

Bias Detection Report

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Introduction

This report explores the potential correlation bias between gender and mortality rates during hospitalization using the MIMIC-IV dataset.

Dataset Description

The dataset used for this analysis is the MIMIC-IV dataset, which includes information about patient demographics and hospitalization outcomes. The specific columns analyzed are 'patient_gender' and 'hospital_expire_flag'.

Methods Used

- Chi-Square Test**: A statistical test to determine if there is a significant association between two categorical variables.
- HSIC Method**: The Hilbert-Schmidt Independence Criterion was used to evaluate correlation bias between the categorical features.

Results

Chi-Square Test

- Chi-Square Statistic: 0.0

- p-value: 1.0

- Interpretation: No significant association between gender and mortality rates.

HSIC Method

- HSIC Value: 2.9292552402146433e-12

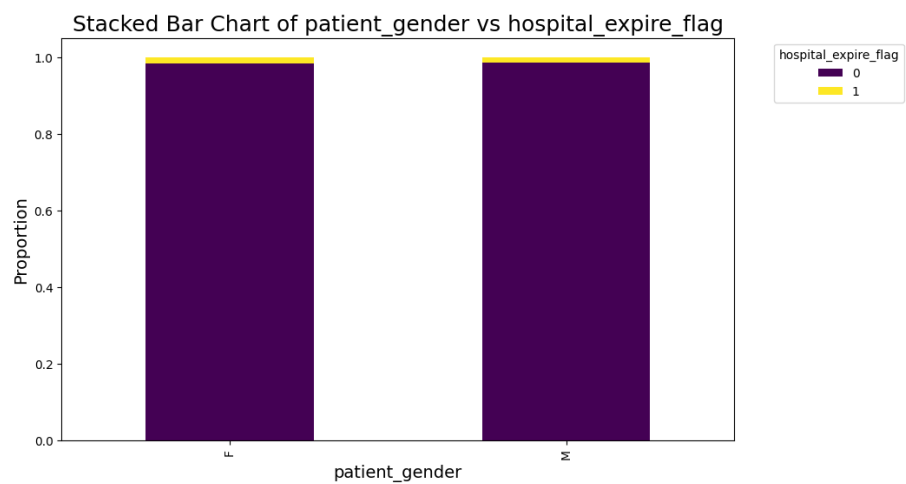
- Interpretation: No significant correlation bias detected.

Conclusion

Based on the analysis, there is no significant correlation bias between gender and mortality rates in the dataset. This is classified as Level 1 (No Bias).

Visualizations

The following visualizations support the statistical findings and illustrate the distribution of gender and mortality rates.



Grouped Bar Chart of patient_gender grouped by hospital_expire_flag

