

Leading Causes of Hospitalization Across Racial Groups, NIS: 2016-2021

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Background

- **35-40%** of US healthcare quality measures show White individuals get better healthcare compared to minorities¹
- **82%** of all hospitalizations are non-elective²
- **Gap:** Hospitalization causes by race (differences in genetics and lifestyle)^{4,5}

Research Question:
What are the leading causes of adult hospitalizations (2016-2022) across racial groups?

Methods

- Database**
- National Inpatient Sample Dataset (NIS)^{6,7}
- Study Period**
- **Years:** 2016-2022
- Study Population**
- **Ages:** 18-80 years
- Primary Exposure: Race**
- White, Black, Hispanic, Asian or Pacific Islander, Native American, Other
- Primary Outcome:**
Hospitalization Encounter
- Inclusion Criteria:**
Non-elective, non-pregnancy, non-surgical hospitalizations

- ICD Codes**
- The International Classification of Diseases, Ninth and Tenth Revision, Clinical Modification⁸
 - **ICD-10-CM Codes:** 2016-2022
 - Primary cause of hospitalization
- Clinical Classification Software (CCSR)**¹²
- Scheme for linking ICD codes to diagnostic conditions

Results

Figure 3. Overall Top 5 Leading Causes of Hospitalization Across Racial Groups (Crude)									
White (N = 24,434,058)		Black (N = 7,003,796)		Hispanic (N = 4,901,355)		Asian or Pacific Islander (N = 1,066,478)		Native American (N = 295,039)	
Condition	Frequency (%)	Condition	Frequency (%)	Condition	Frequency (%)	Condition	Frequency (%)	Condition	Frequency (%)
Septicemia	2,759,846 (11.3%)	Septicemia	663,148 (9.5%)	Septicemia	533,551 (11%)	Septicemia	123,428 (11.6%)	Septicemia	38,796 (13%)
Infections	1,203,156 (5.0%)	Hypertension	489,094 (7.0%)	Hypertension	258,689 (4.3%)	Hypertension	56,600 (5.3%)	Infections	14,841 (4.7%)
Renal Failure	1,088,673 (4.5%)	Renal Failure	489,094 (7.0%)	Infections	212,658 (4.3%)	Cerebrovascular Disease	47,864 (4.5%)	Hypertension	13,893 (4.7%)
Hypertension	1,067,590 (4.4%)	Cerebrovascular Disease	295,197 (4.2%)	Renal Failure	203,742 (4.2%)	Renal Failure	44,324 (4.2%)	Renal Failure	13,726 (4.7%)
Cerebrovascular Disease	928,601 (38.0%)	Schizophrenia	282,840 (4.0%)	Hepatobiliary	170,836 (3.5%)	Acute Myocardial Infarction	37,024 (3.5%)	Hepatobiliary	10,023 (3.4%)

Figure 2. Overall Leading Causes of Hospitalization 2016-2021 (Crude)

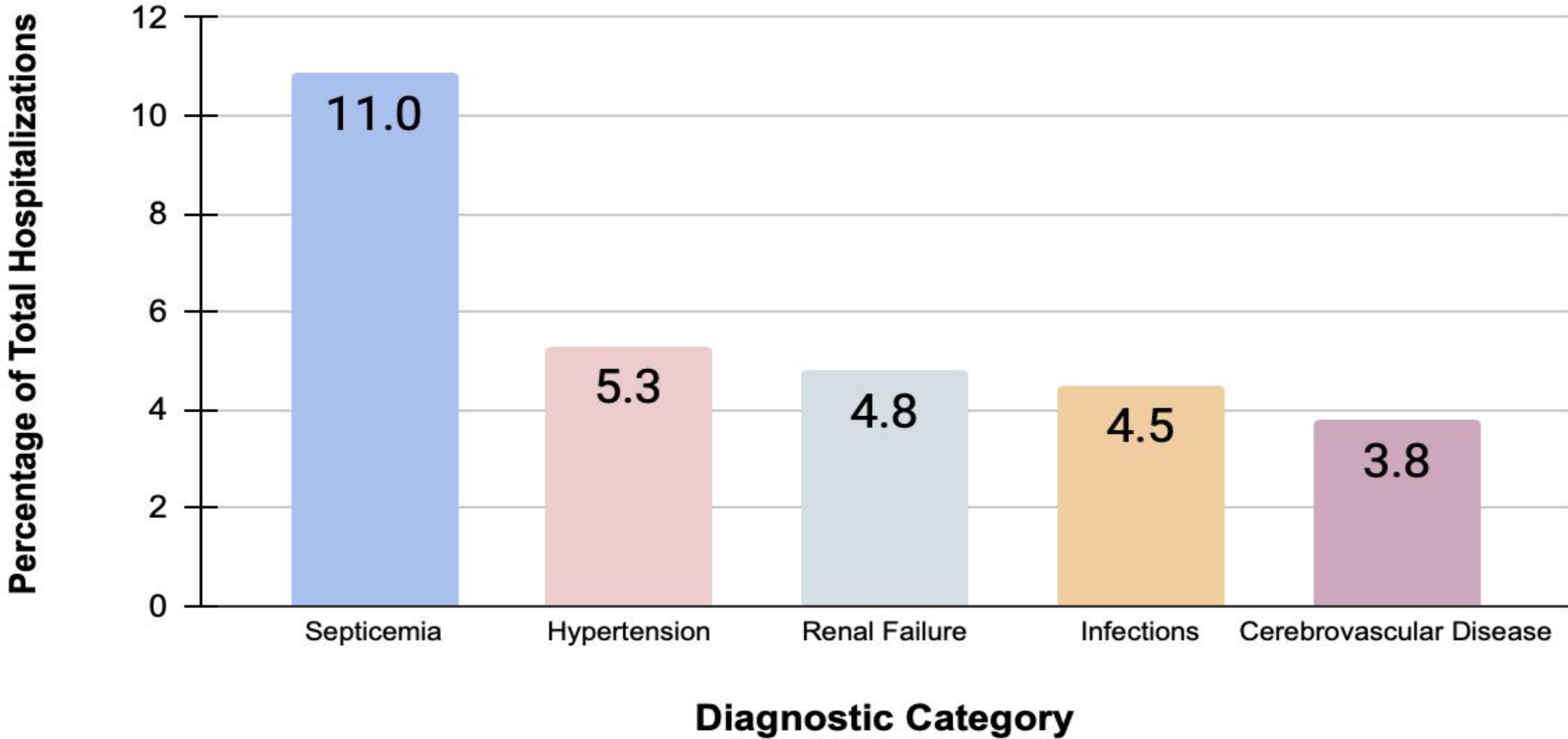
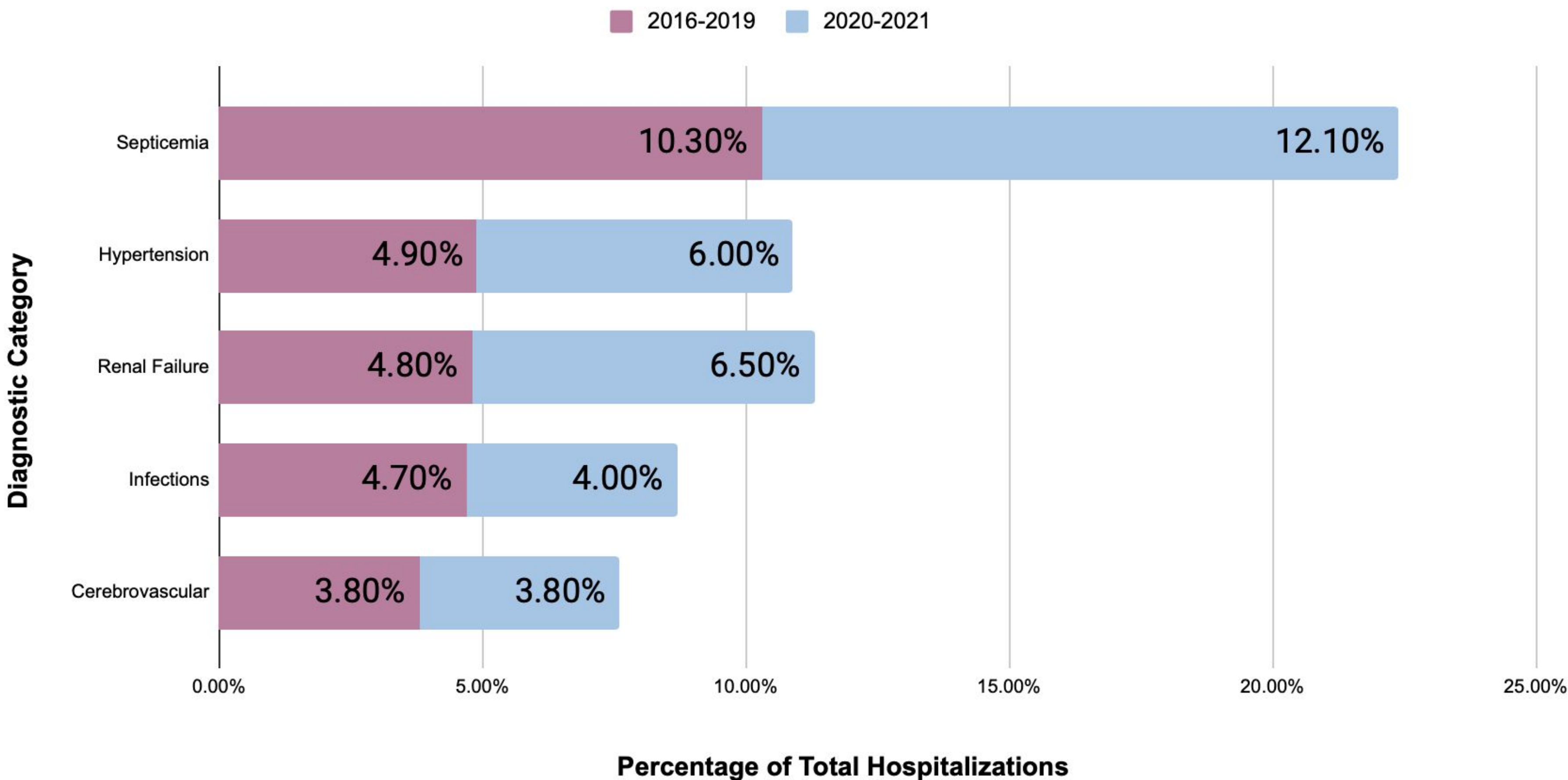


Figure 3. Top 5 Leading Causes of Hospitalization 2016-2019 vs. 2020-2021 (Crude)



Discussion

- **Septicemia:** Overall leading cause of hospitalization, double the 2nd leading causes
 - Proportionally increased between 2016-2019 and 2020-2021
 - General category for most severe infections
 - Only 12% are preventable, maintaining septicemia as a leading hospitalization cause⁹
- **Septicemia, hypertension, and renal failure** affect all racial groups
 - **Hypertension** is caused by lifestyle factors like a high-sodium diet, exercise, etc.¹⁰
 - **Hypertension** increases the risk of **renal failure** by deteriorating kidney blood vessels¹¹
- **Schizophrenia** is a leading cause of hospitalization for African Americans
- **Hepatobiliary disease** is a leading cause only for Hispanic and Native Americans

Next Steps

1. Apply weights to the data
2. Expand study period to 2012-2022 by incorporating ICD-9-CM Codes
3. Evaluate the effect of key sociodemographic, socioeconomic, and geographic covariates

