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Using a SWIFT Score Guided Time Out to Reduce Medical ICU Readmission Rates

Justin Herman, MD
Thomas Jefferson University Hospital, justin.herman@jefferson.edu

Andrew Dargan, MD
Department of Medicine, Thomas Jefferson University Hospital, andrew.dargan@jefferson.edu

John Madara, MD
Thomas Jefferson University Hospital, john.madara@jefferson.edu

Michael Baram, MD
Thomas Jefferson University Hospital, Michael.Baram@jefferson.edu

Bharat K. Awsare, M.D., FCCP
Thomas Jefferson University Hospital, Bharat.Awsare@jefferson.edu

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**Team Members: Justin Herman MD, Andrew Dargan MD, and John Madara MD**
Faculty Mentors: Michael Baram MD and Bharat Awsare MD

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BACKGROUND

Readmissions to the ICU are associated with a significantly higher rate of mortality and hospital length of stay, resulting in a much higher cost of patient care. Previous studies have demonstrated length of stay twice as long for those readmitted to the ICU and a mortality rate up to 10x higher than those not readmitted.[1] Other studies demonstrated an ICU readmission rate between 2-10% of all patients transferred out of the ICU.[2] Our goal was to define, characterize, and analyze the patients that were readmitted into the medical ICU in hopes of identifying patients that may be high risk for readmission to the ICU during their hospital stay.

CURRENT PERFORMANCE

Of the 2353 patients admitted to the MICU during a 17 month period, 55 patients (2.3%) were identified as being readmitted within 72 hours of transfer from the medical ICU.

ICU admission diagnosis

Final disposition from hospital
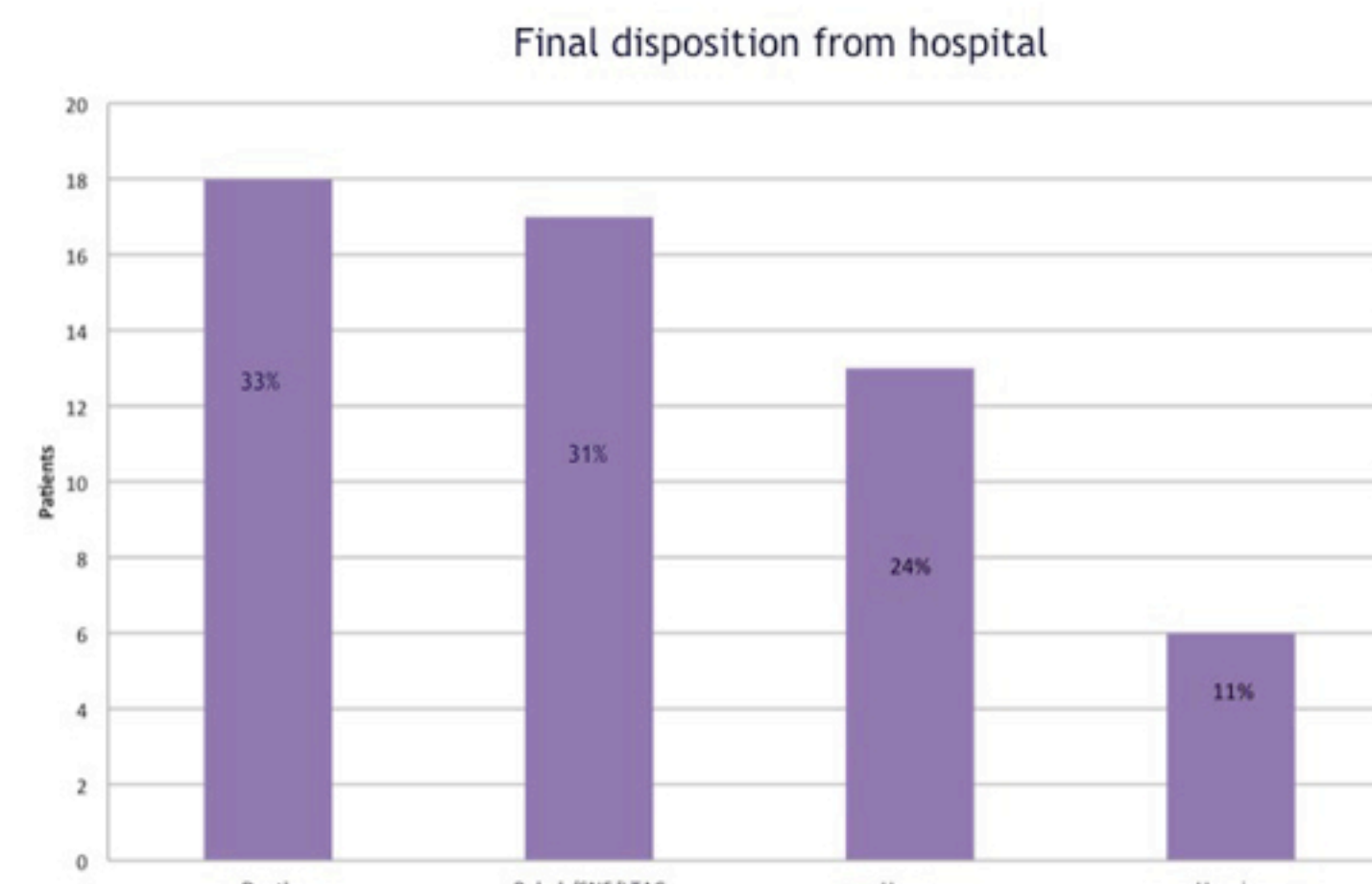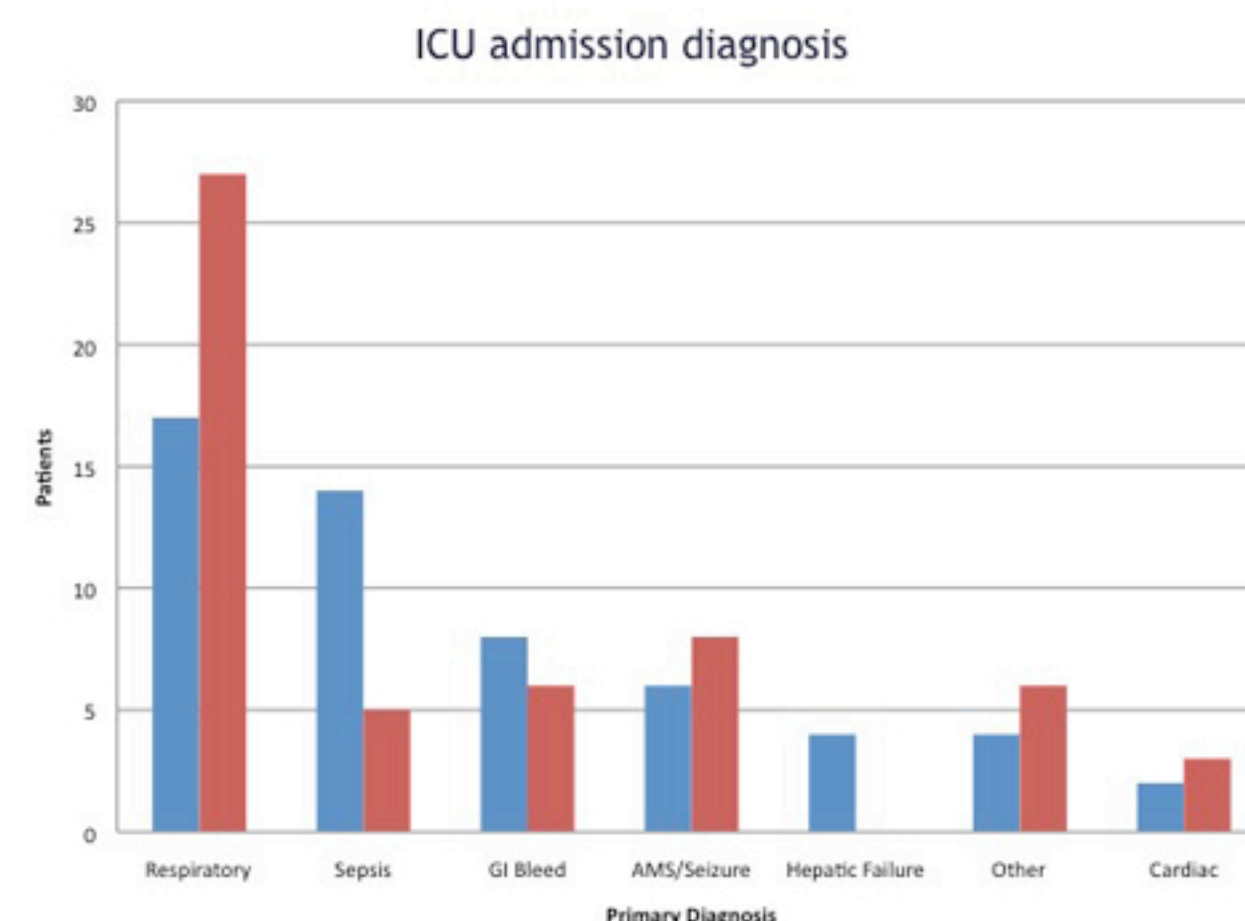
AIM

For patients admitted to the medical ICU over an additional period of 17 months, our goal is to reduce the rate of ICU readmissions within 72 hours of transfer out of the ICU to less than 2%. This will as a result reduce the costs of care, length of stay, and in-hospital mortality rates for these patients.

PROPOSED INTERVENTION

The Stability and Workload Index for Transfer (SWIFT) Score is a validated model for predicting unplanned ICU readmissions. SWIFT Scores range from 0-65, and a score >15 indicates a high risk of ICU readmission (50% sens, 85% specif).[3] Communication and teamwork failures are the most frequently cited cause of adverse events in the clinical setting.[4-5] Pre-procedure time outs were developed to mitigate patient harm due to communication failures.[6] Similarly, it has been shown that non-procedural time outs at critical transition points (i.e. at admission, discharge, or change in condition) can reduce adverse events.[7] Transfer out of the ICU represents one of these critical transition points.

We propose a "Medical ICU Transfer Time Out" using the below form. This form is to be completed for each patient prior to transfer out of the ICU. If the SWIFT score is greater than 15, then the ICU team should reevaluate the decision to transfer the patient out of the ICU via a multidisciplinary discussion during clinical rounds prompted by the form.

Preliminary data for SWIFT Score calculations from cohort:

Of the 31 readmitted patients that had all of the SWIFT parameters, the mean SWIFT score was 21.1 (SD 12.6), which is well above the >15 score that predicts high risk of ICU readmission, therefore, may have been preventable through the use of this SWIFT Score guided time out.

IMPLEMENTATION PLAN

The "Medical ICU Transfer Time-Out" will be piloted on a small scale first, in the 3rd floor medical ICU, with the printed timeout form shown. Rates of ICU readmission, length of stay, cost of care, and mortality will be compared between a medical ICU using the time-out session and one not using it (3rd floor MICU vs. 5th floor MICU). If pilot study data is promising then the time out session will be expanded and utilized in all medical ICUs. Variables before and after implementation will be evaluated on a hospital wide scale.

DISCUSSION

This time-out on high risk patients will provide a "stop and think" moment for members of the team that may lead to the discovery of preventable causes of decompensation following transfer. Challenges to implementation include that an ABG and GCS are not routinely done on all ICU patients, but are components of the SWIFT score. In our cohort, an ABG was not performed on 24 (44%) of the readmitted patients during their first ICU stay, making full SWIFT Score calculation impossible. Additionally, all members of the ICU team, including physicians, nurses, and respiratory therapists will need to buy in to the importance of completing this time-out in order to provide the best possible care for ICU patients. Discussion of this implementation plan will need to include attending physicians to mitigate any sense of lost autonomy surrounding the decision to transfer a patient out of the ICU.

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