Predictors of 6-Month Mortality Among Nursing Home Residents: Are Diagnoses More Predictive than Functional Disability? (TH318-B)

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Objectives

• Understand how diagnostic data can be used to predict mortality for patients upon hospital discharge.
• Understand how HELP index results can be used in care planning prior to and following hospital discharge.

Original Research Background: Functional deterioration is a predictor of 6-month mortality and is helpful for determining when patients are eligible for hospice based on a life expectancy of 6 months or less. However, in many care settings, functional data are not available. In this study we compare predictive accuracy of two indices designed to predict 6-month mortality among nursing home residents. One is based on traditional measures of functional deterioration and the other on patients’ diagnoses and demography.

Research Objectives: To create a mortality risk assessment tool for patients transitioning from a hospital to a nursing home.

Methods: We created the Hospice Eligibility Prediction (HELP) index by examining mortality of 140,699 Veterans Administration nursing home residents. For these nursing home residents, the available data on history of hospital admissions were divided into training (112,897 cases) and validation (27,832 cases) sets. The training data were used to estimate the parameters of the HELP index based on (1) diagnoses, (2) age on admission, and (3) number of diagnoses at admission. The validation data were used to assess the accuracy of predictions of the HELP index. The cross-validated accuracy of the HELP index was compared with the Barthel Index of functional ability obtained from 296,052 Veteran Administration nursing home residents. A Receiver Operating Characteristic curve was used to examine sensitivity and specificity of the predicted odds of mortality.

Results: The area under the curve (AUC) for the HELP Index was 0.838. This was significantly (alpha<0.01) higher than the AUC for the Barthel Index of 0.692.

Conclusions: For nursing home residents, comorbid diagnoses predict 6-month mortality more accurately than functional status.

Implications for Research, Policy, or Practice: The HELP index can be used to estimate 6-month mortality from hospital data and can guide prognostic discussions prior to and following nursing home admission.