

Lab X – Health Analytics III

Exercise 2.3: Estimation Study

Does this estimation study show an increased or decreased risk for dementia in users of statins? What is the Hazard Ratio? What is the 95% confidence interval?

This estimation study shows an increased risk for dementia in users of statins.

The Hazard Ratio is 1.16. That is, the target cohort (Hyperlipidemia Used Statin) has 16% higher risk of being affected by dementia, compared with the comparator cohort (Hyperlipidemia Never Used Statin).

The 95% confidence interval indicates that if 100 different samples are calculated, 95 of them would contain the true population mean.

What in the results provides information regarding how well differences in the cohorts have been adjusted for using propensity score matching?

The standard difference that are less than 0.1 is considered as well-adjusted. If after the propensity score adjustment, the number of features that have standard difference value that are higher than 0.1 are significantly reduced, we can consider that the propensity score has been effectively adjusted. If after the propensity adjustment, the standard difference value for most of the features are decreased below 0.1, we should consider the propensity score adjustment is well-performed.