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Development and Implementation of the Troubled Outcome Risk to Improve Nursing Sensitive Outcomes

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Purpose: The current process for matching nurses to patients is highly variable and involves a combination of simple ratios, historical workload data, and expert opinion but lacks objective measurement of the patient's condition. This project evaluated change in selected quality indicators and the daily unit-level management of nursing resources after implementing the Troubled Outcome Risk (TOR), a tool developed by the author, into existing nursing staffing decisions on a mixed medical surgical unit at a medium sized hospital.

Methods: TOR provides objective measurement of individual patient allostatic load, the point where the body's systems begin to fail under physiologic stressors. An increase in TOR score represents worsening condition. Charge nurses used daily calculation of TOR scores for each patient on the study unit and existing nursing staffing methodology to determine nursing assignments. Nursing sensitive indicators including length of stay, transfers to intensive care unit, hospital acquired pressure ulcer (HAPU), 30-day readmissions, rapid response team activation and cardiac arrests were compared before and after implementing TOR.

Results: There was a reduction in length of stay of 0.3 days and a reduction of hospital acquired pressure ulcers (HAPU) after implementation of TOR, however the total number HAPUs was too low to rule out random chance. Before TOR implementation, nurse assignments clustered in specific geographic locations on the unit; after implementation 16.7% were without regard to location. None of the results for the nursing sensitive indicators were statistically significant; yet we observed a small-medium effect size between intervention and assignment geographic location. Prior to intervention, the average TOR scores increased by 0.4 at discharge, however post implementation average TOR scores decreased by 0.7.

Conclusion: There was a reduction of HAPU rates which may be random chance due to the low numbers reported and a reduction in the average length of stay. Prior to implementation of TOR, nurse assignments clustered in specific geographic locations on the unit; after implementation 16.7% were without regard to location. None of the results were statistically significant; yet we observed a small-medium effect size between intervention and assignment change. There was a reduction in the average TOR score at discharge after implementation, a desirable trend. This reduction in average TOR scores may indicate an improvement in nursing surveillance resulting in earlier nursing intervention.

Title:

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Keywords:

Allostatic load, Nursing sensitive outcomes and Nursing surveillance

Abstract Summary:

The Troubled Outcome Risk (TOR) was developed to measure allostatic load to improve nursing surveillance and patient outcomes. TOR was implemented on a medical surgical unit to supplement decisions about nurse staffing resulting in a decreased length of stay by 0.3 days, and an improvement of allostatic load at discharge.

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Author Summary: Dr. Howard has over 35 years of experience in critical care and emergency nursing. Prior to joining the Department of Veterans Affairs, he was in the U.S. Air Force retiring as a Colonel. His military service included multiple deployments, command of three different squadrons and the Theater hospital in Afghanistan. He received his Bachelor of Science and Master of Science from the University of Arizona and a Doctor of Nursing Practice from George Washington University.