

The background is a light blue grid of hexagons. Inside several hexagons are white line-art icons: a brain, a heart with an ECG line, a person in a lab coat, a syringe, a pill, a caduceus, and a cross.

Analysis for Drivers of Healthcare Cost

Key Issue

Increasing
healthcare
expenditure

Depleting reserves for
healthcare and
increasing insurance
premiums

Higher burden on
public healthcare
system and
patients



Goals

- What are the drivers of cost for patients hospitalised for this condition?
- What could be done to reduce the economic burden of this condition?



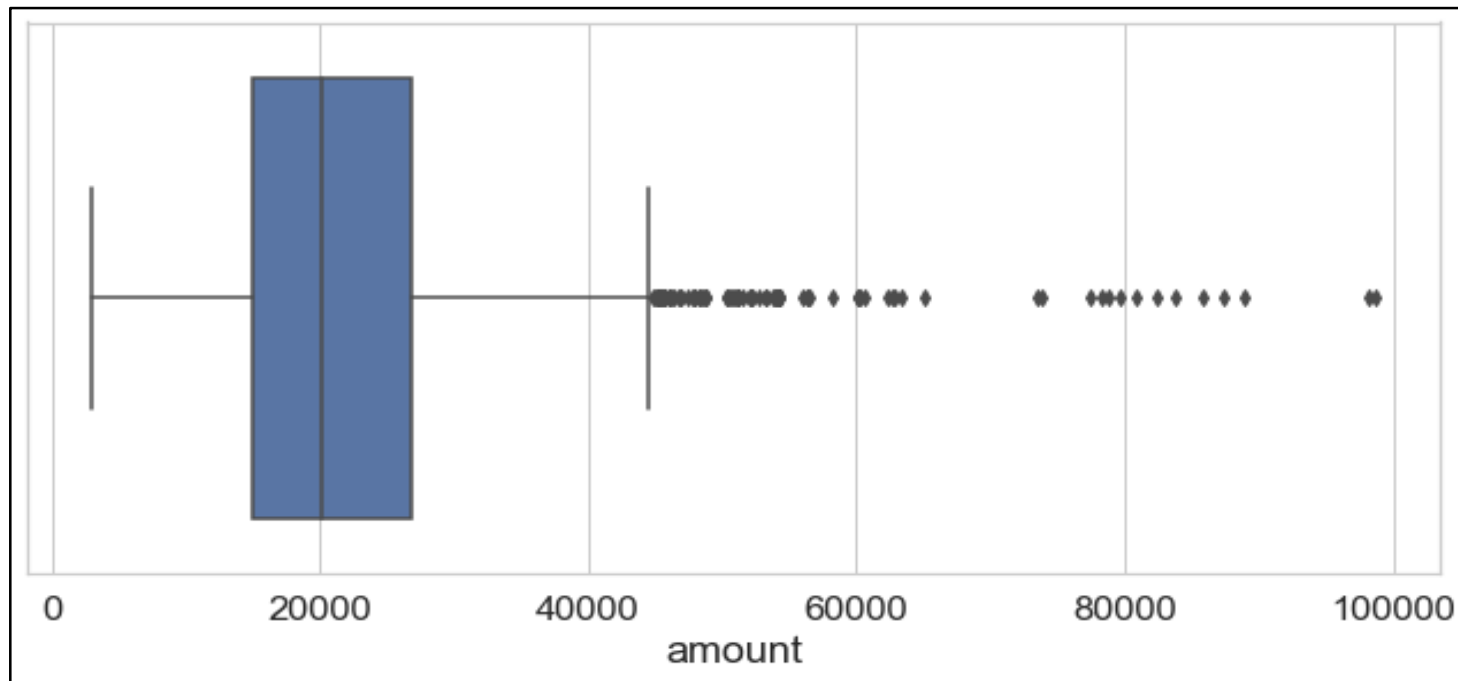
Data Analysis

- Missing data removed
- Inconsistent data?

Pt	Date admitted	Date discharged	Medical history 1	Medical history 2	Medical history 3	Medical history 4	Medical history 5	Medical history 6	Medical history 7
A	2011-02-01	2011-02-20	0	1	0	0	0	1	0
A	2015-06-04	2015-06-19	1	0	0	0		0	0
B	2014-06-24	2014-07-04	0	1	0	0	0	0	0
B	2014-10-27	2014-11-04	0	0	0	0	0	1	1

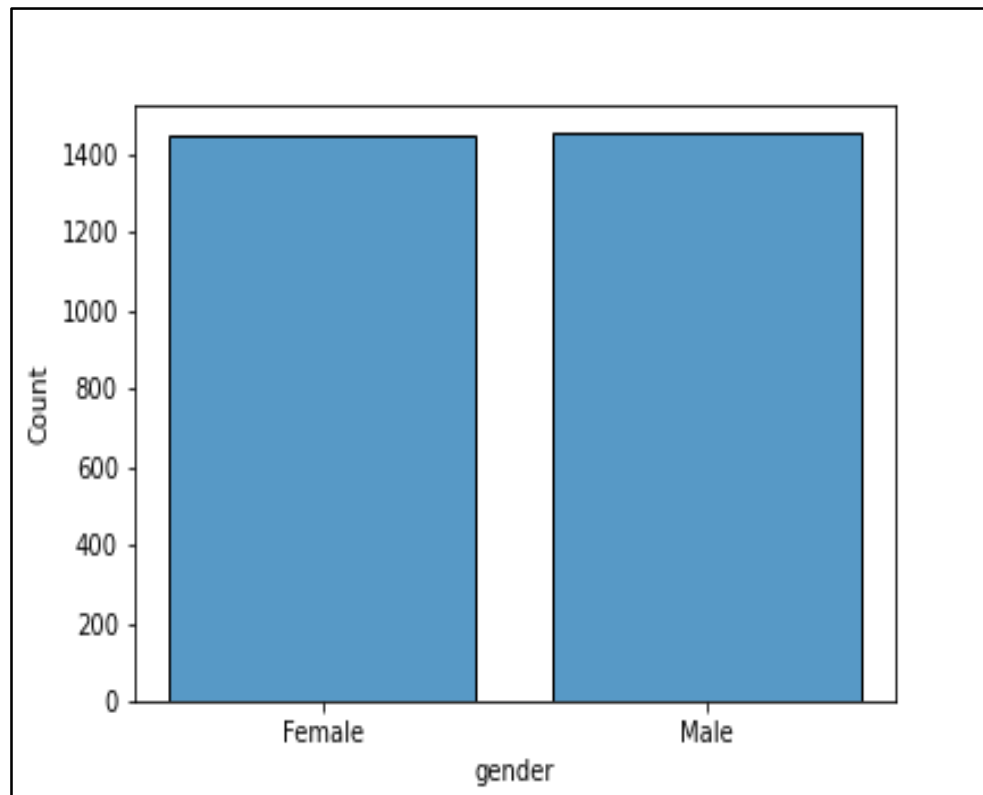
Data Analysis

- Positive skew (outliers) for bill amount

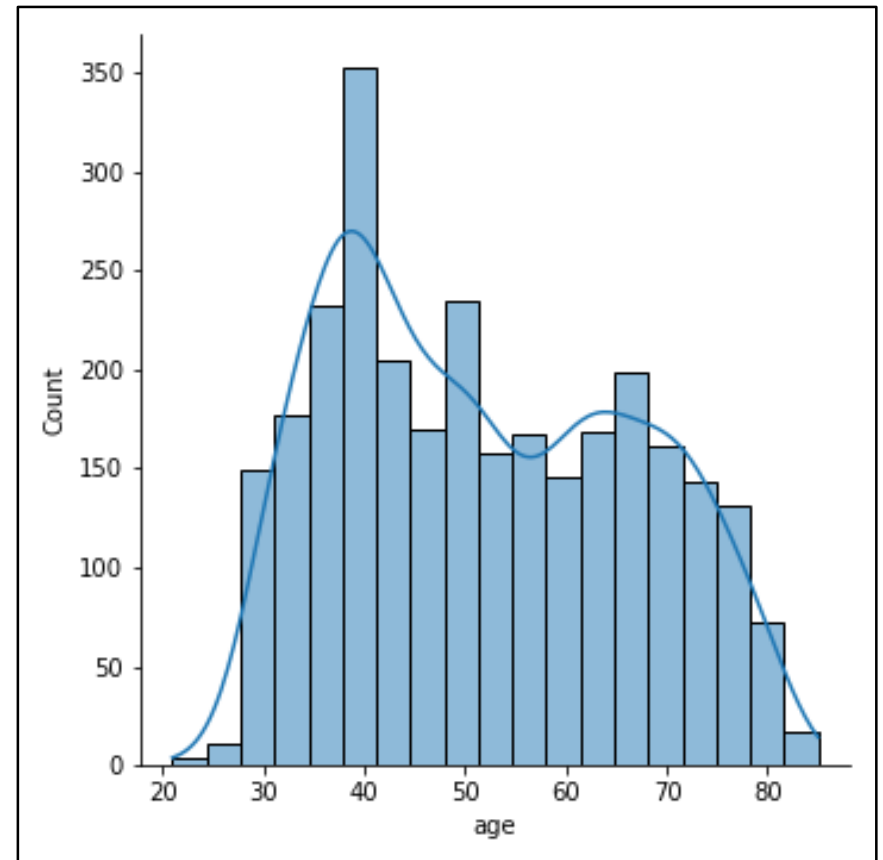


Patient Profile

Gender

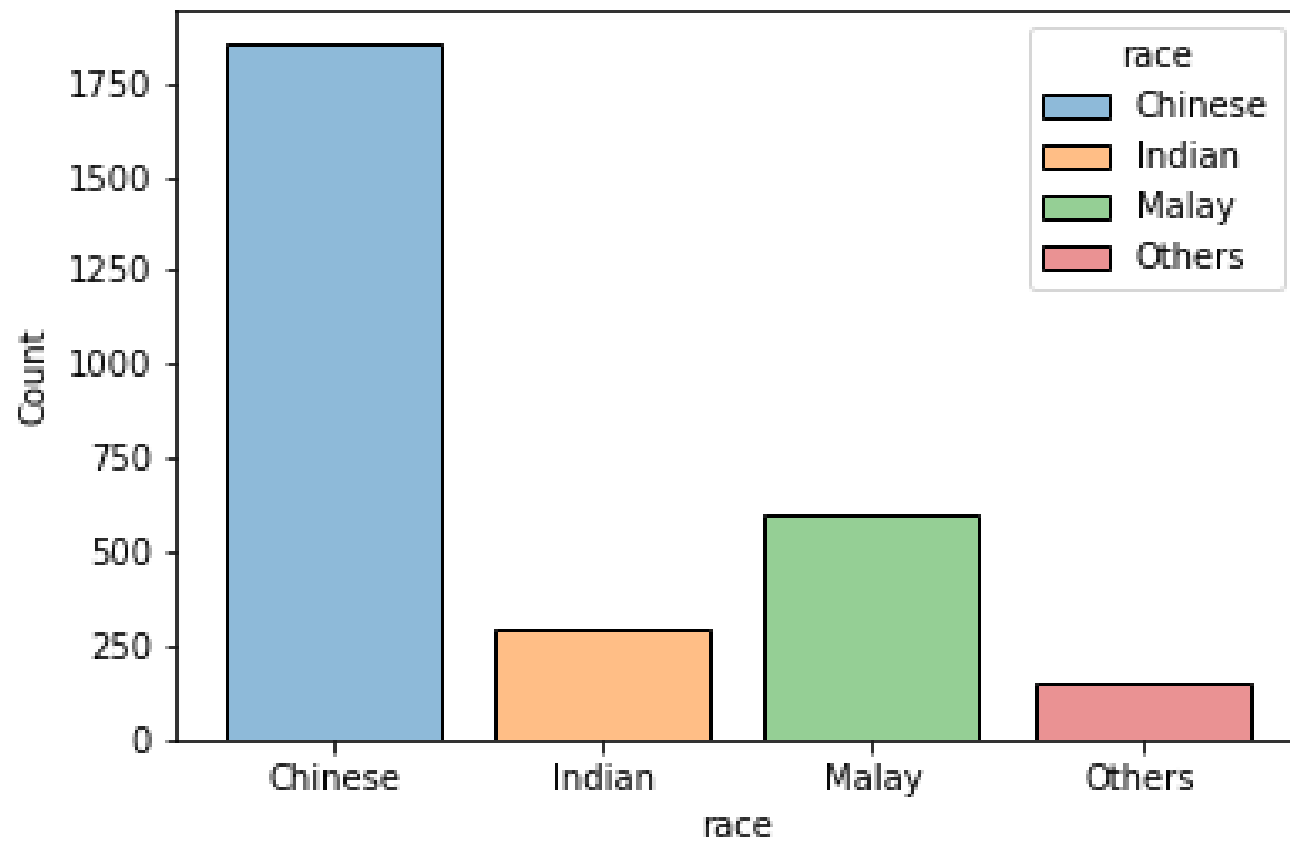


Age



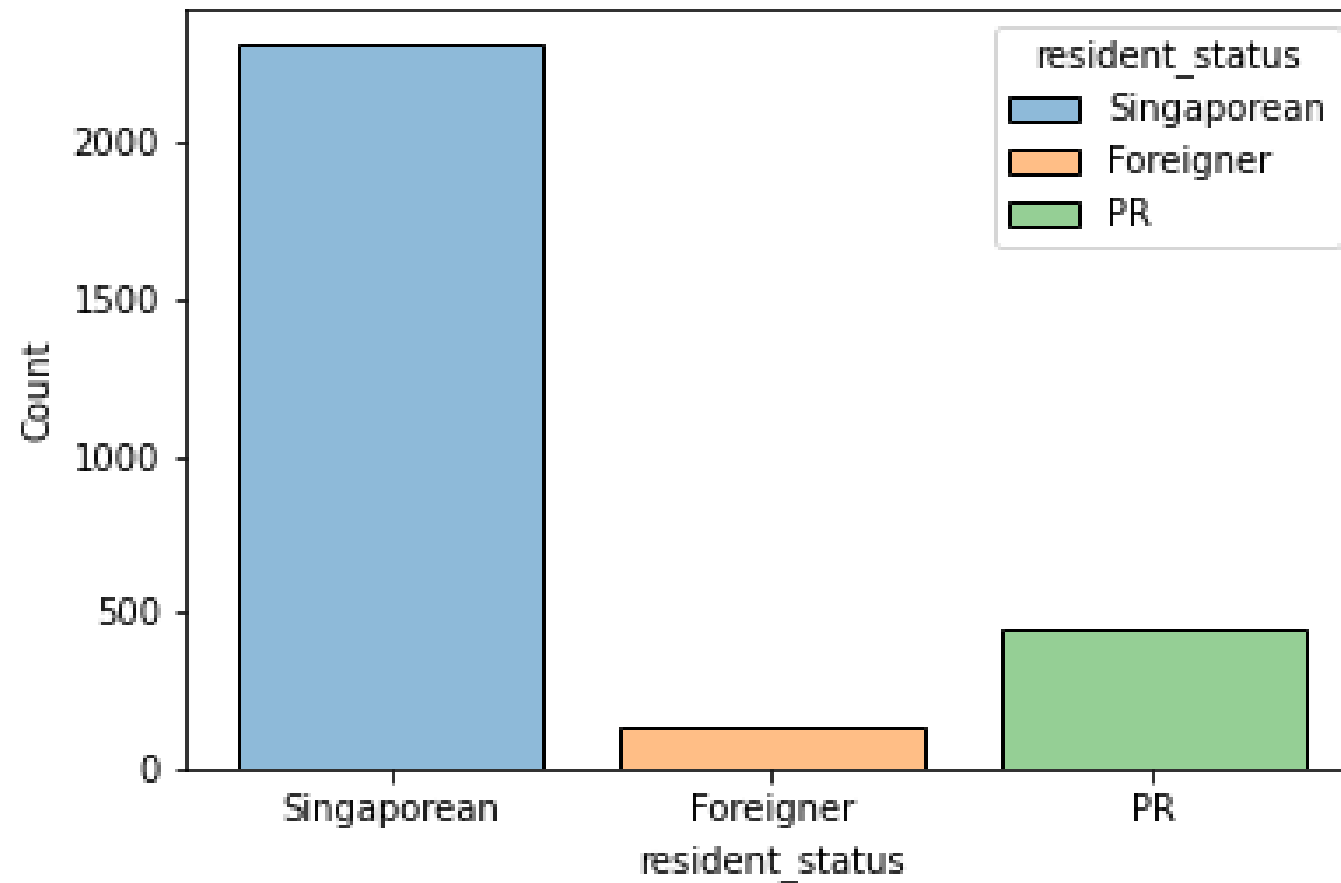
Patient Profile

Race



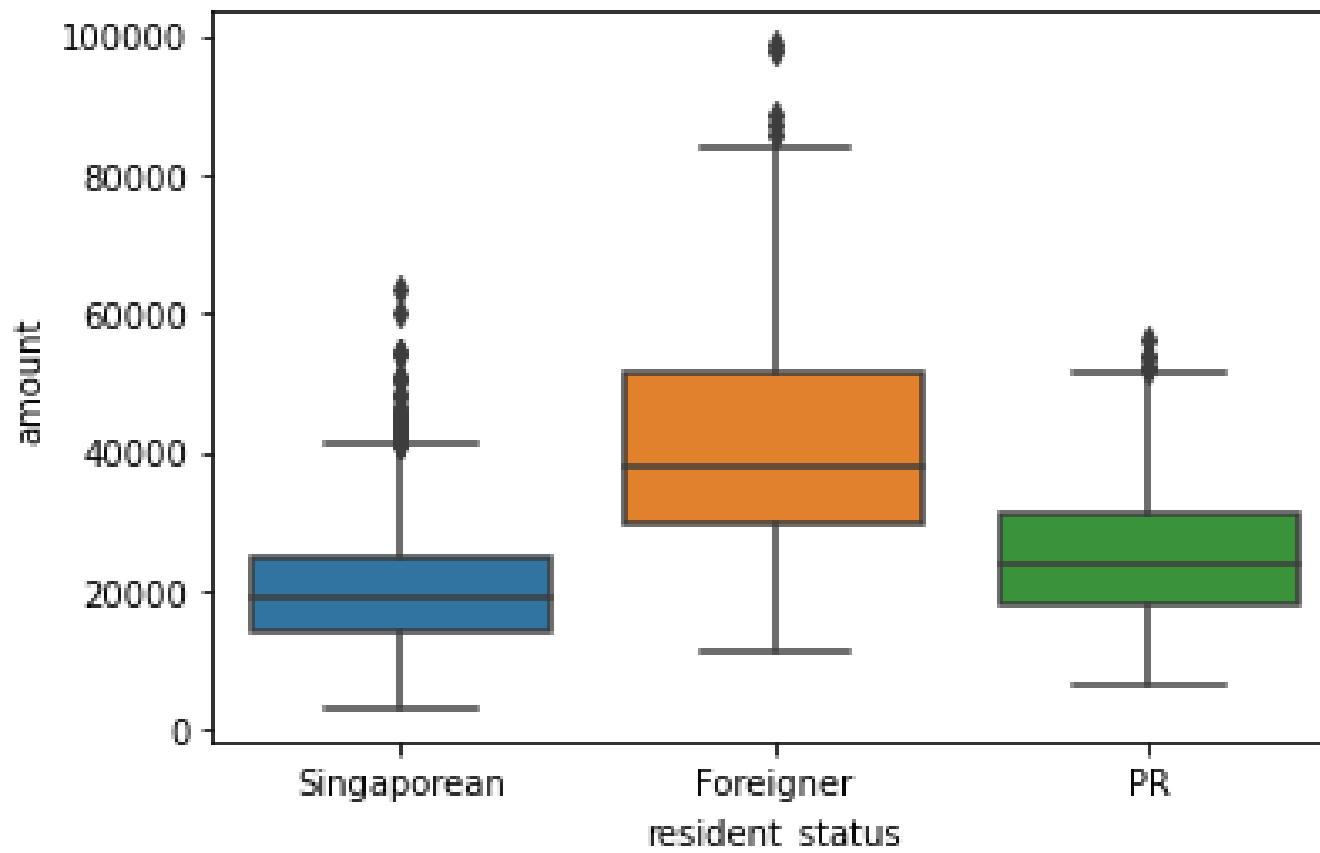
Patient Profile

Resident status



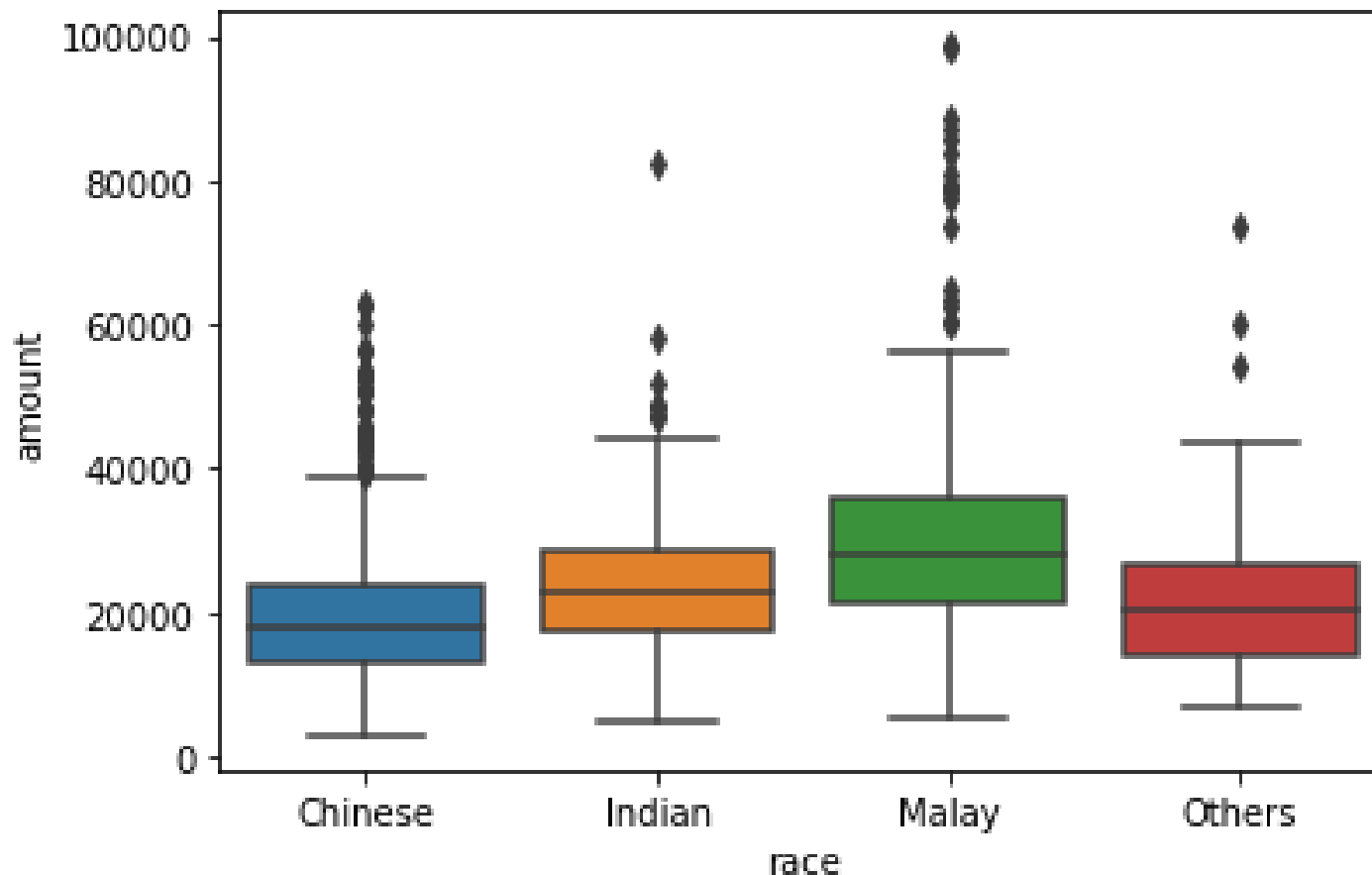
Key Finding: Foreigners incur much higher cost

- Statistically significant difference between means
- Likely subsidised bills for Singaporeans and PR



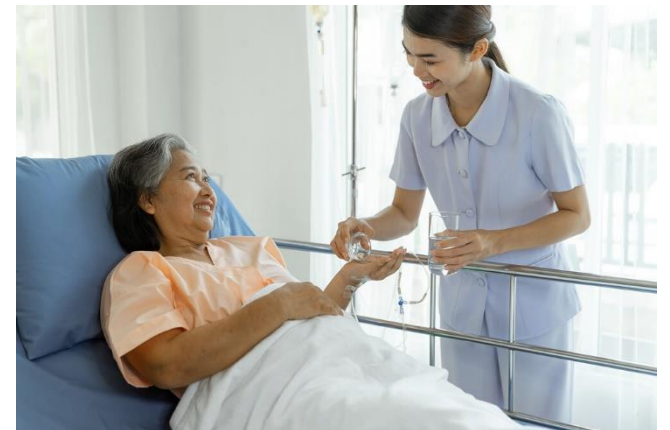
Key Finding: Malays incur more cost than others

- Statistically significant difference between means (regardless of whether you include or exclude foreigners)



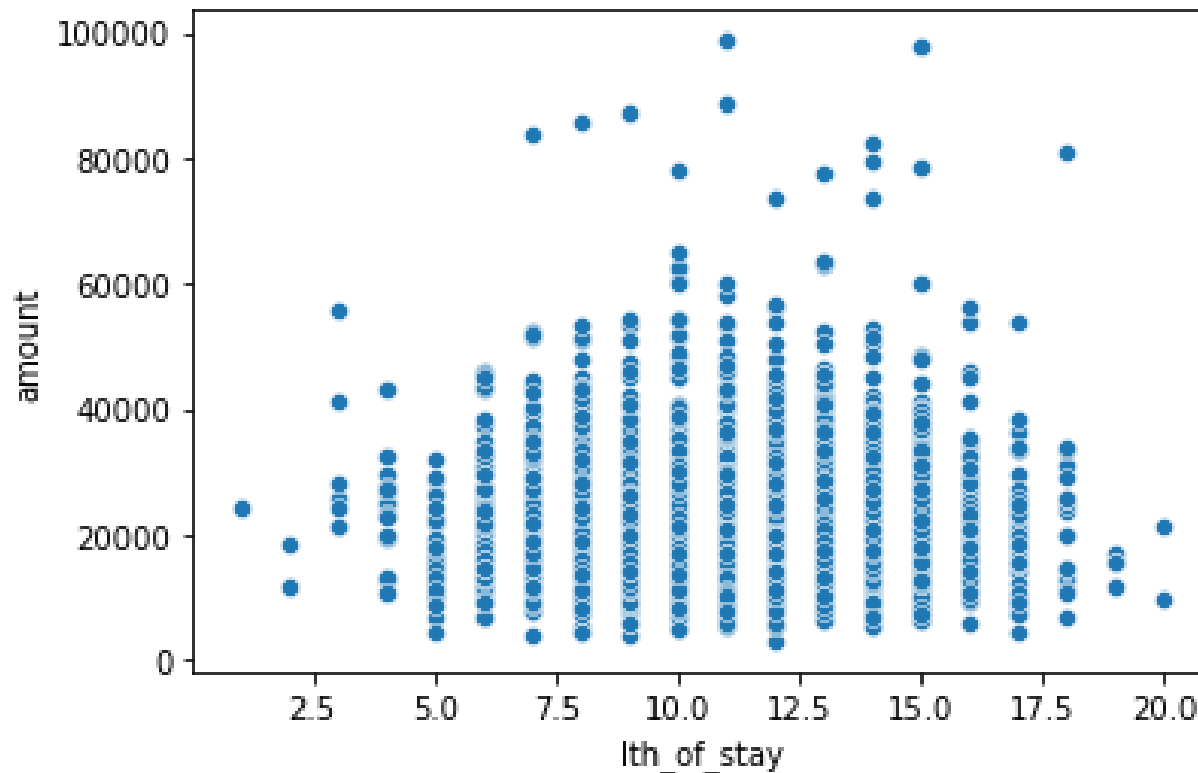
Patient Profile: Summary

- Relatively equal distribution between genders
- No clear trends of age or gender affecting cost
- Unsurprisingly, foreigners' bills significantly higher
- Unclear why Malays incur higher cost than other races



Clinical Profile

- Surprisingly, no clear trends between length of stay and cost
- Bulk of cost goes to surgeries?



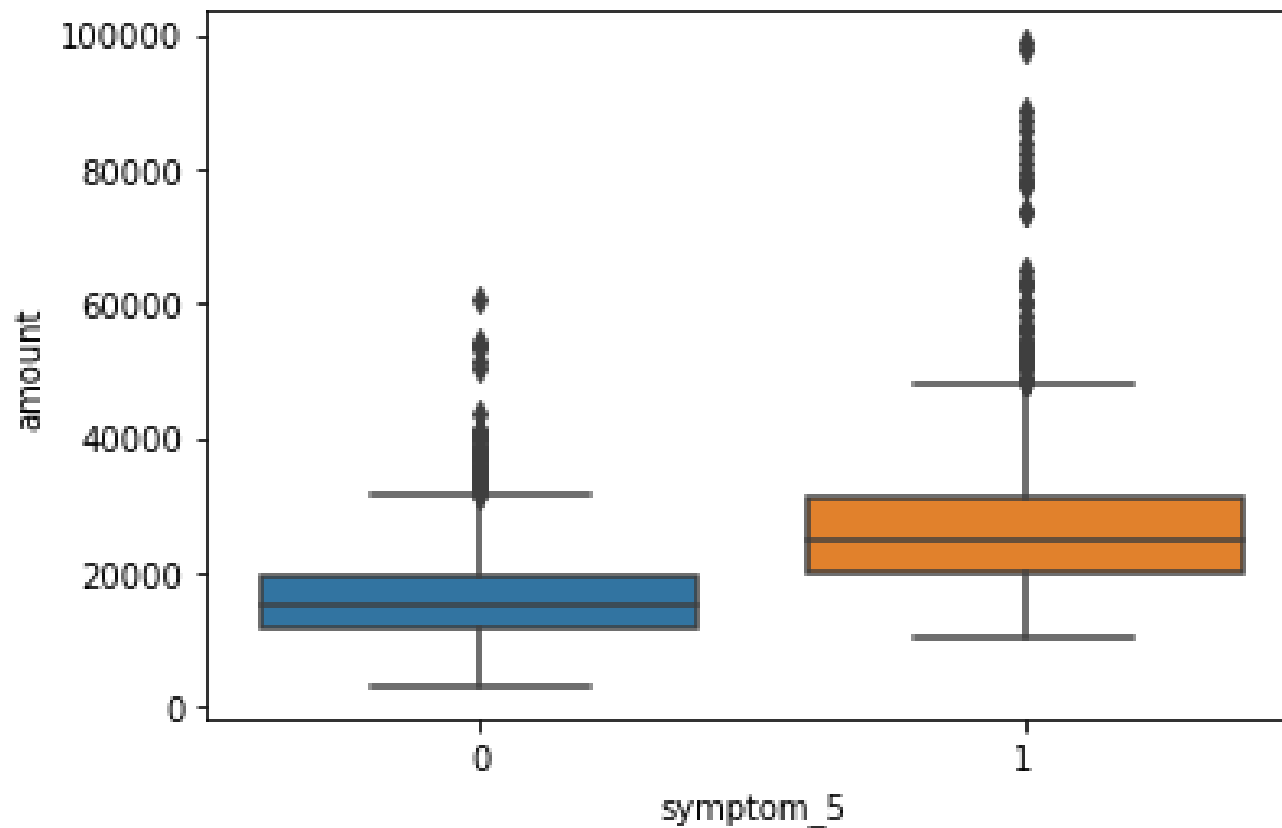
Clinical Profile

- Medical history
 - No strong correlation with cost
 - Among all, medical history 1 seems to have most effect on cost
- Preoperative medication
 - Number of medications and types of medications do not correlate strongly with cost
- Lab result
 - No significant effect on cost



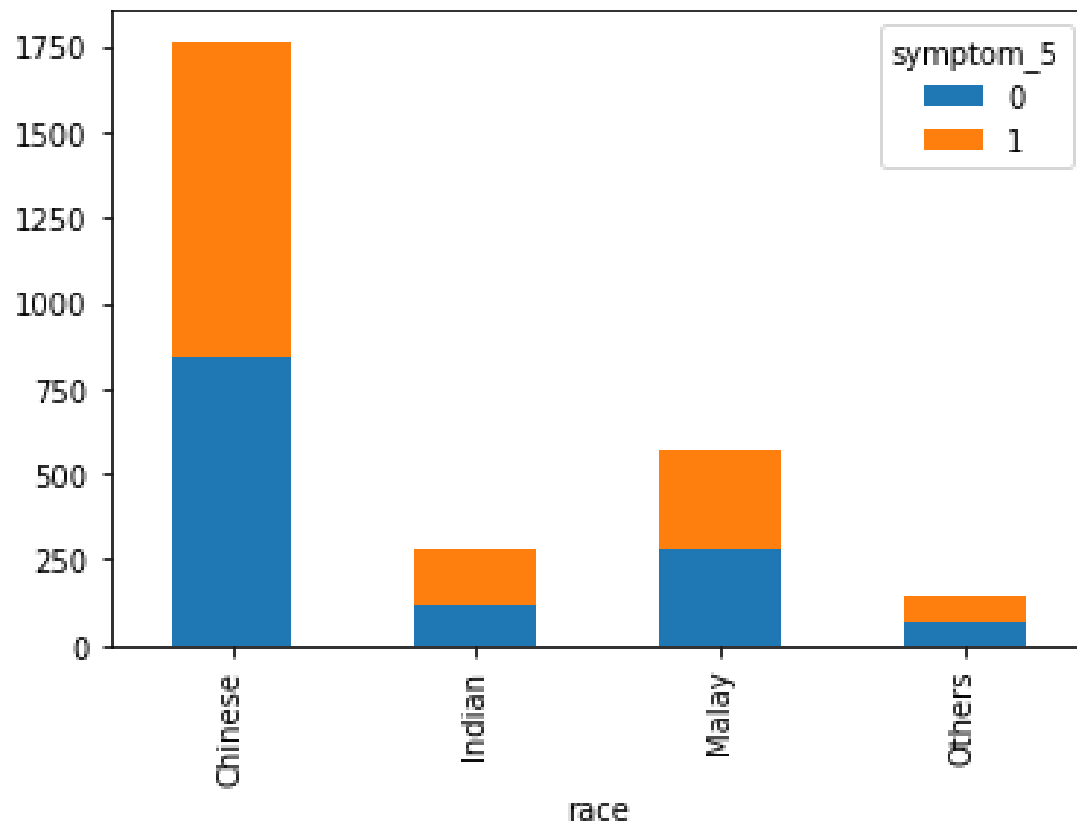
Key Finding: Symptom 5 has strongest correlation with cost

- Statistical difference between means
- Significance of this?



Key Finding: Symptom 5 has strongest correlation with cost

- Although Malays have strongest correlation with cost among all races, symptom 5 does not seem to be more prevalent



Clinical Profile Summary

- Medical histories, medications, lab tests and most symptoms do not show strong relationship with cost
- Symptom 5 has strongest correlation with cost among all variables

Recommendations

- Targeted health promotion
 - Especially for Malays, after investigating possible root causes
 - Highlight symptom 5 across all races
- Monitor the cost for foreigners
 - Can affect medical tourists and private insurers
- Look into breakdown of bills for further analysis