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**PROACTIVE VS. REACTIVE RAPID RESPONSE SYSTEMS:
DECREASING UNPLANNED ICU TRANSFERS**

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Introduction: Rapid Response Teams (RRT) traditionally respond to patient deteriorations identified by nurses outside of the ICU. ICU admissions from inpatient areas are indicators of physiological decline and are associated with increased mortality. Next steps for RRT are to proactively identify patients at-risk, and to act as a resource to increase anticipatory nursing care while promoting expertise-sharing among nurses. **Hypothesis:** Increased presence of a Rapid Response Team RN (RRT RN) guided by warning score algorithms to proactively round on patients at risk for deterioration can decrease the number of unplanned ICU transfers. **Methods:** Proactive rounds by an RRT RN in all inpatient areas of a 270-bed community hospital were guided by algorithms (Rothman Severity of Illness Index) within the EMR to identify patients at risk for deterioration. The RRT RN inspected graphics (vital signs, laboratory values, nursing assessments and an indexed value) and proactively rounded on 8+ patients per day while delegating additional patients to charge RNs for follow-up. Reasons and interventions for each visit were recorded prospectively (October 2011–March 2012). Data was collected retrospectively for the prior 12-month period for comparison using Wilcoxon rank sum tests. A reactive RRT remained active during both periods. **Results:** Proactive visits were conducted on 1,444 occasions. Nursing-driven interventions were implemented 533 times (37%). When interventions resulted from proactive rounds, they were most often related to anticipatory nursing care such as coaching on vital signs (48%), calls to providers (36%), or diagnostics (36%). ICU transfers from wards were not significant, but transfers from Intermediate Critical Care Units (ICCU) decreased significantly (3.16/1,000 patient days vs 1.91/1,000 patient days, $p=.028$). **Conclusions:** Differences in the frequency of assessments between the wards and ICCUs may contribute to changes in detection of patient instability. The interventions and coaching on anticipatory nursing care to staff RNs during proactive rounds may be associated with a dramatic increase in the stabilization of patients in ICCUs and corresponding decreases in unplanned ICU transfers.

Notes – A conversation with one of the authors 12/6/12

SUMMARY

1. Procedure for the experiment... RRT nurses periodically reviewed the array of RI graphs for the entire non-ICU part of the hospital. They were told to follow-up on patients if:
 - a. In red but not there for palliative care
 - b. Slow decline
 - c. Rapid decline
2. What did nurses actually do? Researchers are checking data to see which patients the nurses actually rounded on... there are paper logs as well as electronic usage logs which we supplied
3. This is for Dr. Phillips Hospital, a community hospital without a teaching program (typical census 220)
4. Unplanned Transfer to ICU is defined as any transfer from either step-down or general med-surg to ICU (they still have to remove a small number of expected post-surgical xfers).
5. Transfers from step-down to ICU declined from 3.16 unplanned transfers / 1000 patient days, to 1.91 (a 40% drop).
6. No change in LOS for ICU (so they didn't just keep ICU patients longer due to RI graphs... also the ICU nurses didn't even see the RI graphs in this trial)
7. Their theory... the addition of the RI-directed RRT nurses' care (the RRT nurses are typically ICU nurses) to the step-down unit gives those patients critically needed expertise so that patients can be maintained on the step-down unit... they don't deteriorate further and so that they don't need the ICU
8. Frequency of assessment on regular floors... q12h for assessment, q8 for vitals... better on step-down (missed those numbers)