

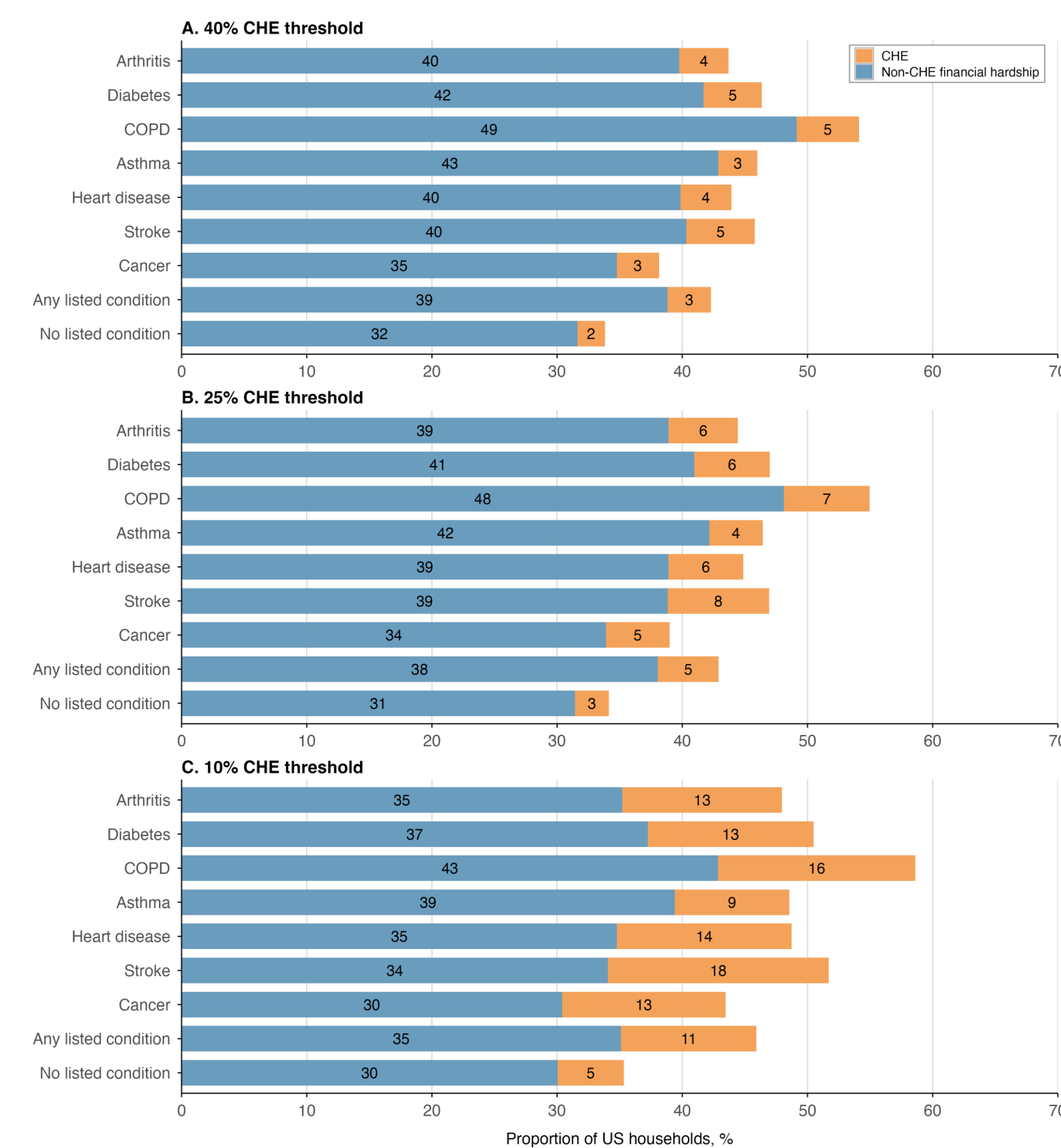
**Background & Objectives**

- **Catastrophic health expenditure (CHE)**, typically defined as out-of-pocket (OOP) payments exceeding a fixed share of household income or consumption, is widely used to measure disease-related financial hardship.<sup>1,2</sup>
- However, households may respond to healthcare costs not only through higher OOP spending but also through consumption smoothing and coping behaviors, including care rationing and distress financing.
- Consequently, **medical debt and foregone or delayed care** represent conceptually distinct manifestations of financial hardship that may not be captured by OOP-based CHE metrics.<sup>1,2</sup>
- These limitations are especially concerning for individuals with chronic conditions, who face recurring care needs that increase their financial burden.<sup>3-6</sup>
- This descriptive study aimed to quantify the extent to which **CHE underestimates financial hardship** among US families with chronic conditions and to assess whether this underestimation varies by income and insurance status.

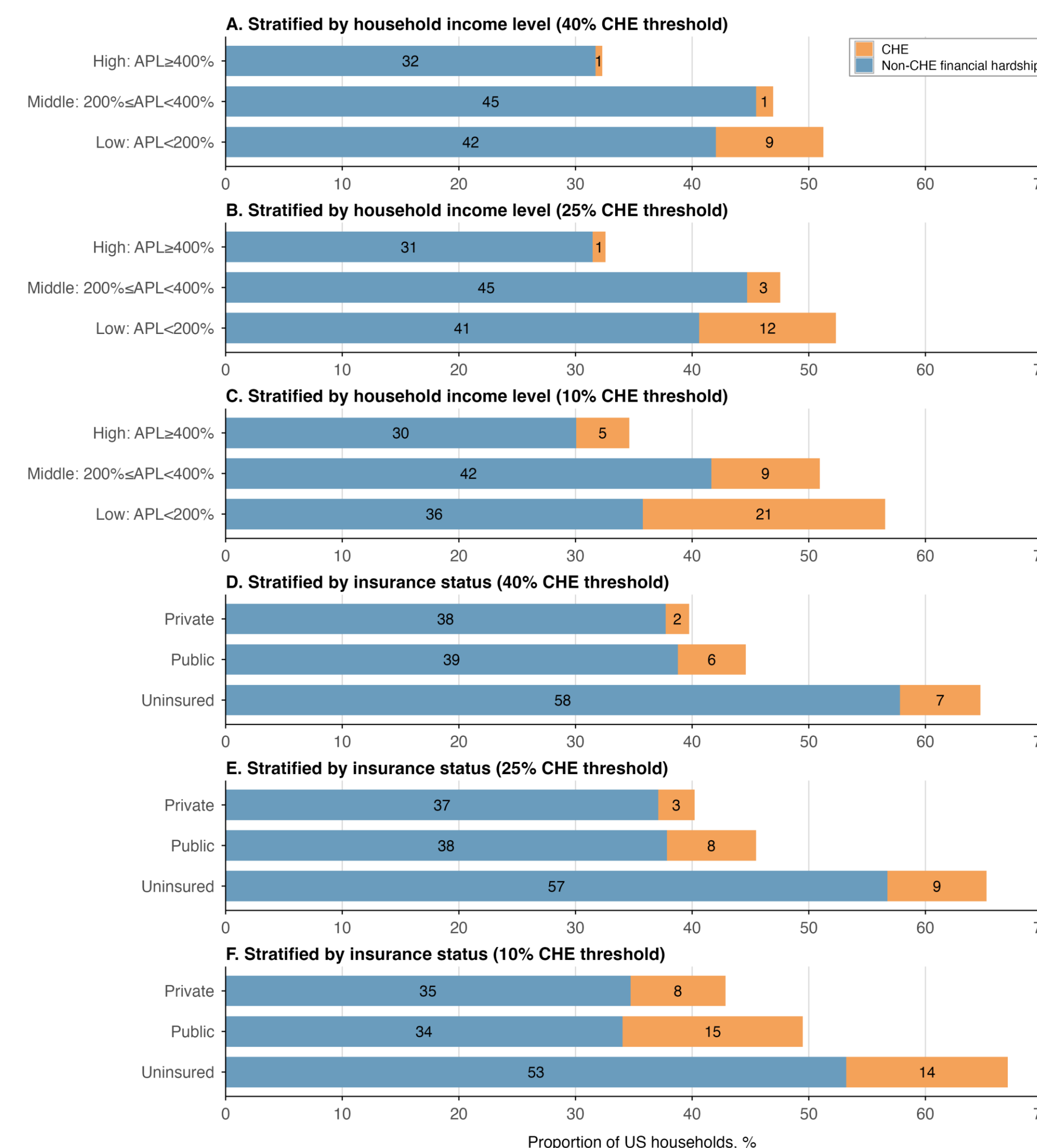
**Materials & Methods**

- We used 2018–2023 Medical Expenditure Panel Survey (MEPS) data to construct household-level measures of financial hardship.
- The study population included families with ≥1 member reporting arthritis, diabetes, chronic obstructive pulmonary disease (COPD), asthma, heart disease, stroke, or cancer.
- **CHE** was defined as annual OOP spending exceeding 40%, 25%, and 10% of total annual household income. The 40% threshold reflected more severe financial burden, while the lower thresholds captured less severe financial strain and were used to assess robustness and structural limitation of CHE.
- Additional (non-CHE) financial hardship included any member reporting: **(1) medical debt**: MEPS indicators capturing unpaid medical bills, problems paying medical bills, or bills being paid off over time, or **(2) affordability-related delayed or foregone care**: whether any household member had difficulty obtaining needed medical, dental, or prescription care because of cost. A family was classified as having medical debt or delayed or foregone care if any member reported at least one of these events during the prior 12-month period.
- We estimated the weighted proportions of households experiencing CHE and non-CHE financial hardship by household chronic condition status (Figure 1), and further stratified estimates by household income and insurance status (Figure 2). Figure 3 presented disaggregated non-CHE financial hardship.
- Corresponding standard errors and 95% confidence intervals were provided in the Supplement.
- Unweighted household counts were reported in Table 1.

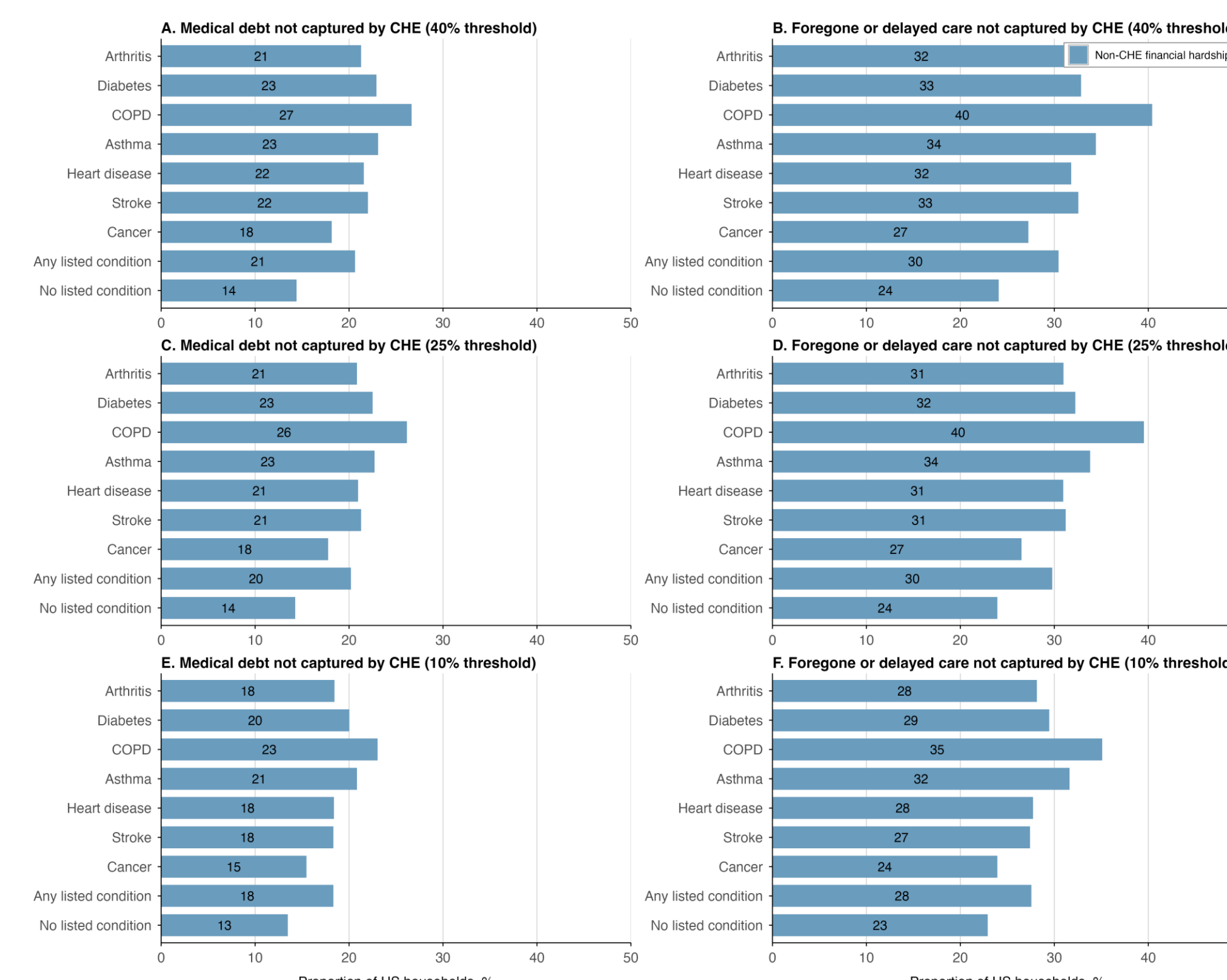
**Results**



**Figure 1.** Catastrophic Health Expenditure (CHE) and Financial Hardship Not Captured by CHE across Expenditure Thresholds, by Chronic Condition  
\* Estimates reflect weighted proportions of U.S. households with ≥1 member diagnosed with the specified chronic condition in the Medical Expenditure Panel Survey, 2018–2023. Panels display results under CHE thresholds of 40%, 25%, and 10% of annual household income. Financial hardship includes CHE and non-CHE hardship (medical debt or foregone/delayed care). The category “any chronic condition” includes households with ≥1 of the listed conditions.  
† Acronyms: CHE, catastrophic health expenditure; COPD, chronic obstructive pulmonary disease.



**Figure 2.** Catastrophic Health Expenditure (CHE) and Financial Hardship Not Captured by CHE across Expenditure Thresholds, Stratified by Household Income and Insurance Status  
\* Estimates reflect weighted proportions of U.S. households with ≥1 member with a chronic condition. Panels A–C show results stratified by household income relative to the applicable federal poverty line under 40%, 25%, and 10% CHE thresholds. Panels D–F show corresponding stratification by insurance status of household members under 40%, 25%, and 10% CHE thresholds.  
† Acronyms: CHE, catastrophic health expenditure; APL, applicable poverty line.



**Figure 3.** Medical Debt and Foregone or Delayed Care Not Captured by Catastrophic Health Expenditure (CHE) across Chronic Conditions  
\* Estimates reflect weighted proportions of U.S. households experiencing (A, C, E) medical debt or (B, D, F) foregone or delayed care due to cost that were not captured by CHE under 40%, 25%, and 10% CHE thresholds.  
† Acronyms: CHE, catastrophic health expenditure; COPD, chronic obstructive pulmonary disease.

Section	Subgroup	Households, N (% of analytical sample)
Overall household sample	Total households	40,118
Overall household sample	Households with any listed condition	26,306 (100.0)
Overall household sample	Households without any listed condition	13,661
Listed chronic condition	Arthritis	15,410 (58.6)
Listed chronic condition	Diabetes	7,855 (29.9)
Listed chronic condition	COPD	2,530 (9.6)
Listed chronic condition	Asthma	9,512 (36.2)
Listed chronic condition	Heart disease	9,284 (35.3)
Listed chronic condition	Stroke	3,033 (11.5)
Listed chronic condition	Cancer	7,414 (28.2)
Household condition count	1 condition	10,809 (41.1)
Household condition count	2–3 conditions	11,976 (45.5)
Household condition count	≥4 conditions	3,521 (13.4)
Household income level	High income	9,162 (34.8)
Household income level	Middle income	7,043 (26.8)
Household income level	Low income	10,101 (38.4)
Insurance status	Private insurance	14,317 (54.4)
Insurance status	Public insurance	11,024 (41.9)
Insurance status	Uninsured	965 (3.7)

**Table 1.** Household Sample Composition  
\* Values are unweighted household counts. Percentages are calculated using households with any listed chronic condition as the analytical sample denominator. Chronic condition subgroups are not mutually exclusive.  
† Acronyms: COPD, chronic obstructive pulmonary disease.

- Under the 40% threshold, which reflects more severe financial burden, 39% of households with any of the listed chronic conditions experienced financial hardship without meeting CHE criteria, while CHE prevalence was 3%, meaning CHE captured only about 1 in 14 cases of total hardship (Figure 1).
- Similar patterns were observed across all chronic conditions examined. Non-CHE hardship was also observed among families without these chronic conditions, but at a lower prevalence (32%). Lowering the CHE threshold increased the proportion of hardship captured by CHE, but substantial non-CHE hardship remained: approximately 34% to 48% under the 25% threshold and 30% to 43% under the 10% threshold (Figure 1).
- In stratified analyses (Figure 2), under the 40% threshold, non-CHE hardship was more common among low- and middle-income households (42%–45%) than high-income households (32%) and among uninsured households (58%) than those with public or private insurance (38%–39%). CHE remained lower than non-CHE hardship across all subgroups. Similar patterns were observed under the 25% and 10% thresholds.
- When disaggregated, foregone or delayed care accounted for a larger share of non-CHE hardship than medical debt across all chronic conditions and thresholds (Figure 3).

**Discussion**

- This analysis showed that CHE captured only a small fraction of financial hardship among US households with chronic conditions.
- The findings underscore a key limitation of CHE as a marker of financial protection: households under financial strain may cope by delaying or foregoing care or by taking on medical debt rather than by paying out of pocket, so low observed OOP spending does not necessarily imply low burden.
- This gap was larger among lower-income and uninsured households, suggesting that CHE may be particularly incomplete in populations most exposed to affordability barriers.
- This study has limitations. The non-CHE hardship measures identify only the reported medical debt or affordability-related barriers to care and do not capture their severity or duration. In addition, household-level analyses may not fully reflect differences in financial hardship across individual household members.

**Conclusions**

- These findings underscore the need for routine monitoring beyond OOP-based measures to better capture financial hardship among people with chronic conditions.

**References**

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