Assessing Disparities in Cardiovascular Outcomes Across Payers in Patients Diagnosed with Hypertrophic Cardiomyopathy

CO28

Nosheen Reza[1], Kirti Batra[2], Qiana Amos[2], Amy Anderson[2], Ami Buikema[2], Michael Butzner[3], Sanatan Shreay[3], Anjali Owens[1]

[1]Perelman School of Medicine of the University of Pennsylvania, Philadelphia, PA, USA; [2]Optum, Eden Prairie, MN, USA; [3]Cytokinetics, Inc., South San Francisco, CA, USA

INTRODUCTION

- There exists limited evidence on the association of payer coverage and cardiovascular (CV) outcomes in patients with hypertrophic cardiomyopathy (HCM).[1]
- Therefore, we investigated these associations in a large, national cohort of patients with HCM.

METHODS

Study Design

- Retrospective cohort study of adult patients with HCM in Optum's Market Clarity database from Jan 1, 2013 through Dec 31, 2021 (index date = first HCM diagnosis) in the United States.
- Patients with ≥2 medical claims with a diagnosis code for HCM (International Classification of Diseases (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.
- Patients with 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 (AF, stroke, HF, VAT, stress cardiomyopathy, SCA, and heart transplant), and mortality.

Statistical Methods

- Event rates per 100,000 PY to estimate risk of CV outcomes.
- KM analysis to evaluate risk of mortality. KM survival analysis was conducted for all-cause mortality by payer type: Commercial (reference group), Medicare, Medicaid, Other, and Unknown/Missing payer; all tests were 2-sided α=0.05.

RESULTS

- Among 24,586 patients with HCM (mean age: 61.3 ± 14.9 years; female: 49.0%; mean follow-up: 43.9 ± 28.5 months), 74.0% were non-Hispanic White, and 19.6% were non-Hispanic Black/African American (**Table 1**).
- Payer types were 45.4% Commercial, 31.5% Medicare, 9.0% Medicaid, 13.6% Unknown/Missing, and 0.5% Other (**Table 1; Figure 1**).
- Patients without commercial insurance were more likely to be prescribed beta-blockers and calcium channel blockers (*P*<0.001).
- Patients with Medicare were less likely to receive disopyramide and implantable cardioverter-defibrillators (*P*<0.001).
- Medicare and Medicaid patients were less likely to undergo septal myectomy and alcohol septal ablation (*P*<0.05).
- Medicare patients had greater rates of AF, stroke, HF, and SCA (*P*<0.001) and Medicaid patients had greater rates of stroke, HF, VT, SCA, and VF (*P*<0.05) (**Table 2**).
- Patients with Other payer types had greater rates of stroke and HF (*P*<0.01) (**Table 2**).
- All-cause mortality at 3 years was highest among Medicare patients (13.5%), followed by Unknown/Missing (6.6%), Medicaid (6.0%), Other Payer (3.8%), and Commercial (3.4%) (*P*<0.001) (**Figure 2**).

Table 1. Patient demographics

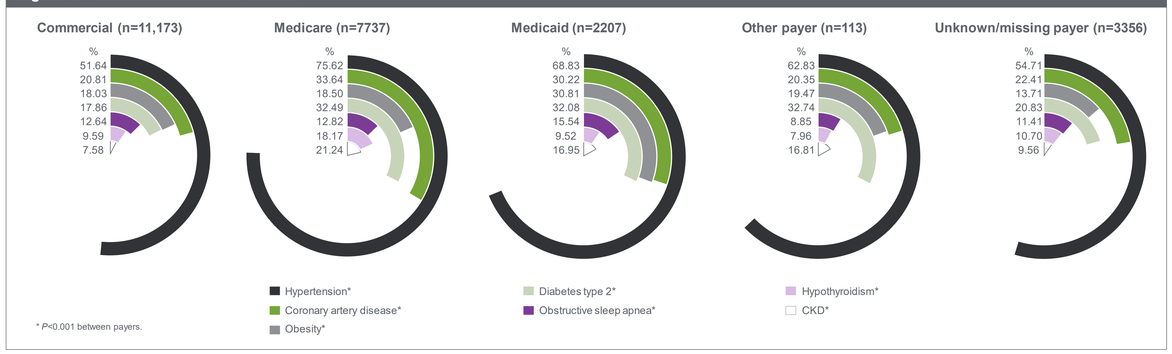
Demographics	n (%)[a]
Age (continuous), mean (SD)	61.32 (14.93)
Age group, y	
18–39	2176 (8.85)
40–54	4964 (20.19)
55–64	6696 (27.24)
65–74	5509 (22.41)
75+	5241 (21.32)
Sex	
Male	12,537 (50.99)
Insurance type	
Commercial	11,173 (45.44)
Medicare	7737 (31.47)
Medicaid	2207 (8.98)
Other	113 (0.46)
Unknown/missing	3356 (13.65)
US 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 (continuous)	1.40 (1.80)

[a] Unless otherwise indicated.

Table 2. Incidence rates of cardiovascular outcomes and heart transplant during follow-up

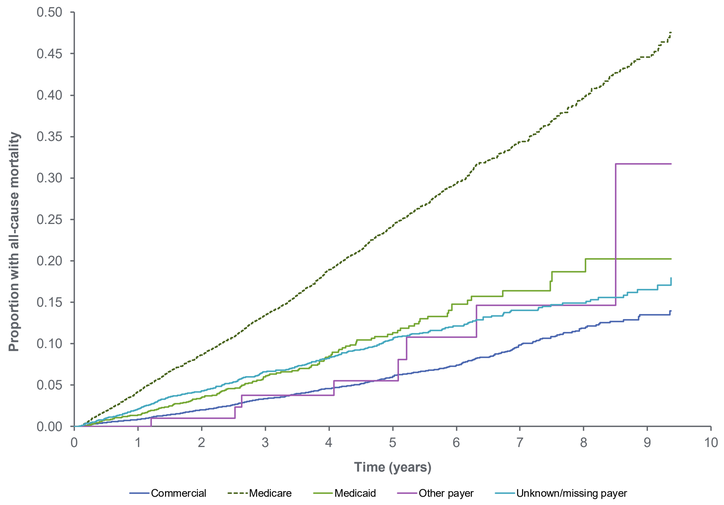
	Incidence Rate Ratio							
	Medicare vs Commercial		Medicaid vs Commercial		Other Payer vs Commercial		Unknown / Missing Payer vs Commercial	
Clinical outcomes	Ratio	*P* value	Ratio	*P* value	Ratio	*P* value	Ratio	*P* value
AF	1.66	<0.001	0.94	0.179	0.99	0.996	1.14	<0.001
Stroke	2.42	<0.001	2.43	<0.001	2.03	0.001	1.46	<0.001
HF	2.01	<0.001	2.02	<0.001	2.00	<0.001	1.13	<0.001
VT	0.80	<0.001	1.23	<0.001	0.65	0.029	0.91	0.033
VF	0.84	0.072	1.37	0.030	0.43	0.210	0.85	0.174
SVT	1.23	<0.001	1.42	<0.001	1.09	0.666	0.89	0.026
Stress cardiomyopathy	1.90	<0.001	2.23	0.002	0.00	0.492	1.06	0.788
SCA	1.32	<0.001	2.17	<0.001	1.36	0.475	1.02	0.866
Heart transplant	0.76	0.100	1.44	0.119	2.70	0.132	0.77	0.220

Figure 1. Patient baseline comorbidities



* *P*<0.001 between payers.

Figure 2. Kaplan–Meier analysis of all-cause mortality during the variable follow-up period



Insurance Type		All-Cause Mortality (time)							
		0 y	0.5 y	1 y	1.5 y	3 y	6 y	9 y	9.5 y
Commercial	Proportion	0.0000	0.0050	0.0086	0.0142	0.0338	0.0735	0.1351	0.1399
	At risk, n	11,173	11,117	10,093	8853	5914	2167	348	89
Medicare	Proportion	0.0000	0.0186	0.0420	0.0668	0.1346	0.2937	0.4458	0.4756
	At risk, n	7737	7594	6925	6117	4046	1350	191	40
Medicaid	Proportion	0.0000	0.0082	0.0144	0.0251	0.0601	0.1480	0.2022	0.2022
	At risk, n	2207	2189	1894	1590	848	214	17	4
Other	Proportion	0.0000	0.0000	0.0000	0.0101	0.0378	0.1079	0.3173	–
	At risk, n	113	113	100	91	67	28	4	–
Unknown/ missing	Proportion	0.0000	0.0101	0.0212	0.0357	0.0663	0.1211	0.1652	0.1794
	At risk, n	3356	3323	2964	2651	1855	866	201	50

P<0.001 for all payer types and times.

LIMITATIONS

- Real-world data in this study utilized ICD-9 and -10 coding for disease identification, patient demographics, and CV outcomes, and may be subject to inconsistencies without patient-level genetic and anatomical confirmation.

CONCLUSIONS

- Patients with Medicare and Medicaid had greater rates of CV outcomes and all-cause mortality compared with commercially insured patients and were less likely to receive septal reduction therapy.
- Further research is needed to identify and address the sources of these associative disparities.

References

1. Butzner M, et al. *Am Heart J Plus: Cardiol Res Pract* 2022;13:100089.

Disclosures

MB and SS: Employees of and own stock in Cytokinetics, Incorporated. **KB, AA, QA, and AB:** Employees of Optum/UHG, who were consultants for Cytokinetics, Incorporated, for this study. **QA, AB, and AA:** Shareholders of UHG Stock. **NR:** Consulting/speaking honoraria from Roche Diagnostics and Zoll, and is supported by the National Heart, Lung, and Blood Institute of the National Institutes of Health (NIH) under Award Number K23HL166961 (the content is solely the responsibility of the author and does not necessarily represent the official views of the NIH). **AO:** Consultant/advisor fees from Cytokinetics, Incorporated, Bristol Myers Squibb/MyoKardia, and Pfizer.

Acknowledgments

This study was funded by Cytokinetics, Incorporated. Editorial support for this poster was provided by Sue Reinwald, PhD, on behalf of Engage Scientific Solutions, and was funded by Cytokinetics, Incorporated.

Abbreviations

AF, atrial fibrillation; CKD, chronic kidney disease; HF, heart failure; KM, Kaplan–Meier; PY, person-years; SCA, sudden cardiac arrest; SVT, supraventricular tachycardia; VAT, ventricular arrhythmia; VF, ventricular fibrillation; VT, ventricular tachycardia.

Scan the QR code to obtain a PDF of this poster.
No personal information is stored.

Cytokinetics®

Presented at the International Society for Pharmacoeconomics and Outcomes Research (ISPOR) | Atlanta, Georgia, USA | May 5–8, 2024.