Bias Detection Report

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Analysis Overview

This report analyzes the potential influence of patient insurance type on hospital mortality using the MIMIC-IV dataset. The primary objective was to detect any correlation bias between these two categorical features.

Methodology

We employed the Chi-Square test to objectively assess the association between patient insurance types (`patient_insurance`) and hospital mortality (`hospital_expire_flag`). A contingency table was constructed to compute the Chi-Square statistic, P-Value, and expected frequencies.

Results

- **Chi-Square Statistic**: 0.7747

- **P-Value**: 0.6789

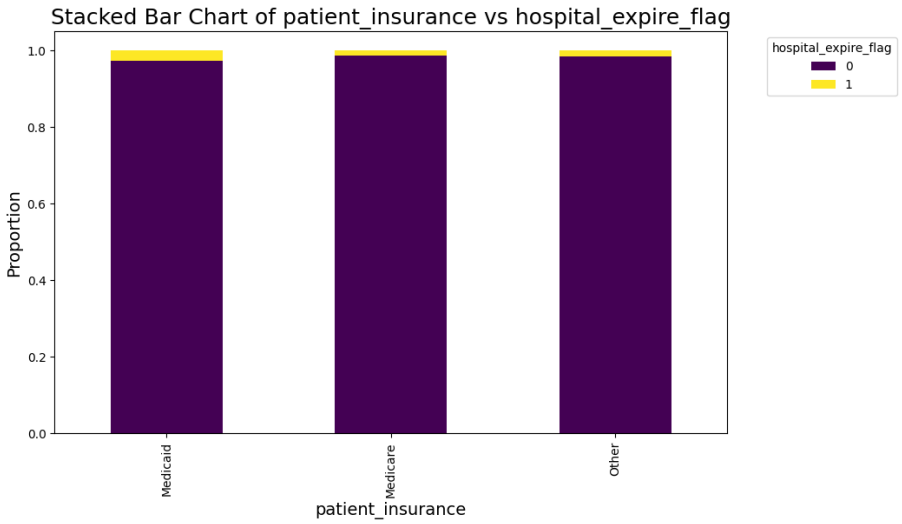
- **Degrees of Freedom**: 2

- **Expected Frequencies**: [[74.80, 1.20], [383.87, 6.13], [605.33, 9.67]]

The high P-Value indicates no significant association, suggesting no noticeable bias.

Visual Analysis

A stacked bar chart was created to visualize the relationship between patient insurance type and hospital mortality, supporting the statistical findings.



Conclusion

The analysis concludes that patient insurance type does not significantly influence hospital mortality, with the data showing no correlation bias. This allows for confident use of the dataset without concerns of bias in relation to these features.