Predictive Ability of AMPAC Scores on IRF Discharge Outcomes

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Background:
Determining appropriate and successful inpatient rehabilitation candidates is a multifaceted and previously largely qualitative task. Additionally, increasing financial pressures and a new focus on efficient and value added healthcare resource utilization makes allocation of scarce rehabilitation resources an important focus of the consulting physiatry team. Previous research has shown that quantitative measures can allow for predictive modeling of patient discharge outcomes. Our study expands on previous research using acute care hospital Activity Measure for Post-Acute Care (AMPAC) scores as a model for prediction of inpatient rehabilitation (IRF) outcomes. This study provides both higher powered data and preliminary diagnosis specific data for the consulting physiatrist in predicting patient discharge outcomes from IRF and thus the recommendations for discharge from acute care hospital (ACH).

Study Design:
Retrospective Chart Review

Methods:
Chart review of all unique admissions to a free standing urban academic inpatient rehabilitation hospital (UA-IRF) from 3/1/17 through 2/28/18. Inclusion criteria included patients who had acute care AMPAC mobility and AMPAC ADL scores recorded by a physical or occupational therapist and came from within the university health system associated with the UA-IRF. AMPAC mobility scores, AMPAC ADL scores, and a summed total of these scores (AMPAC Total) were compared for patients who required readmission from UA-IRF back to ACH due to acute medical decompensation (Acute Out – AO) and patients who had a final discharge outcome to a skilled nursing facility (SNF) versus patients who had a final discharge outcome to home. Statistical analysis was completed in MiniTab 18.1 and STATA 15.1 software packages.

Results:
The acute care AMPAC score provides strong sensitivity (95.1%), PPV (75.2%), and NPV (75.6%), for predicting potential IRF patients who will be discharged to home. Patients in the AO+SNF group had significantly lower AMPAC scores compared to patients who were discharged home. Furthermore, patients who had a AMPAC score of 23 or lower with a significantly higher chance (74.8%) of an AO+SNF outcome compared with patients with an AMPAC score of 27 or higher (21.9%). Patients with an AMPAC score of 24-26 have a 55.1% chance of being discharged home compared to the AO+SNF group rate of 44.9%.

Conclusions:
AMPAC scores provide a significant tool for the consulting physiatrist to predict discharge outcomes from IRF while a patient is in ACH. By using the AMPAC score to support clinical decision making physiatrists can efficiently utilize limited IRF resources and reduce readmission rates for acute care hospitals. Identification of currently unrecognized variables and further collection of diagnosis specific AMPAC data will provide improved predictive modeling for the consult physiatrist. Finally, this data potentially supports the use of increased ACH therapy services for low AMPAC patients in an effort to improve their final disposition and is a future avenue of research.