USE OF REAL TIME DATA FROM EMR IMPROVES COMPLIANCE WITH STANDARD OF CARE

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Background: Daily bath is a component of the hygiene bundle and per CDC recommendations, each patient should receive a bath daily during their hospital admission. Hygiene bundles reduce the incidence of bloodstream infections and can decrease ICU mortality rates. The goals of this project were: to measure baseline bath noncompliance rate in the ICUs, determine factors contributing to noncompliance, develop interventions to address factors amenable to change, and to measure subsequent changes in noncompliance rate.

Materials/Methods: With IRB approval, we retrospectively performed multiple t-test comparisons on data obtained from the bath compliance quality improvement project between 2019 and 2021. We audited patient charts for explanations of noncompliance. We did a qualitative analysis of strategically sharing information using the behavioral economics concepts of immediacy, ranking, loss aversion and mental accounting. Our interventions included daily bath reports to nursing leadership and automated daily VoalteTM messages to charge and bedside nurses. We used a locally developed real-time decision support tool, which catches all misses before they occur, to implement these interventions. Data was collected before all interventions, during retrospective and prospective reporting of missed baths, and post all interventions. We also investigated barriers to baths from the nursing perspective by convenience sampling nurses before and after interventions.

Results: 4,469 missed baths were identified from 44,825 opportunities in 2019. The transitional ICU had the least (5%) and the heart failure units had the greatest (14%) percentage of missed baths. Chart audits revealed missed documentation (54%) and patient/parental refusal (36%) as most common reasons hospital bath policy was not met. All nurses reported a reminder would help improve documentation. We identified systemic changes including staffing and workflow adjustments as areas for improvement. Units had greater compliance with less variation to the hospital bath policy with daily bath reports ($p=0.01$) and VoalteTM message reminders (both $p=0.002$ compared to pre and post data).

Conclusions: Missed baths are a significant problem in the ICUs. Despite our successful pilot with daily bath reports and VoalteTM messaging, the project was terminated because of low administrative priority. This project will serve as a model for applying real-time EMR tools to clinical decision-making algorithms and value-based care delivery.

Images / Graph / Table

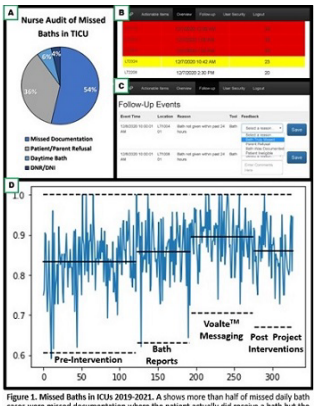

Figure 1. Missed Baths in ICUs 2019-2021. **A** shows more than half of missed daily bath cases were missed documentation where the patient actually did receive a bath but the bath was not documented in the EMR. The rest of the missed baths were attributed to patient/parental refusal and this category was broken down further for specific reasons such as DNR/DNI or daytime preference. **B and C** shows the real-time decision tool run for missed baths, **B** shows room numbers in the left column, time of last bath in middle column, hours from last bath in the right column and missed baths (>24 hours) highlighted in red, close misses (>20 hours) in yellow. **C** shows reason selections for missed baths in the feedback column. **D** shows control chart of daily baths before, during bath reports and Voalte™ messaging and after these interventions.