

# Symptoms and Complications Significantly Increase the Logistic and Economic Burden of Obstructive Hypertrophic Cardiomyopathy – Results from Medical and Pharmacy Claims Data

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## BACKGROUND

- About two-thirds of patients with hypertrophic cardiomyopathy (HCM) have obstructive hemodynamics (obstructive HCM, or oHCM), and there is limited evidence on the complication burden of this disease.<sup>1</sup>

### Aim

- To understand the impact of oHCM symptoms and complications on healthcare logistics and economics, using the Symphony Integrated Dataverse medical and pharmacy claims database.

### Hypothesis

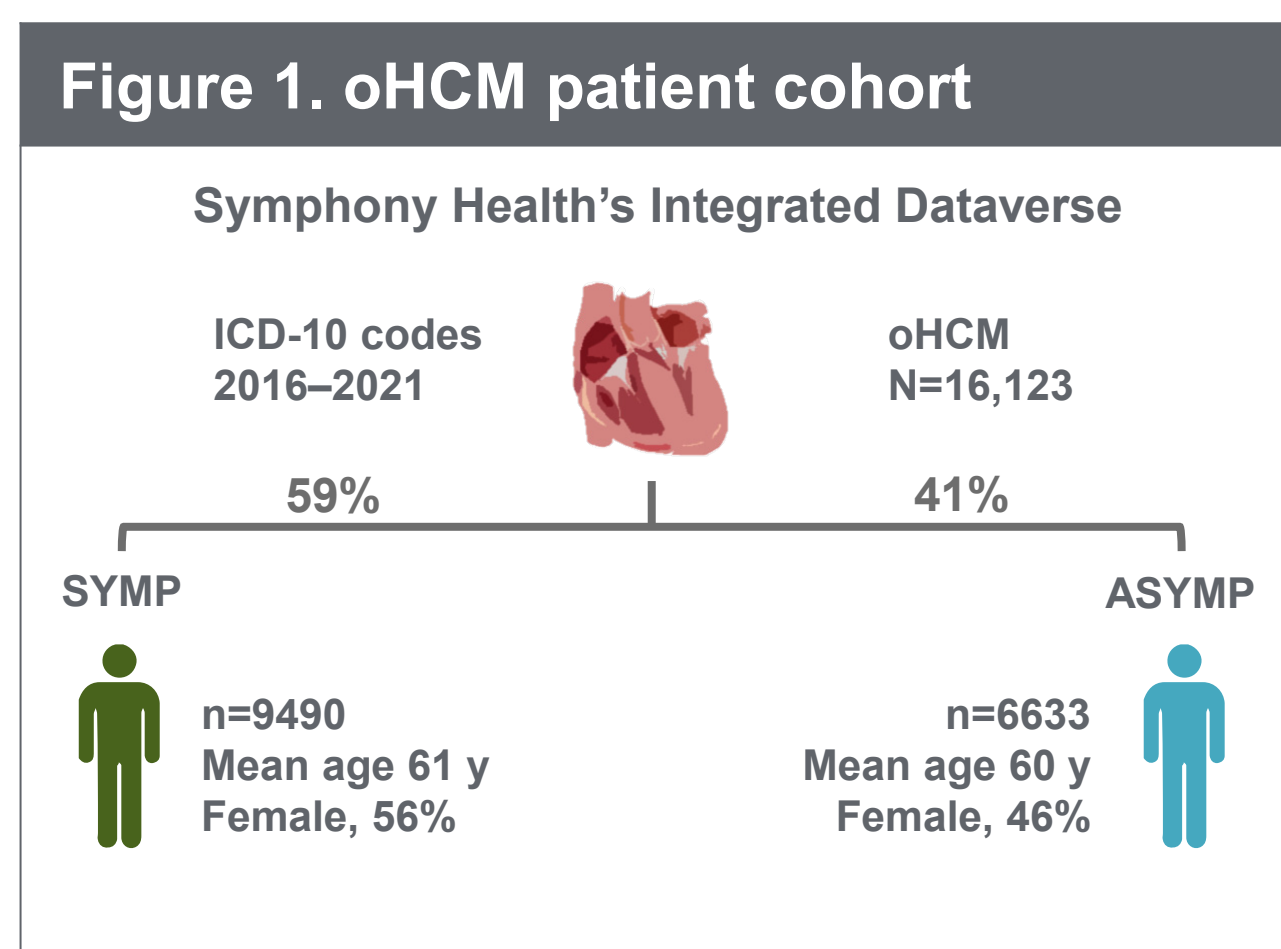
- Symptoms and complications significantly increase the logistic and economic burden of oHCM.

## METHODS

- Adult patients in the United States with symptomatic (SYMP) and asymptomatic (ASYMP) oHCM were identified by International Classification of Diseases, Tenth Revision diagnosis codes between 2016 and 2021.
- Those with fatigue, chest pain, syncope, dyspnea, heart failure (HF), palpitations, pacemaker insertion, or septal reduction therapy within 3 months of index date were defined as SYMP. Patients without these symptoms were classed as ASYMP.
- Post complication was defined as after one or more of the following post-diagnosis events: atrial fibrillation (AF)/flutter, ventricular fibrillation/ventricular tachycardia (VT), supraventricular tachycardia, stress cardiomyopathy, or HF.
- Pre- vs post-complication comparisons were expressed as mean per-person per-year (PPPY).

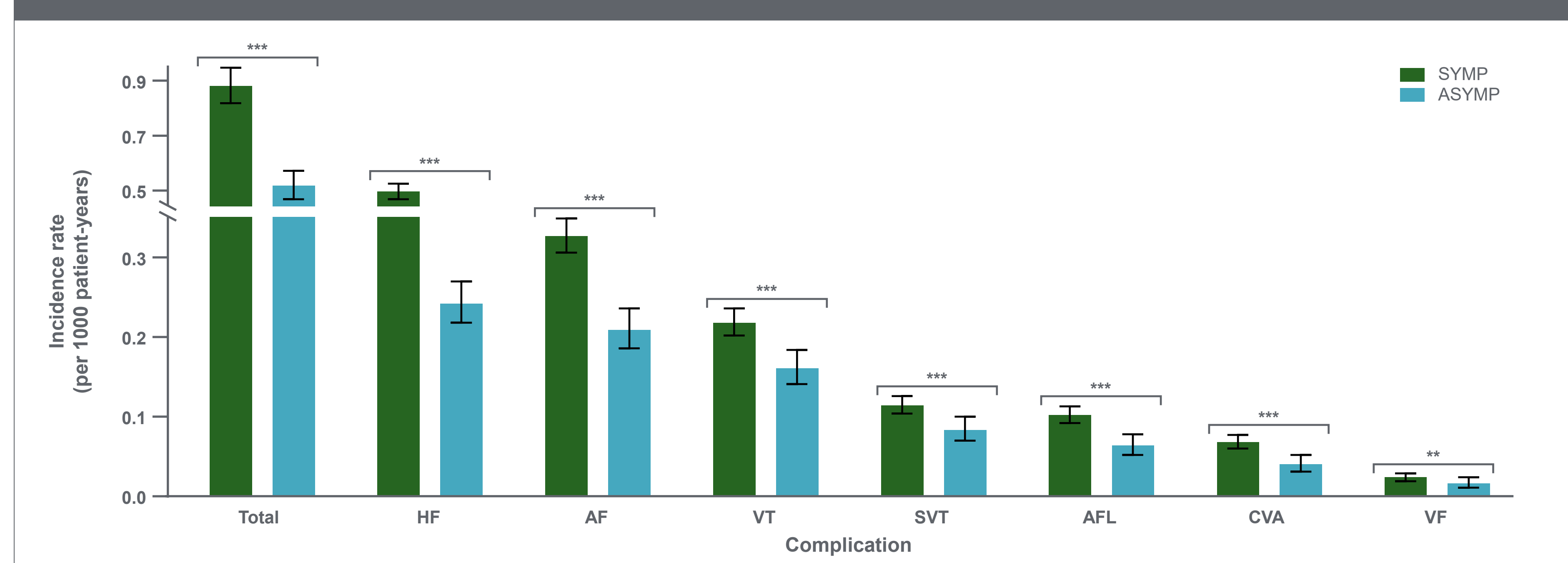
## RESULTS

- We identified 16,123 patients with oHCM (n=9490 SYMP; n=6633 ASYMP).
- Patients with SYMP vs ASYMP oHCM were older (61 ± 14 vs 60 ± 15 years,  $P<0.001$ ), with a higher proportion of women (56% vs 46%,  $P<0.001$ ) (Figure 1) and a higher incidence rate of complications (0.880 vs 0.518 per 1000 patient-years,  $P<0.001$ ; hazard ratio 0.58, 95% CI 0.51–0.66).



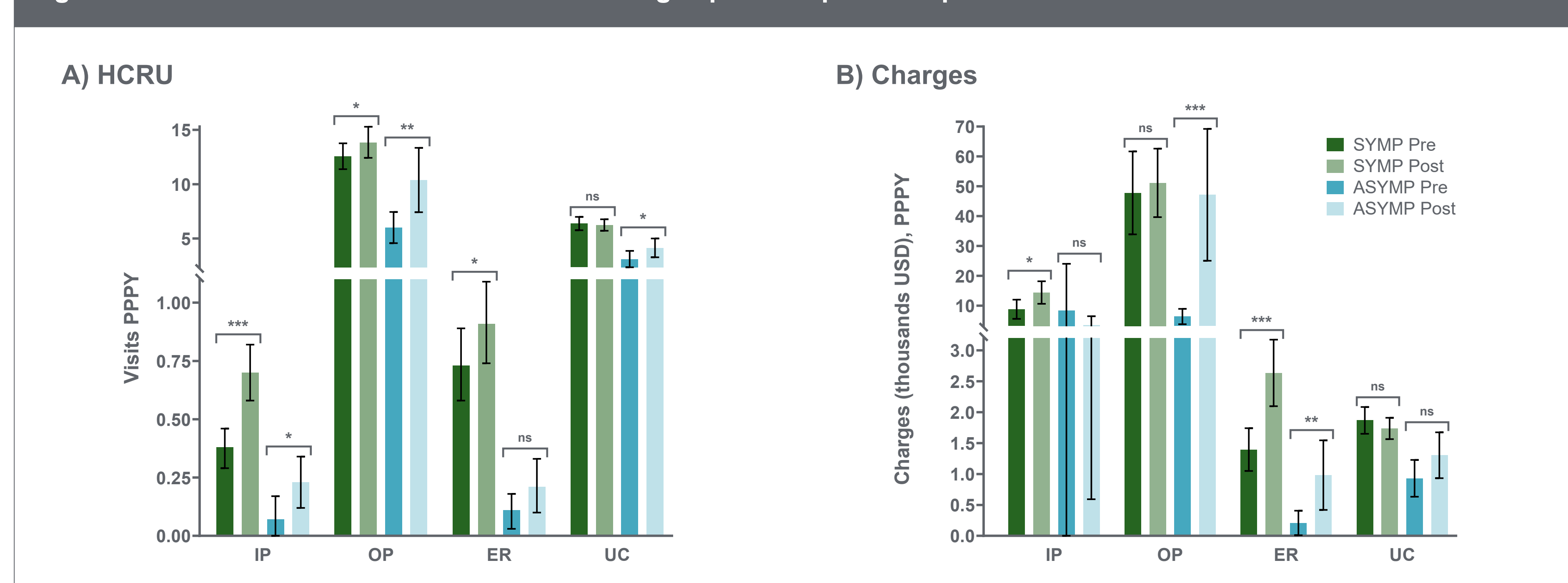
ASYMP, asymptomatic oHCM; ICD-10, International Classification of Diseases, Tenth Revision; oHCM, obstructive hypertrophic cardiomyopathy; SYMP, symptomatic oHCM.

**Figure 2. Incidence rate of complications in SYMP and ASYMP oHCM cohorts**



\*\*  $P<0.01$ ; \*\*\*  $P<0.001$ .  
AF, atrial fibrillation; AFL, atrial flutter; ASYMP, asymptomatic oHCM; CVA, cerebrovascular accident; HF, heart failure; SVT, supraventricular tachycardia; SYMP, symptomatic oHCM; VF, ventricular fibrillation; VT, ventricular tachycardia.

**Figure 3. Healthcare resource utilization and charges pre- and post-complications**



\*  $P<0.05$ ; \*\*  $P<0.01$ ; \*\*\*  $P<0.001$ .  
Data from Symphony medical and pharmacy claims 2016–2021. Error bars show 95% CI. P-values are pre- vs post-complication for SYMP and ASYMP. ASYMP, asymptomatic oHCM; ER, emergency room; HCRU, healthcare resource utilization; IP, inpatient; ns, not significant; OP, outpatient; Post, post-complication; PPPY, per-person per-year; Pre, pre-complication; SYMP, symptomatic oHCM; UC, urgent care.

## RESULTS

- In SYMP vs ASYMP patients, 671 vs 139 had complications. The 3 most frequent complications were HF, AF, and VT (Figure 2).
- In SYMP patients, complications were associated with increased inpatient (IP) admissions (0.38 to 0.70 PPPY,  $P<0.001$ ) and outpatient (OP) visits (12.57 to 13.85 PPPY,  $P=0.035$ ). Pre- and post-complication all-cause charges were \$67,471 and \$76,836 PPPY ( $P=0.289$ ), respectively (Figure 3).
- In ASYMP patients, complications were associated with increased IP admissions (0.07 to 0.23 PPPY,  $P=0.022$ ), OP visits (6.01 to 10.38,  $P=0.001$ ), and all-cause charges (\$20,948 to \$59,417 PPPY,  $P=0.001$ ).
- Incremental pre- vs post-complication charges were \$9,365 and \$38,469 PPPY in SYMP and ASYMP patients, respectively ( $P=0.049$ ).

### Limitations

- The findings presented in this poster are derived from various un-adjusted analyses. Adjusting for variables such as sex, age, and comorbidities could potentially impact these results.

## CONCLUSIONS

- In this large cohort of patients from a US-wide all-payer database:
  - Patients with SYMP vs ASYMP oHCM had higher rates of complications.
  - Complications were associated with increased IP admissions and OP visits in patients with SYMP and ASYMP oHCM, and increased care charges in ASYMP oHCM.
- Our data may support the development of novel treatment approaches and early intervention to potentially avoid complications; especially in patients with ASYMP oHCM, for whom there is a steep increment in charges.

### Reference

- Lu DY et al. J Am Heart Assoc. 2018;7(5):e006657.

### Disclosures

This study was funded by Cytokinetics, Incorporated. MB: Employee of and owns stock in Cytokinetics, Incorporated. SA, MC, EP, RP, DR, and TA: No conflicts of interest to declare.

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### Abbreviations

AF, atrial fibrillation; ASYMP, asymptomatic oHCM; HF, heart failure; OP, outpatient; PPPY, per-patient per-year; SYMP, symptomatic oHCM; VT, ventricular tachycardia.

