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“Measuring Cost of Care for Patients with Heart Failure”

Introduction: More than 1 million cases of heart failure are diagnosed each year.¹ Heart failure is the single most frequent cause of hospitalization among the elderly.² Annual costs exceed \$24,000 per patient and may total \$70 billion by 2030.^{1,3} Cognitive decline is an important comorbidity of heart failure.⁴ Symptoms of cognitive decline can decrease patient compliance with treatment plans and increase the risk of hospitalization. Addressing cognitive decline in the management of heart failure is a component of current clinical practice guidelines.^{5,6}

A pilot study randomized patients with cognitive decline due to heart failure into three groups; the training program Brain HQ, puzzles, and usual care.⁷ Costs were lower for patients in the Brain HQ group, but the difference was not statistically significant. A larger scale trial included three ways of measuring costs; electronic medical records (EMR), the Medical Resource Utilization Questionnaire (MRUQ) and the Living with Heart Failure Questionnaire (LHFQ).⁸

Research Question: Do alternative cost measures yield similar results? Additionally, does the choice of cost measure affect the conclusions drawn about the cost-effectiveness of treatment for patients with cognitive decline due to heart failure?

Methods: This study employed data from the recently completed larger scale trial.⁹ Counts of hospitalizations, emergency room visits, and clinician visits were compared across the three cost measures and three treatment groups. Stata SE 17 was used to perform Poisson regression analysis on the difference in counts.

Results: EMR data report similar numbers of hospitalizations (0.30 per patient) as LHFQ (0.33), and twice as many as the MRUQ (0.17). EMR data reported twice as many emergency department visits and three times as many clinician visits as MRUQ. Poisson regression results of EMR data indicate no statistically significant differences among treatment groups. Poisson regression results for MRUQ indicate a statistically significant difference in hospitalizations favoring Brain HQ over usual care ($z = 2.23$, $p = 0.026$).

Conclusion: Alternative cost measures do not yield similar results in the counts of use of medical services by patients with cognitive decline due to heart failure. Electronic medical records report use of more services than some patient reported questionnaires. The choice of cost measure does affect the conclusions drawn about the cost-effectiveness of treatment for patients with cognitive decline due to heart failure. Only analysis using the Medical Resource Utilization Questionnaire suggests significant differences in costs among treatment groups.

References: Available in the poster.