Projectabstract

Diagnostic accuracy of the "Selbstpflegeindex" (SPI) and the "Post-acute care discharge score" (PACD) to predict transfer to a post-acute care facility

Introduction: Delays in discharge not only cause economic waste at the hospital level, but can also lead to deterioration in the performance of activities of daily living – especially among geriatric patients – and a range of other negative patient and economic outcomes. However, many of these delays and their concomitant losses, especially of functional ability, may be preventable via focused assessment and stratification, near admission identifying patients requiring transfer to a post-acute care facility (PAC). Interprofessional discharge planning, considering each patient's social network, is therefore crucial to finding an appropriate and individualized discharge destination. At one single cantonal hospital the PACD and SPI scores and also a combination of both in a first model predicted transfer to PAC facilities, indicating potential as screening instruments to accelerate discharge planning. Single center results need replication for validation of the model.

Aim: We aim to replicate the previous findings whether PACD, SPI or the combination of PACD and SPI can reliably identify patients requiring transfer to PAC facilities to allow generalization.

Methodology: This study is embedded in a pre-post study "In-HospiTOOL" conducted at 7 university, teaching and regional hospitals in urban and rural areas in German speaking Switzerland, aiming to safely reduce hospital length of stay by implementing an interprofessional discharge management tool. We will include consecutive medical patients admitted to the hospitals through the emergency department, using both the PACD and SPI instruments for patient assessment. We will exclude patients transferred from or to another hospital, admitted from PAC facilities, e.g., nursing homes, or patients who die and are not discharged. We aim to include a patient sample of 6000 over all centers during the data collection phase, i.e., 1.2.2018 – 28.02.2019. The planned study will apply the PACD and the SPI administered within 24-48 hours of admission. The PACD, SPI and the combined (PACD/SPI) scores will be included in patient records as part of discharge planning by physicians, nurses, and social workers. From these records, we will extract the items and discharge destination to evaluate the instruments' predictive ability within the framework of this observational study. To test diagnostic accuracy we will plot receiver operating characteristic curves, calculate area under the curve (AUC), positive and negative predictive values, positive and negative likelihood ratios and determine sensitivity and specificity. To test AUC differences between the scores we will use a nonparametric approach. A Net Reclassification Index will be determined and an integrated discrimination improvement analysis performed. Values of $p<.05$ will be considered statistically significant; a 95% confidence interval will be used. Statistical analyses will be performed using Stata Version 15.0.

Expected results

The main expected result is evidence on the prognostic performance (AUC) of the combined PACD/SPI score, the performance of PACD or SPI alone and the ability to draw a direct comparison of the different scores regarding their scoring and their suitability for screening purpose.