

# Elevating Hospital Operations with the Development of an Electronic 24 Hour Nursing Supervisor Shift Report System Using REDCap workflow methodology in a 100 Bed Oncology Specialty Hospital

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## Significance:

Communicating information timely and efficiently is essential in ensuring high quality patient care in healthcare settings. Delayed reporting of information to leadership can hinder effective hospital operations management. Introducing an innovative electronic 24-hour shift report system developed for nursing shift supervisors, utilizing the secure web platform of REDCap (Research Electronic Data Capture). Having discreet fields in the REDCap report allows for the tailoring of vital information to be reported instantly to leadership in this electronic format.

## Purpose:

The primary objective is to optimize hospital operations by creating an electronic shift report system that automatically sends reports via email to hospital leadership for real-time notification. This approach aims to streamline communication, reduce response times, and enhance overall hospital efficiency. Additionally, this system includes rapid response and code notifications to the Critical Care Clinical Practice Lead for immediate audit of critical incidents and instantaneous zero harm event reporting for continuous quality improvement.

## Interventions

We developed and implemented an electronic shift reporting system designed specifically for nursing shift supervisors using REDCap. Customized data fields were configured to capture essential information, including patient updates, staffing levels, incidents, oncologic emergencies, infrastructure failures and zero harm events. Automated email notifications were integrated to promptly inform hospital leadership upon the completion of each shift report. Rapid response notifications were also set up to alert the Critical Care Clinical Practice Lead immediately in the event of critical incidents.

The screenshot displays a multi-page REDCap form titled "24 Hour Shift Report". The form is divided into several sections with various input fields and radio buttons. Key sections include: "Please complete the 24 hour shift report below", "Today's Date", "Please select your shift" (with radio buttons for 7am to 3pm, 3pm to 7pm, 7pm to 12pm, and 11pm to 7am), "Are there any patients at risk for zero harm reported this shift?", "What zero harm event is being reported?" (with radio buttons for Patient Fall, HWT, CAUTI, CLABSI, Positive Dressing Screen, and Other), "Was post fall huddle completed?", "Was the Zero Harm (ZOW) form completed?", "Please provide any additional details", "Was there a second Rapid Response or Code this shift?", "If code, was post code huddle form completed?", "Please provide any additional details", "Was there a second Rapid Response or Code this shift?", "If code, was post code huddle form completed?", "Please provide any additional details", "Was there a third Rapid Response or Code this shift?", "If code, was post code huddle form completed?", "Please provide any additional details", "Was there a fourth patient in restraints?", "Was a 5th patient in restraints?", "How many laboratory panels available this shift?", "How many pulse oximetry cables available this shift?", "Name of Admitting Hospital/Physician", "Name of Surgical In-house coverage", "ICU Attending" (with radio buttons for Danish Ahmad, Steven Ahmed, Alan Jordan, Matt Traylor, Christopher Mackay, and Other), "Please specify 'Other' ICU Attending", and "Name of nursing supervisor completing report". The form is branded with the REDCap logo and includes a date stamp of 03/20/2024 11:13am.

## Evaluation:

Preliminary findings highlight significant improvements in response times to critical incidents, enhanced communication among healthcare teams, increased operational efficiency, and a robust system for zero harm event reporting. Real-time notifications have empowered hospital leadership to make timely decisions, allocate resources effectively, and proactively address emerging challenges. The inclusion of rapid response notifications and zero harm event reporting has facilitated immediate audits leading to improved incident management, education and continuous quality improvement.

## Discussion:

Hospital operations significantly improve with real-time notification increasing prompt leader responsiveness significantly advancing hospital operations management. It ensures that leadership gains immediate access to critical information and promotes a culture of safety and improvement. Moreover, the system minimizes the risks associated with paper-based reporting, simplifies data analysis for continuous quality improvement, and promotes transparency in healthcare operations specific to oncology care. Widespread adoption of this comprehensive system holds potential to drive enhancements in quality and overall hospital performance.

