

# Racial and Ethnic Differences in Cardiovascular Outcomes in Patients Diagnosed with Hypertrophic Cardiomyopathy

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## BACKGROUND

- Although clinical characteristics and treatment of hypertrophic cardiomyopathy (HCM) are well documented, it is imperative to investigate the impact of sociodemographic factors on cardiovascular (CV) outcomes in patients with HCM.<sup>1-3</sup>
- Prior studies investigating the association between race/ethnicity and CV outcomes in patients with HCM have been limited in size.
- This study investigated these associations in a large national cohort of patients with HCM.

## HYPOTHESIS

- Differences exist in CV outcomes and all-cause mortality by race/ethnicity in patients diagnosed with HCM.

## METHODS

### Study Design

- Retrospective cohort study of adult patients with HCM in Optum's Market Clarity database from January 1, 2013, through December 31, 2021 (index date = first HCM diagnosis).
  - Patients with ≥2 medical claims with a diagnosis code for HCM (ICD-9: 425.1, 425.11, or 425.18; ICD-10: I42.1 or I42.2) in any position on different dates of service ≥30 days apart.
  - 6 months of baseline and ≥6 months of follow-up continuous enrollment, and no evidence of Fabry disease or amyloidosis during the study period.

### Study Outcomes

- Clinical characteristics, CV outcomes (atrial fibrillation, stroke, heart failure, ventricular arrhythmia, stress cardiomyopathy, sudden cardiac arrest, and heart transplant), and mortality.

### Statistical Methods

- Event rates per 100,000 person-years to estimate risk of CV outcomes. Kaplan-Meier analysis to evaluate risk of mortality. Comparison of outcomes by race/ethnicity; all tests were 2-sided α=0.05.

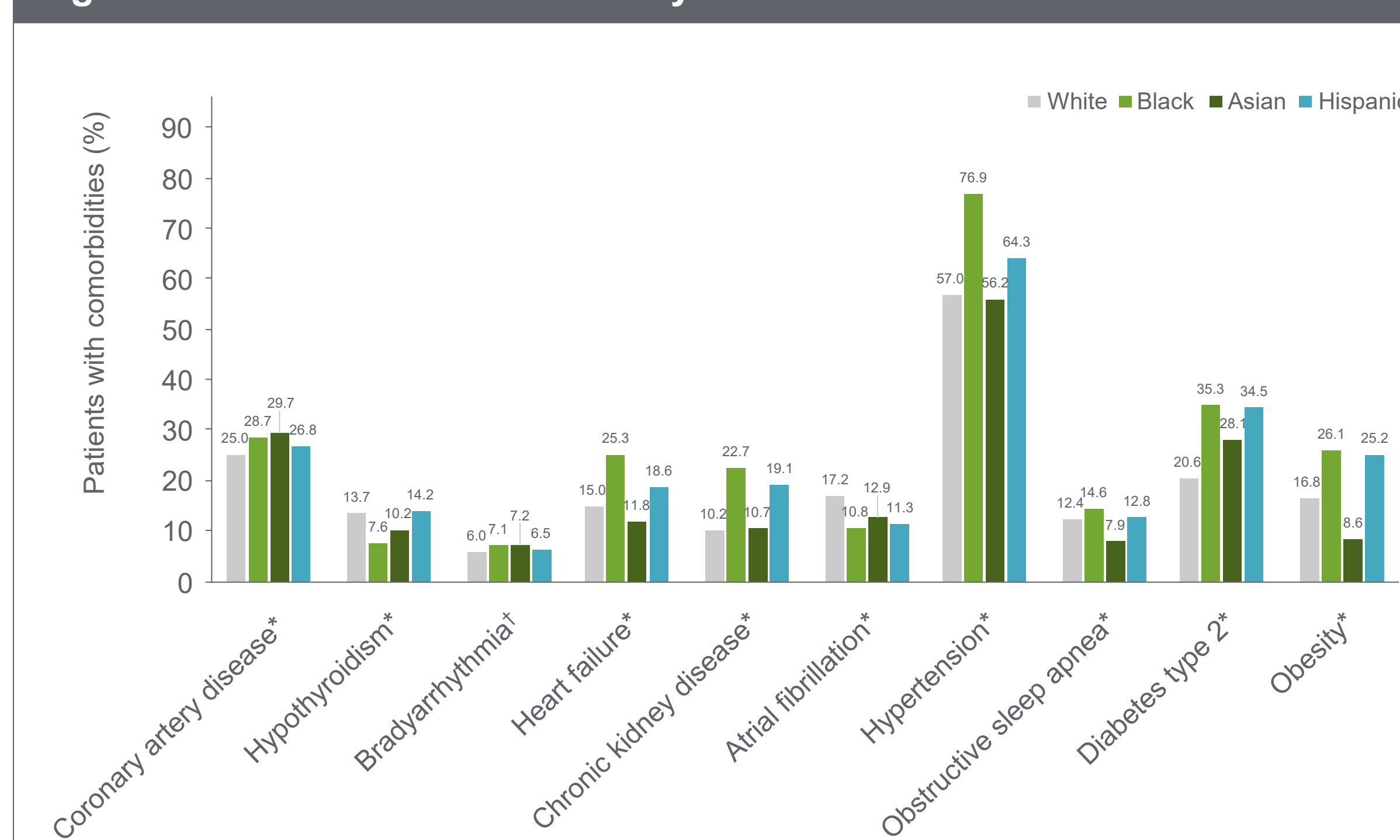
## RESULTS

- A total of 24,586 study-eligible patients with HCM were identified after the patient selection criteria were applied.
- The mean ± SD age was 61.3 ± 14.9 years, mean follow-up was 43.9 ± 28.5 months, and 49.0% were female (Table 1).
- Baseline comorbidities by racial/ethnic characteristics are shown (Figure 1).
- Compared with White patients, Black patients had higher rates of stroke (rate ratio [RR] 1.76; P<0.001), heart failure (RR 1.59; P<0.001), ventricular tachycardia (RR 1.16; P<0.001), and sudden cardiac arrest (RR 1.72; P<0.001) (Figure 2).
- The 3-year cumulative all-cause mortality rate was higher among Black patients (8.01%) and lower among Asian (3.84%) and Hispanic (4.06%) vs White (7.43%) patients (Figure 3; P<0.001).

Table 1. Patient demographics and clinical characteristics

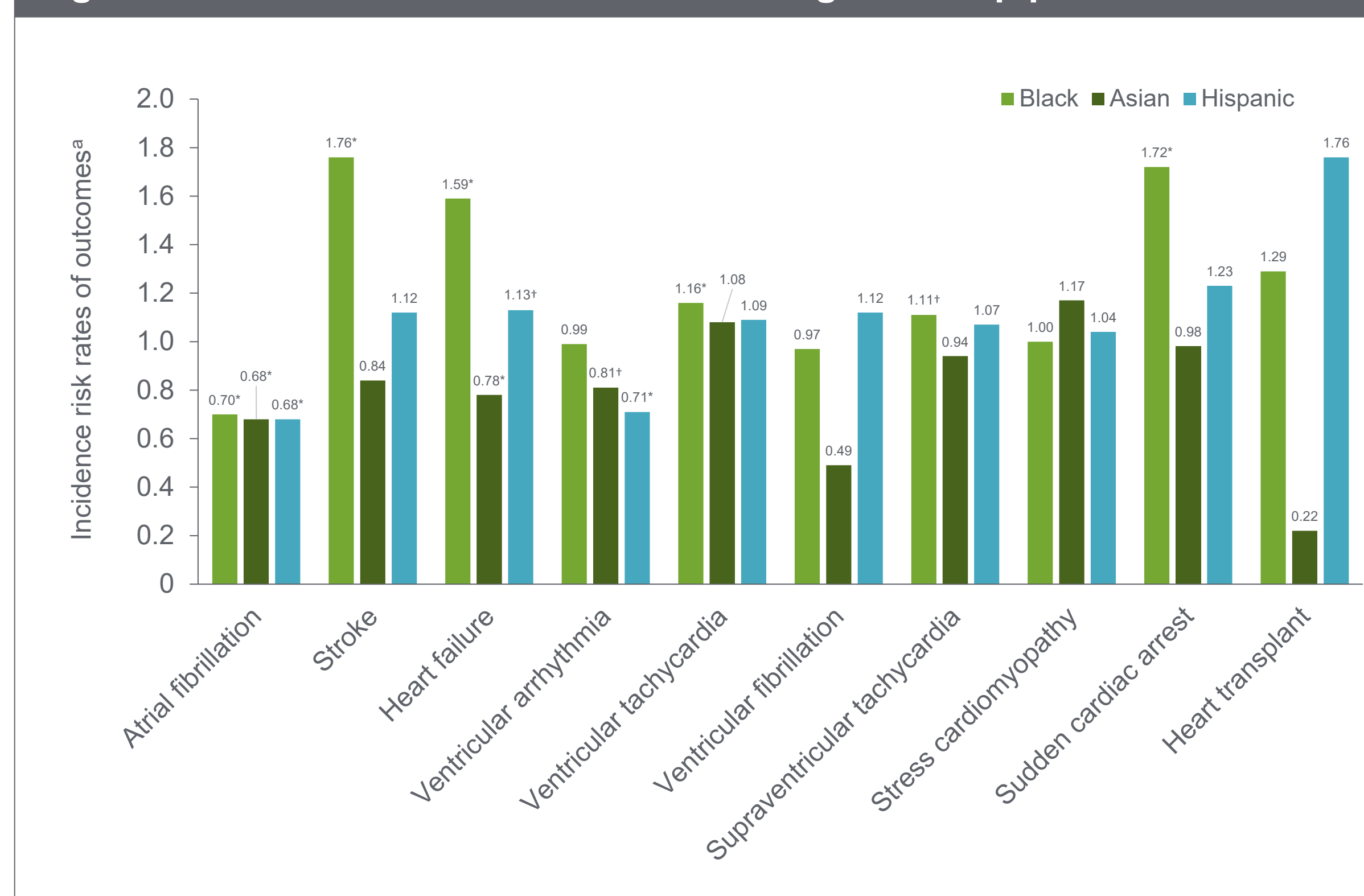
Demographics	Total (N=24,586)	
	Mean	SD
Age, years (continuous)	61.32	14.93
	n	%
Age group, years		
18–39	2176	8.85
40–54	4964	20.19
55–64	6696	27.24
65–74	5509	22.41
75+	5241	21.32
Sex, male	12,537	50.99
Insurance type		
Commercial	11,173	45.44
Medicare	7737	31.47
Medicaid	2207	8.98
Other	113	0.46
Unknown/missing	3356	13.65
Region		
Northeast	6668	27.12
Midwest	10,502	42.72
South	5504	22.39
West	1912	7.78
Race/ethnicity		
White, non-Hispanic	18,181	73.95
Black/African American, non-Hispanic	4814	19.58
Asian, non-Hispanic	559	2.27
Hispanic	1032	4.20
Baseline Charlson comorbidity score <sup>4</sup> (continuous)	1.40	1.80

Figure 1. Baseline comorbidities by racial/ethnic characteristics



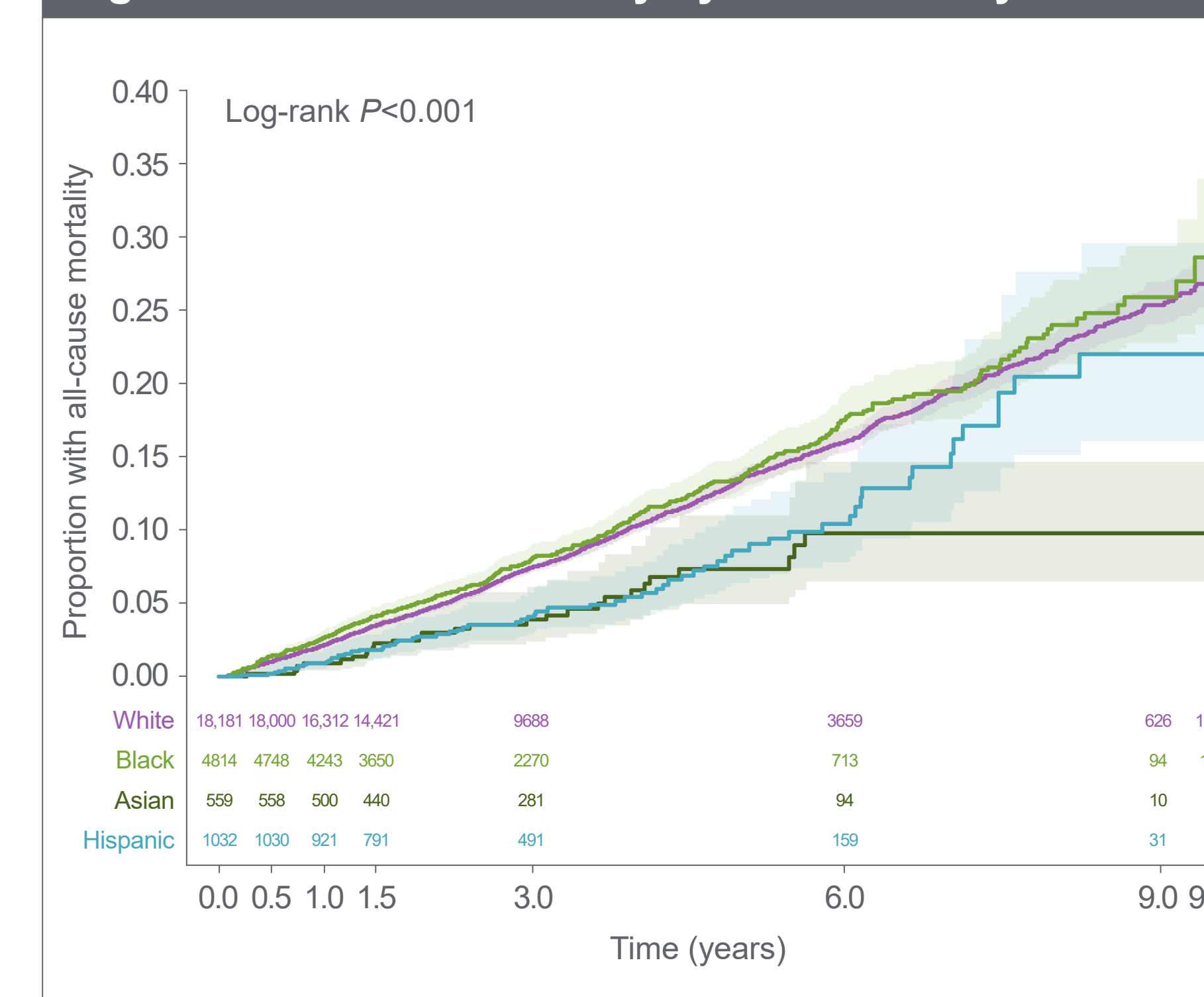
\* P<0.001; † P<0.05.

Figure 2. Event rates of CV outcomes during follow-up period



\* P<0.001; † P<0.05.  
 † White patients are the reference group.

Figure 3. All-cause mortality by race/ethnicity in HCM



## CONCLUSIONS

- Compared with White patients, non-Hispanic Black patients with HCM had the highest rate of adverse CV outcomes and all-cause mortality, whereas Asian and Hispanic patients had lower rates over the follow-up period.
- These results highlight an urgent need to identify and address drivers of race/ethnicity-based disparities in HCM.

## References

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## Disclosures

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