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Impact of non-cardiovascular disease burden on thirty-day hospital readmission in heart failure patients

Abstract: P606

Impact of non-cardiovascular disease burden on thirty-day hospital readmission in heart failure patients

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Background: Predictors of 30-day hospital readmission in heart failure (HF) hospitalized patients have been extensively studied however there are no specific data on the role of non-cardiovascular risk factors to identify patients with readmissions.

Methods: We analyzed the effect of non-cardiovascular disease burden by frequency of ICD-9 code categories on HF readmissions among HF hospitalizations from January 1st, 2007 to June 30th, 2014, at our Medical Center. We modeled the probability of readmission within 30 days as a function of demographic and clinical covariates. Variable selection was carried out using a bootstrap LASSO procedure in a randomly assigned training set with 1000 bootstrap samples, and tested in the validation set. Odds ratios and confidence intervals are reported using the validation set, adjusted for age, sex, and race.

Results: A total of 4061 patients with HF hospitalizations were identified, 793 of them (20%) were readmitted within 30 days. The strongest predictor for 30-day readmissions was hospital admission in the prior year ($p < 0.001$). Digestive system diseases increased the risk for readmission by 16% for each additional diagnosis ($p = 0.046$), while respiratory diseases and genitourinary diseases showed a trend towards a higher risk of readmissions with increasing burden of such co-morbidities ($p = 0.07$ and 0.09) (Figure).

Conclusions: In patients with HF hospitalization, prior admissions predicted 30-day hospital readmission. Diseases of the digestive system increase 30-day hospital readmission rates. Assessment of non-cardiovascular disease burden in HF patients could serve as an additional risk marker for 30-day hospital readmissions.

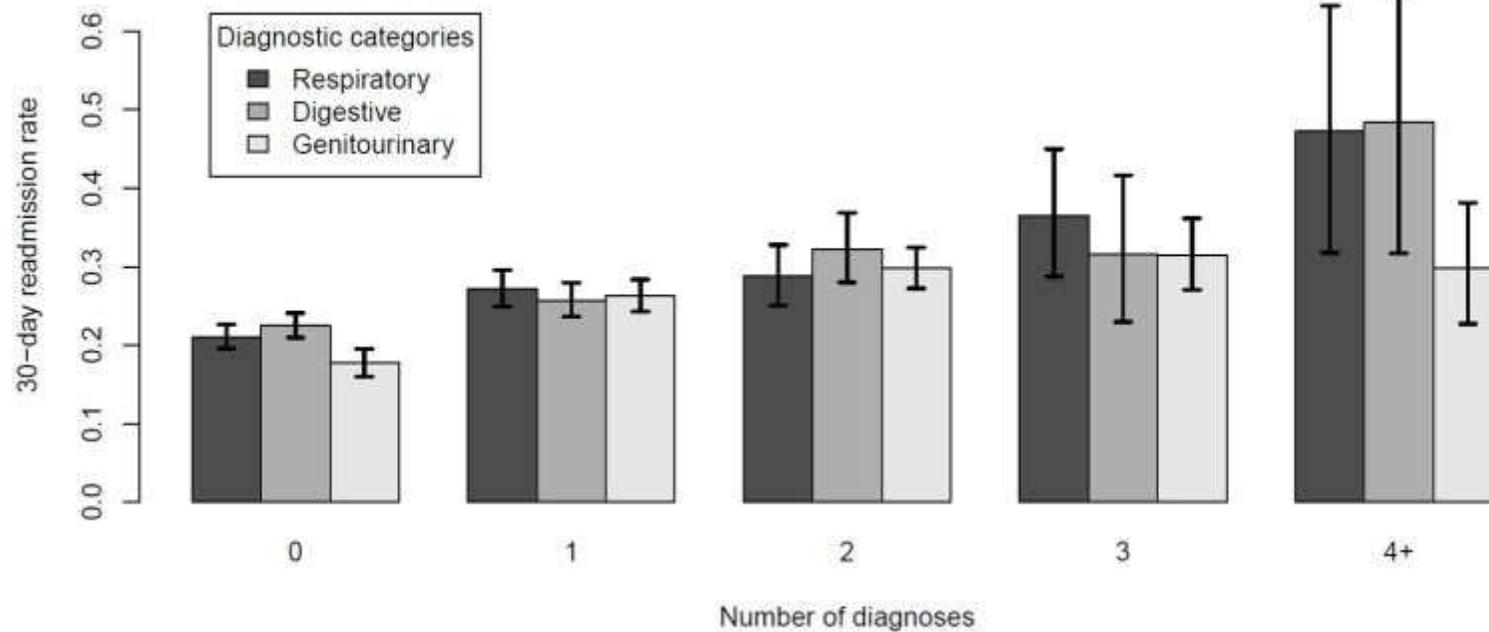


Figure 1