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Introduction

- Social and behavioral factors, such as socioeconomic status and lifestyle behaviors, are associated with adverse healthcare outcomes and higher healthcare costs.¹⁻³
- Z codes in the ICD-10-CM system document these factors, offering insight into patient histories and exposures.⁴
- The impact of Z code documentation on medication costs for Non-Hodgkin Lymphoma (NHL) patients is unclear.
- The objective of this study is to compare medication costs among NHL patients with and without Z code documentation.

Methods

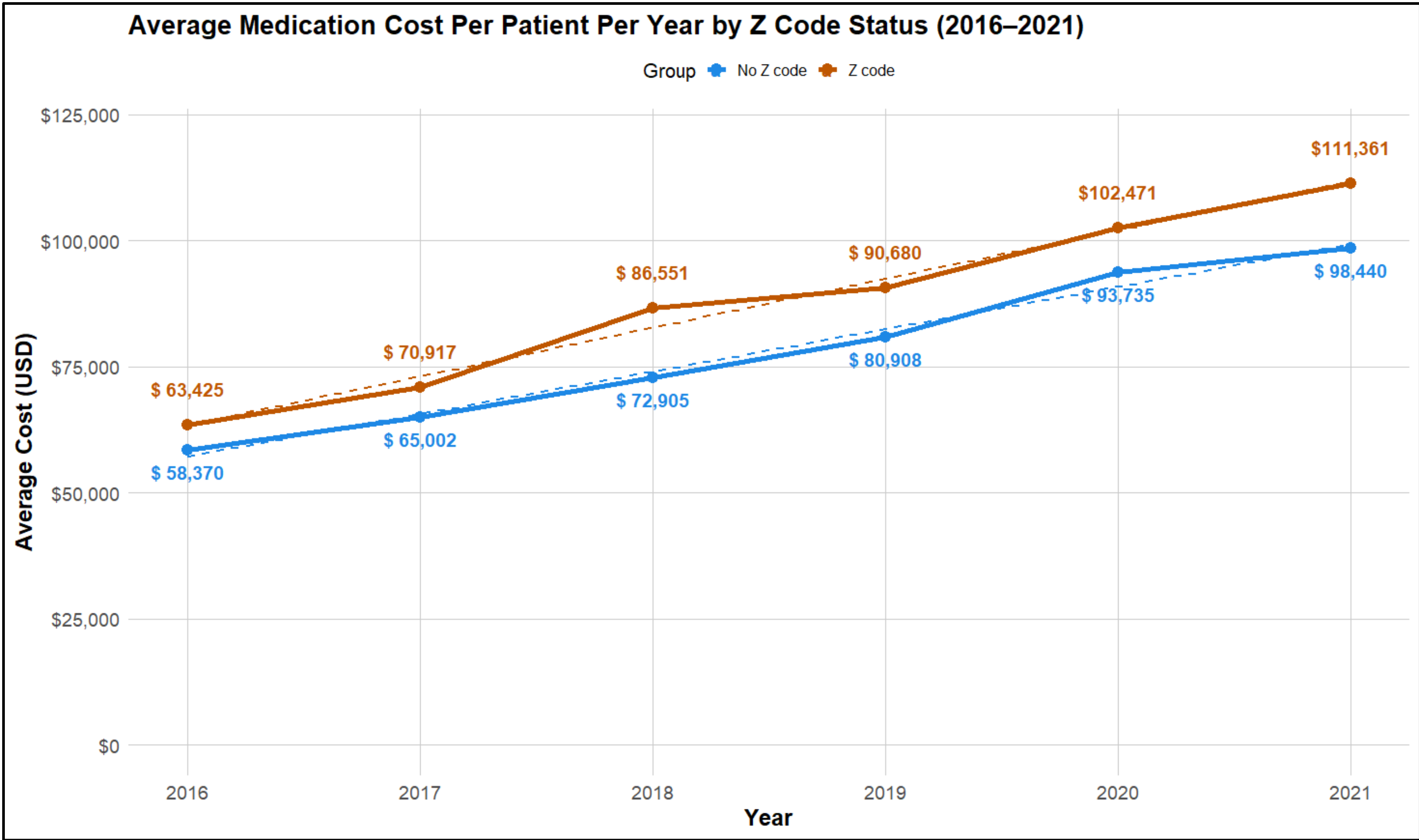
Data source/ study design	Retrospective cohort study using Merative MarketScan® Commercial Claims Data (1/1/2016-12/31/2021)
Study population	Individuals with NHL based on 1 inpatient claim or 2 outpatient claims with NHL diagnosis codes
Study exposure	Presence of Z code in any diagnosis position
Covariates	Covariates include sociodemographic characteristics such as age and sex, year of prescription receipt
Outcomes	(1) Average annual antineoplastic medication costs (2) Cost difference between the average medication cost for patients with vs. without Z codes
Statistical analysis	A generalized linear model (GLM) with a log-link and gamma distribution was used to evaluate cost differences. Statistical analysis was conducted using SAS v9.4. P<0.05 was considered statistically significant

Results

- Among 129,090 NHL patients, **4.16% had Z code documentation**.
- Patients with Z codes were more likely to be male (58.4% vs. 54.3%, p<0.001) and younger (mean age [SD]: 59.6 [15.1] vs. 60.2 [16.5] years, P<0.001).
- Medication costs increased from 2016 (\$58,370 vs. \$63,425) to 2021 (\$98,440 vs. \$111,362) among NHL patients with and without Z code documentation (Figure 1).
- Adjusted GLM analysis revealed significantly higher annual medication costs for NHL patients with Z codes (\$91,959, 95% CI 90,886-93,031) compared to those without Z codes (\$79,250, 95% CI 78,957-79,543), with an average difference of ~\$12,700 (p<0.001; Figure 2).
- Targeted therapies were more frequently prescribed in NHL patients with Z code documentation compared to those without Z code documentation (69.8% vs. 58.7%, p<0.001; Figure 3)

Results

Figure 1: Average Medication Cost Per Patient Per Year by Z Code Documentation



NHL patients with Z code documentation incurred significantly higher annual medication costs (~\$12,700) more than patients without Z code documentation.

Figure 3: Medication Claims by Therapeutic Class Stratified by Z code Documentation

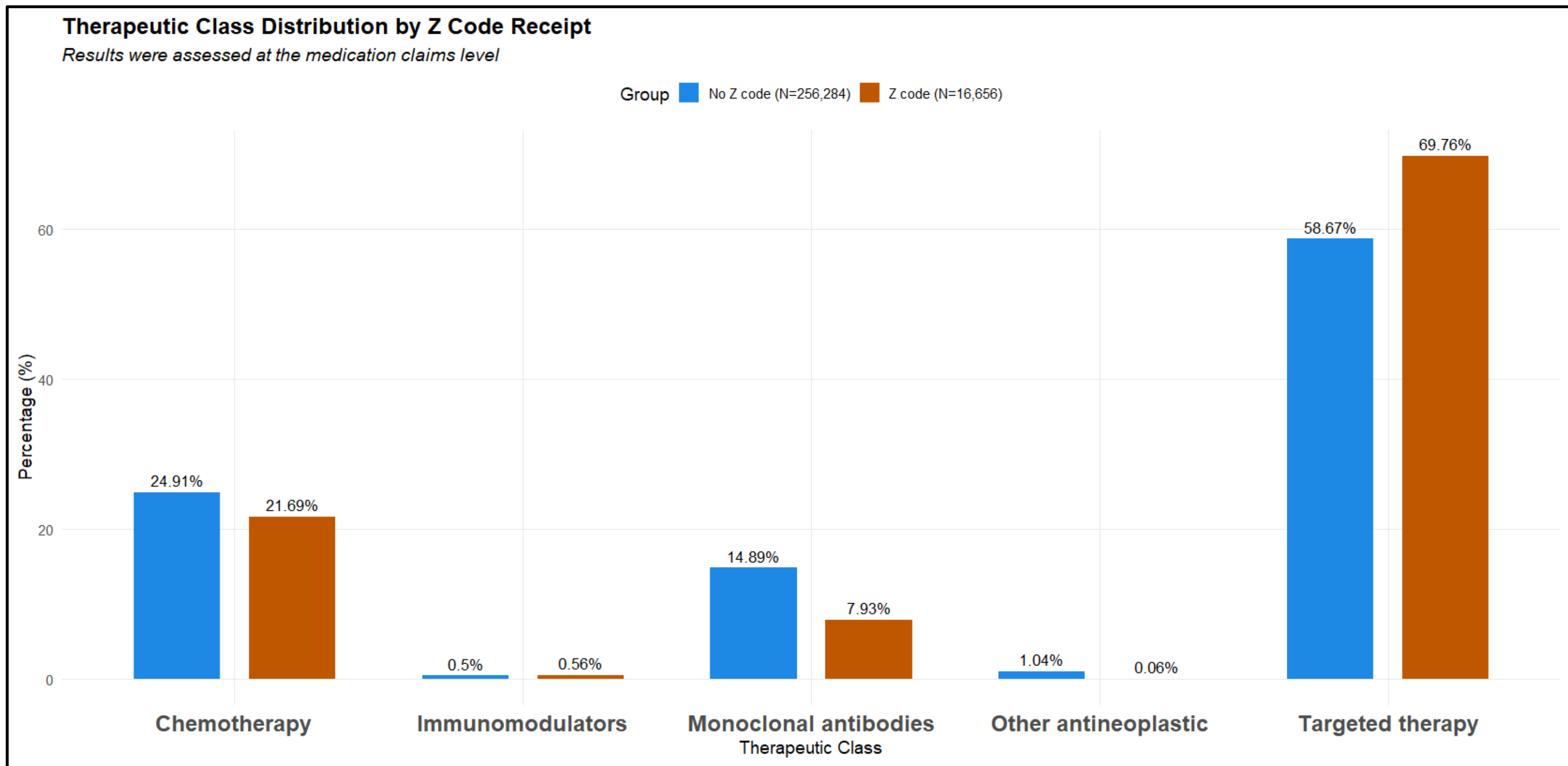
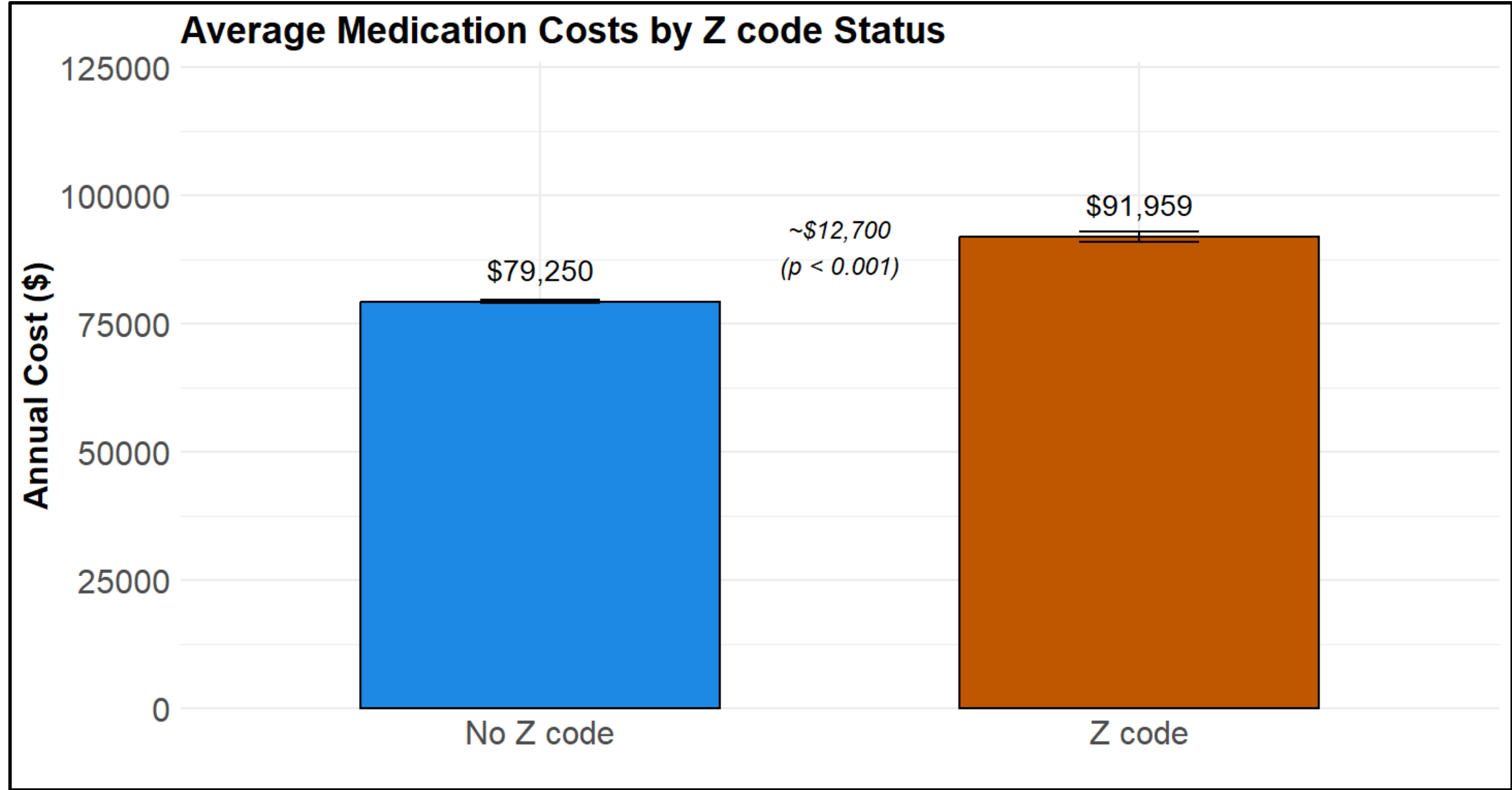


Figure 2: Average Medication Costs by Z code Documentation



Limitations and Strengths

Limitations

- Z codes may be underreported in administrative claims data or biased towards certain types of NHL patients.
- Claims data are susceptible to coding errors.

Strengths

- This study, to our knowledge, is the first to evaluate the association between Z codes and healthcare costs among NHL patients.
- This study used real-world data with over 129,000 NHL patients.

Conclusion

- NHL patients with Z code documentation incurred higher annual medication costs, potentially highlighting the influence of social and health-related factors on treatment outcomes.
- Future studies should understand how social and behavioral factors reflected in Z codes affect NHL treatment and medication costs.
- Addressing disparities in NHL treatment costs is essential for optimizing outcomes and reducing the economic burden of oncology care.

References

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