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ECONOMIC BURDEN OF HERPES ZOSTER AMONG INDIVIDUALS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE: A RETROSPECTIVE COHORT STUDY

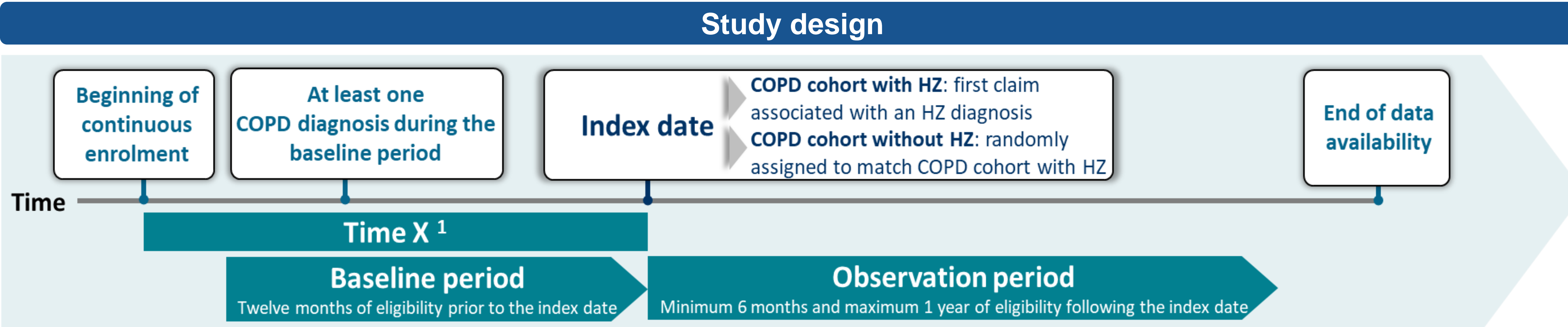
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BACKGROUND

- Previous studies have evaluated the risk of developing herpes zoster (HZ) in patients with chronic obstructive pulmonary disease (COPD).¹⁻³
- Little is known about the impact of an acute HZ episode on healthcare resource utilization (HCRU) and costs among patients with COPD in the US.⁴

METHODS

- Study design: Restrospective cohort analysis of administrative claims data for individuals aged ≥50 years.
- Data source: Optum de-identified Clinformatics for commercially insured and Medicare Advantage members (01/01/2013 – 12/31/2018).
- For HCRU, adjusted incidence rate ratio (aIRR) was estimated using generalized linear models assuming a negative binomial distribution and log link, accounting for the propensity score and relevant baseline characteristics. Cost differences were estimated using the two-part modeling approach.



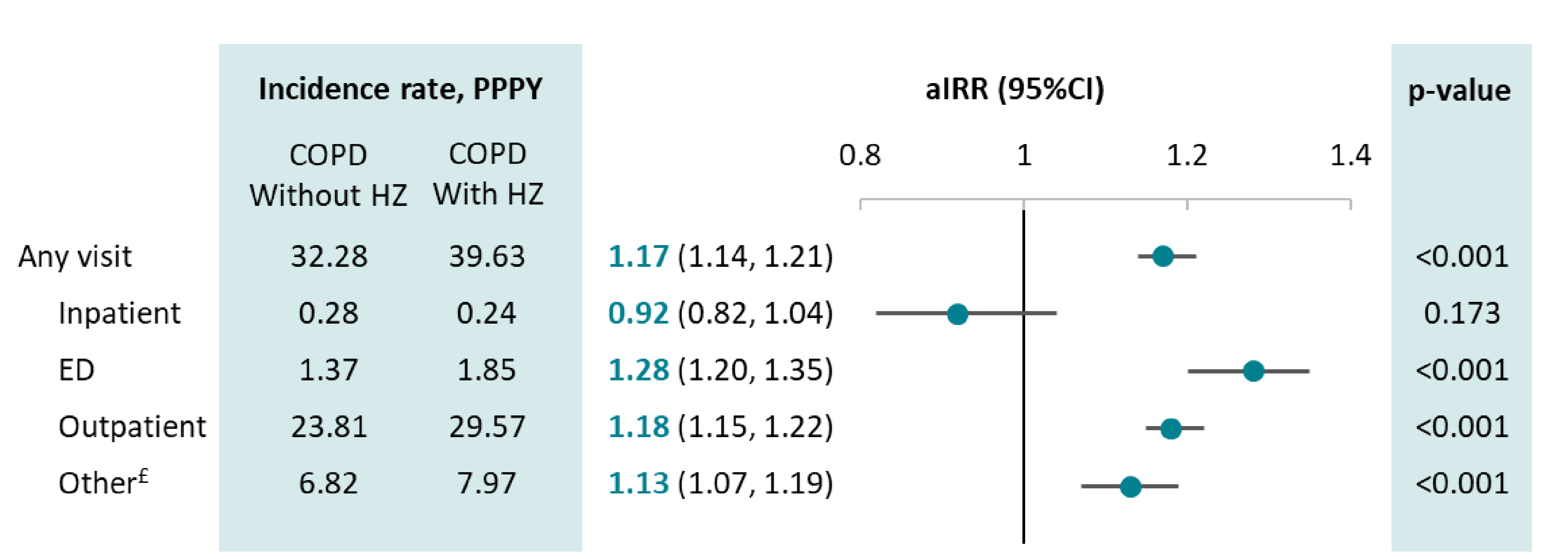
¹Time X is only determined for COPD cohort without HZ and represents a randomly selected value such that the distribution of X's follow that of the pre-index eligibility in COPD cohort with HZ. COPD, chronic obstructive pulmonary disease; HZ, herpes zoster. Please see the supplementary material for more details.

RESULTS

Baseline differences in demographics and clinical characteristics were controlled through propensity scores adjustment.

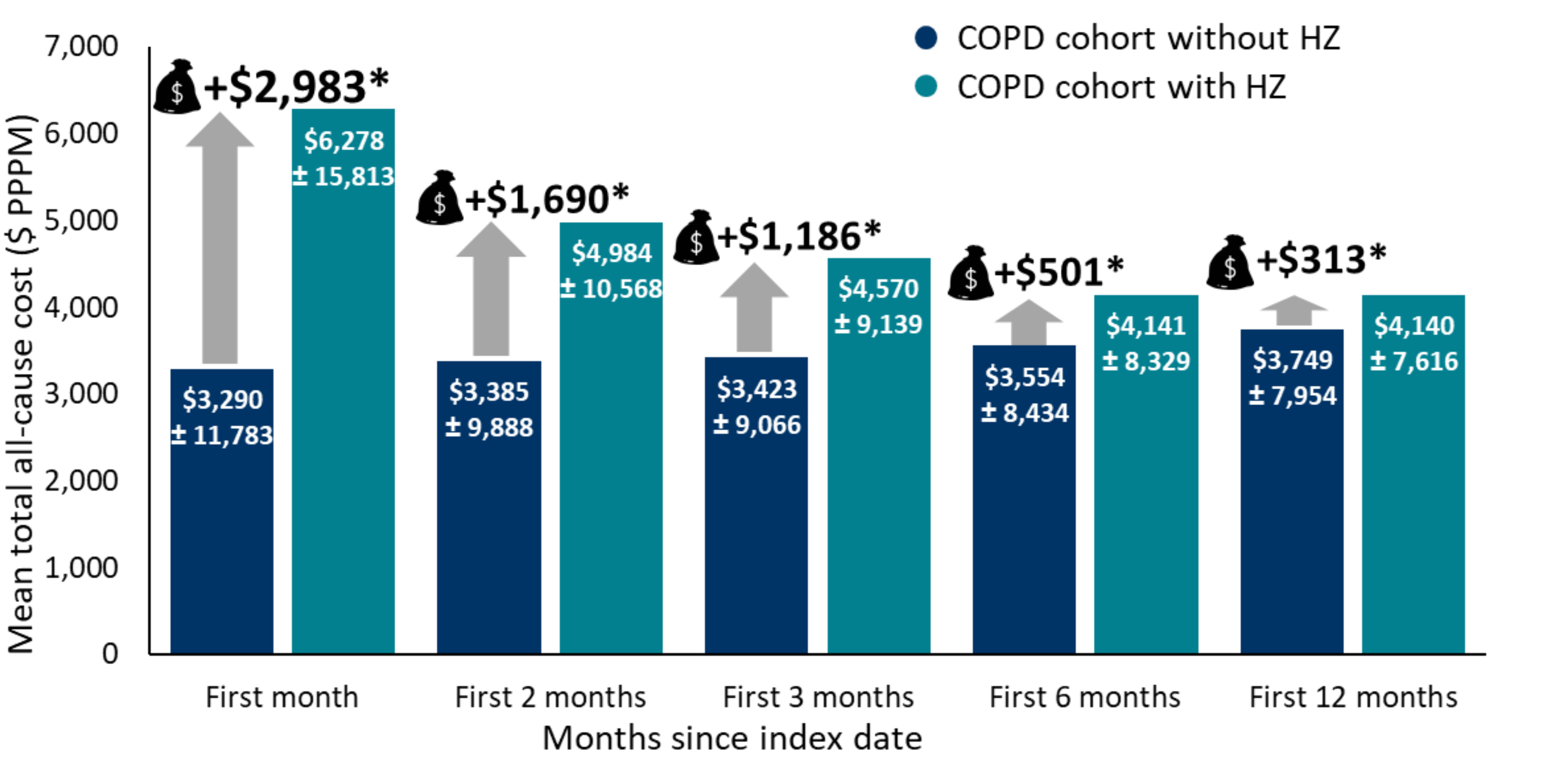
	COPD (Without HZ) N=35,360	COPD (With HZ) N=3,415	SD	
DEMOGRAPHICS	Age at index date			
	Mean age	72.4	73.2	8.9%
	50-64 years	21.7%	17.2%	11.4%
	65-79 years	54.1%	57.6%	6.9%
	≥80 years	24.2%	25.3%	2.5%
	Gender			
	Male	45.5%	37.1%	16.9%
	Race/ethnicity			
	White	16.6%	17.2%	1.4%
	Black	10.0%	8.3%	6.0%
Hispanic	6.3%	6.2%	0.1%	
Asian	1.4%	2.0%	4.5%	
Unknown	65.7%	66.4%	1.4%	
CLINICAL CHARACTERISTICS	Charlson-Quan Comorbidity Index			
	Overall (mean)	2.6	2.8	11.4%
	Use of corticosteroids			
	Inhaled	51.1%	51.7%	1.1%
	Oral	29.7%	36.6%	14.5%
Asthma	23.7%	29.8%	13.8%	

Among patients with COPD, all-cause HCRU visits were higher for those with vs. without HZ.



^fIncluding skilled nursing facilities, home care services, hospice, vision care, and durable medical equipment. aIRR, adjusted incidence rate ratio; CI, confidence interval; COPD, chronic obstructive pulmonary disease; ED, emergency department; HCRU, healthcare resource utilization; HZ, herpes zoster; PPPY, per person per year

Among patients with COPD, the mean difference in total all-cause cost between those with vs without HZ was highest in the first month after HZ diagnosis.



*All differences are statistically significant (P<0.004). COPD, chronic obstructive pulmonary disease; HZ, herpes zoster; PPPM, per person per month

CONCLUSION

Among patients with COPD, higher all-cause healthcare resource utilization and cost burden was observed in patients ≥50 years old with HZ vs. without HZ.



Healthcare resource use and costs were higher among individuals with COPD who had a shingles episode than among those without shingles.