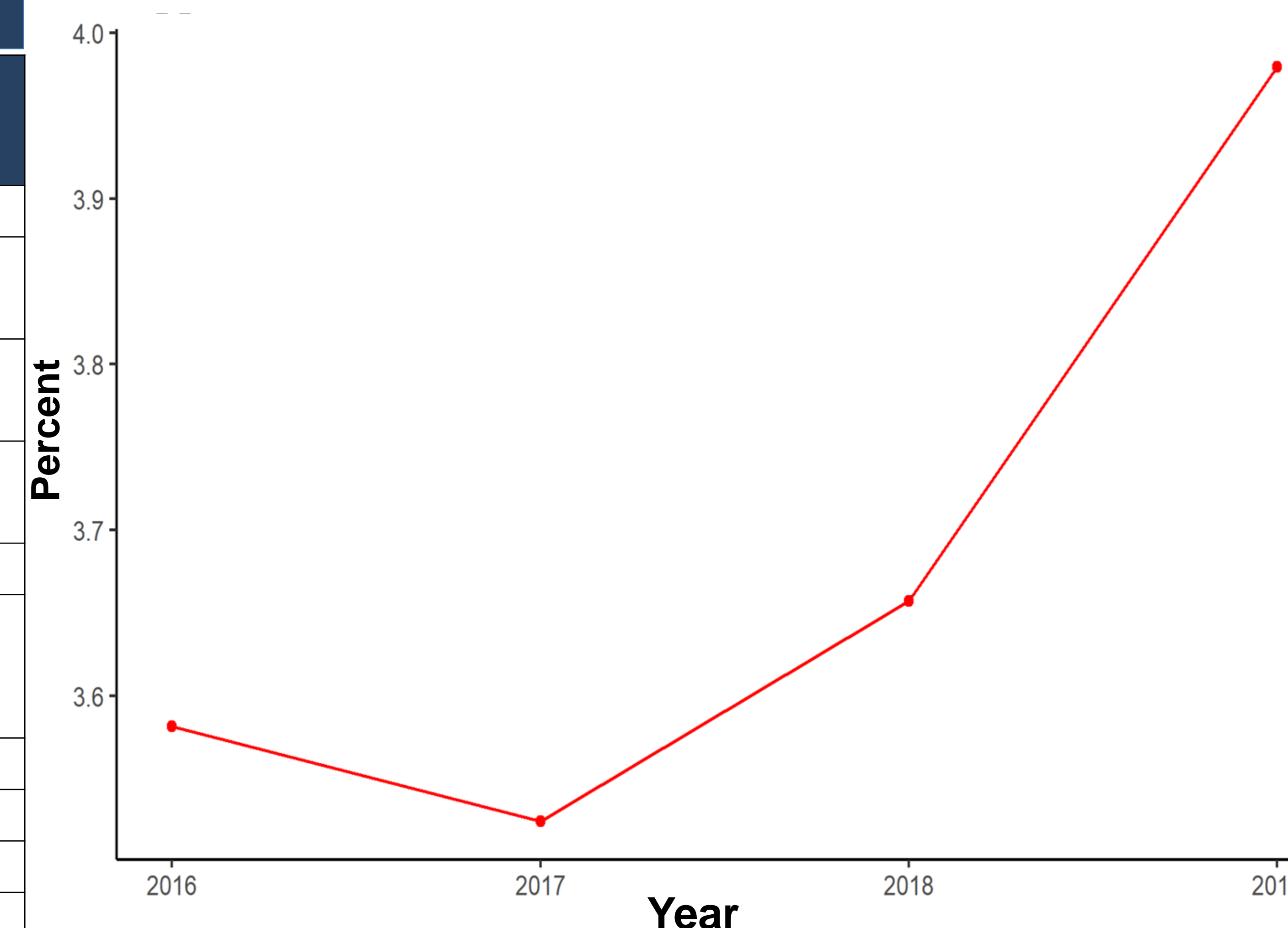
- **Predictors:** Patient age, gender, race, Elixhauser comorbidity score, whether the encounter was elective, year, length of stay, type of insurance, log of total charge, and the quartile of median income of patients' zip code
- **Outcomes:** Whether or not an encounter had an SDOH code diagnosis
- **Statistical Analysis:** Multivariable logistic regression

Results

Table 1: Percentages of SDOH Code by Category

SDOH category	% of encounters
Any SDOH code	3.69
Problems Related to Lifestyle	1.33
Housing and Homelessness	0.91
Problems with Family and Support System	0.56
Abuse and Neglect	0.41
Exposure to Environmental Hazards	0.35
Employment	0.27
Finances	0.12
Access to Healthcare	0.10
Incarceration	0.09

Figure 1: Temporal Trends of SDOH code Utilization



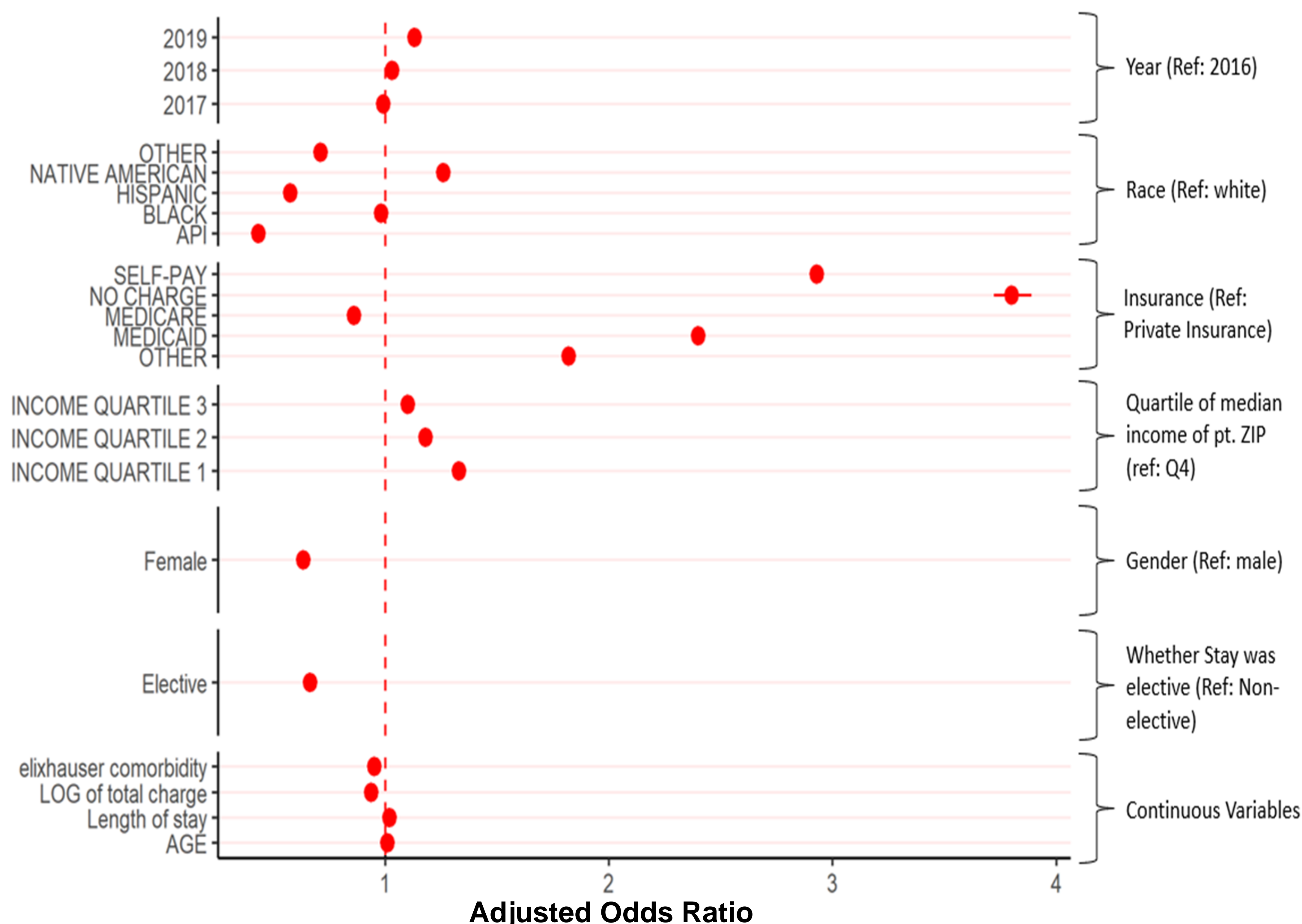
Results Summarized

- From 2016 to 2019, the use of SDOH codes increased slightly (0.4%)
- Compared to White persons, those who are Black, Hispanic, Asian/Pacific Islander or other races had lower odds of having at least one SDOH code; while in Native American persons, the odds were higher
- Living in ZIP codes with lower median incomes was associated with higher rates of SDOH codes
- Compared to those with private insurance, those who had Medicaid or other insurance, self paid or were not charged for care had higher rates of SDOH. Those with Medicare had lower rates

Conclusions

- After adjusting for gender, measures of income, insurance, etc., Black and Hispanic persons had lower odds of receiving an SDOH code.
 - This possibly reflects under-resourcing in these communities and provider attitudes and biases.
- Patients with Medicare had lower rates of SDOH in our findings. These could possibly be explained by:
 - Underlying lower rates of adverse SDOH
 - SDOH may be surveyed less, due to Medicare not reimbursing for SDOH diagnoses
 - Medicare patients are older and often have more pressing health concerns
- Results from this study indicate the need for programs championing increased use of SDOH codes by providers.
 - This could further reveal existing social needs and opportunities for systemic, multilevel interventions.

Figure 2: Logistic Regression Analysis of Encounter-level Predictors Vs. Whether Encounter Had an SDOH Code



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