



Burden of Hospital Readmission for Congestive Heart Failure in South Carolina



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Objective

The purpose of this study is to describe the burden of hospital readmission for congestive heart failure (CHF) and to identify an individual's risk of hospital readmission for congestive heart failure given the prevalence of co-morbidity of other illnesses at initial hospital admission.

Background

More than 5 million people in the United States have heart failure and an estimated 550,000 cases are newly diagnosed each year¹. Of those with heart failure, 73% are over the age of 65 years². National hospitalization rates for heart failure have increased by 57% between 1990 and 2006³. Heart failure is the leading cause of hospitalization for the elderly. Heart failure is the leading cause of readmission within 30 days among the Medicare population⁴.

Methods

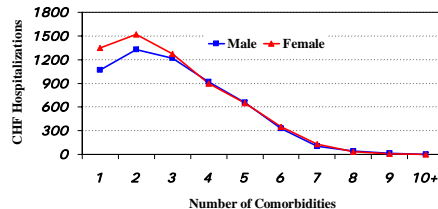
The South Carolina Hospital Discharge dataset was analyzed to identify patients who were admitted for CHF as their primary diagnosis during 2008. This cohort of CHF patients were followed to study those that were rehospitalized for CHF during 2008. The difference between patients readmitted and those not readmitted were analyzed by gender, race, age-group, source of pay, average length of stay, and average total charge. The Co-morbidity illnesses were determined by searching the principle ICD-9-CM diagnosis code and secondary diagnosis codes. Total comorbid diseases were quantified according to the method of Charlson-Deyo index⁵. Charlson-Deyo index is a summary score based on the presence or absence of 17 medical conditions.

Results

Demographic Features of Patients Readmitted for Congestive Heart Failure Within 30 Days in SC, 2008

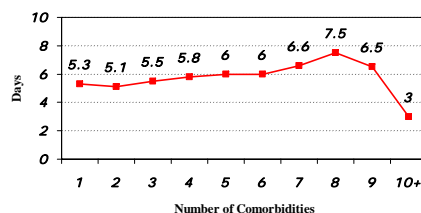
Demographic	Readmitted within 30 days (n=1,536)
Gender	
Male	50.2%
Female	49.8%
Race	
White	51.6%
African American	47%
Age Group	
0-34	3.6%
35-54	18.7%
55-64	17.3%
65+	60.3%
Medical Insurance	
Commercial/HMO	15.8%
Medicare	65%
Medicaid	10.6%
Self Pay	8.6%

Number of CHF Hospitalizations and C/D Comorbidity Index by Gender SC, 2008



Data source: Hospital Discharge Database SC Budget and Control Board, Office of Research and Statistics

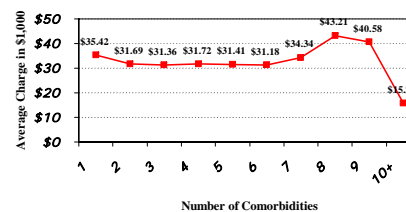
CHF Average Length of Hospitalization and C/D Comorbidity Index, SC 2008



Data source: Hospital Discharge Database SC Budget and Control Board, Office of Research and Statistics

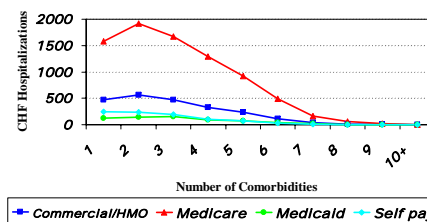
Results

CHF Average Charge of Hospitalization and C/D Comorbidity Index, SC 2008



Data source: Hospital Discharge Database SC Budget and Control Board, Office of Research and Statistics

Number of CHF Hospitalizations and C/D Comorbidity Index by Source of Pay, SC 2008



Data source: Hospital Discharge Database SC Budget and Control Board, Office of Research and Statistics

Conclusions:

- As the patients comorbidity index rise, the length of hospital stay and cost increases also, with the burden paid by Medicare.
- As the patients comorbidity index rise, the likely of a CHF patient readmitted to the hospital within 30-days, 60-days, or 90-days rises too.

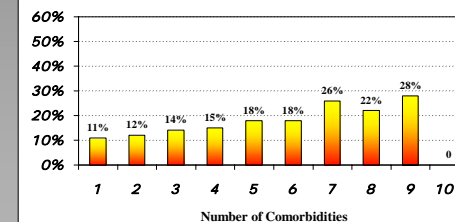
Discussion:

This growing burden of CHF will have a substantial impact on our health care system, especially with the progressive aging of the U.S. population. Identifying those at a higher risk of readmission for CHF and enrolling in proactive care management programs may reduce preventable hospital readmissions.

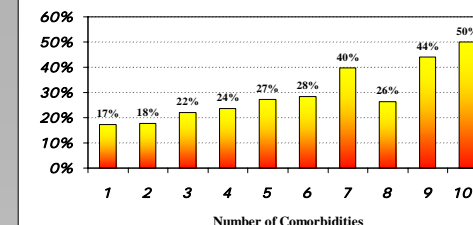
Results

Percentage of CHF Readmission by C/D Comorbidity Index, SC 2008

Within 30-days

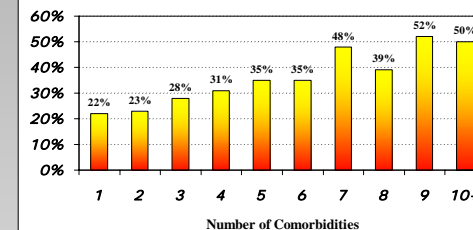


Within 60-days



Data source: Hospital Discharge Database SC Budget and Control Board, Office of Research and Statistics

Within 90-days



Data source: Hospital Discharge Database SC Budget and Control Board, Office of Research and Statistics

References

- Lloyd-Jones D, Adams RJ, Brown TM, et al. Heart Disease and Stroke Statistics—2010 Update. A Report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation*. 2010;121:e1-e170.
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