Developing a Time and Motion Observation Study for an Academic Medical Center to Better Understand Clinical Nursing Workload

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Background: Time spent providing bedside clinical care reduces the likelihood of errors and leads to high quality and safe patient outcomes. Due to changes in workloads and workflows over time (amplified post pandemic), clinical nurses are being pulled further from the bedside and are being burdened with additional tasks even before the interaction with the patient begins. Finding areas of opportunity to remove unnecessary functions will support higher quality and safe patient care. Designing and validating a quality improvement tool (time and motion study methodology) is pivotal to collect accurate and unbiased data related to what current nursing workload entails. The data analysis will inform recommendations to reduce nursing workload (specifically out of scope functions) and bring clinical staff back to the bedside.

Clinical Question: Can a quality improvement tool be re-designed and deployed for use in an academic medical center to provide actionable data for clinical nursing workload changes? Evidence: Strategies used to identify subject specific literature included evaluation of quality improvement and application methodologies with a time and motion study tool, and task time measurement strategies in clinical workflows. At the time of tool re-design and data collection (fall 2021) a literature search validated a significant lack of information to support utilization of a Time and Motion study tool in an acute care setting with clinical staff. The search did validate that the tool was highly reliable and appropriate for quantifying time spent in applied workflows. In addition, the tool could be utilized for: (1) baseline metrics, (2) work measurement (scale and types), and (3) waste analysis (underutilization of talent).

Intervention: After concept approval by key stakeholders and participation agreements provided, multiple iterations of tool redesign occurred using a PDSA (plan-do-study-act) process. Training on data collection was provided and data collected on two discrete inpatient nursing units within the academic medical center setting. Data collection and analysis was completed, with the intention of providing future recommendations of tool application and clinical nursing workload opportunities.

Evaluation & Results: The goal was to re-design a quality improvement tool to capture time tasks in a clinical bedside workflow and identify opportunities to reduce nursing workload burden. Project and data (over 130 hours inputted) analysis concluded: (1) tool redesign was a continuous and iterative process, (3) nurses needed to evaluate nurses, and (4) collecting accurate time stamps when nurses routinely multi-task is challenging. Study results showed that during an 8-hour shift, nurses spend approximately 18% of this time in direct (hands on) patient care, which is less than time spent on documentation in the EHR at 21%. Medication administration alone consumes 13% of the shift.

Significance/Conclusion: Study data revealed that nurses routinely and consistently spend time completing hours of tasks outside of their scope of practice and not directly relevant to patient care. As an industry we must find ways to support nursing to reduce burnout and job dissatisfaction. Removing out of scope tasks and providing more efficient processes will support nurses returning to the bedside and spending more time in direct patient care.