Central Digital Monitoring Units: Why it makes sense to consider for your enterprise.

by Brian Janssen and Eric Bauer
GE Healthcare

The decision to implement a centralized versus decentralized telemetry monitoring solution is a long-standing debate, but the ability to send and receive patient information quickly from a central monitoring unit using mobile smart devices has changed the equation. Despite an organization's decision to centralize monitoring, the underlying processes are still very manual, fragmented, and there still exists a potential for errors that could cause unnecessary delays in delivering care to the patient. Furthermore, as nurses typically walk more than three miles per shift[1], the need to implement additional efficiencies and provide more actionable information into centralized monitoring unit workflows is key.

Standardizing workflows and utilizing new technologies to digitize, mobilize, and document the underlying processes are key to innovating digital central telemetry monitoring and making it scalable to the enterprise level. With the growing merger and acquisition activity in the healthcare industry, there continues to be a need for standardization in care from care area to care area and from hospital to hospital, increased patient vigilance, and a documented path to better patient outcomes. Enter mobile technology as the path to the next level.

The impact of utilizing mobile technology

Historically, hospitals lagged behind in adopting mobile technology, such as smartphones and tablets, for staff use in hospitals. Today, however, most hospitals have begun using mobile devices[2], and have active strategies in place to use those devices to improve care delivery. Mobile technology is being integrated into the digital telemetry monitoring solution, facilitated by the use of hospitals' mobile smartphone devices, to completely digitize the underlying processing with new tools for telemetry monitoring technicians, nurses and doctors, as well as administrators. And using a digitalized central monitoring unit (CMU), it can now be implemented at an enterprise level.

Most hospitals have begun using mobile devices[2] and have active strategies in place to use those devices to improve care delivery

Strategic Enterprise Telemetry Monitoring

Adopting an enterprise level digital CMU to remotely manage multi facility's telemetry patients is an opportunity to achieve better patient vigilance, better staff productivity, standardization of care and a reduction in variation of care delivery. Using innovations in alarm notification, care team collaboration, and mobile smartphone technology to visualize and communicate more extensive patient status and case history information, hospital teams can achieve better care coordination. The first step in the process is to establish a chain of command in the digital escalation path.

For example, a telemetry technician needs to know exactly which staff is affiliated with each patient, and the order in which the alarm would reach them. They also need to know if the reviewed and dispatched alarm was accepted, rejected or escalated by any person in the chain of command, and keep track of that alarm and the response as the status changes.

Mobile smart devices also allow for patient data to be accessed when the alarm is dispatched, so the nurse receiving the alarm has access to information regarding that patient, such as waveforms, trends and labs, even before reaching the patient bedside. Having this type of contextual information gives responders the ability to understand the context and the patient status to know what the appropriate direction of care is. Is it a walk or run situation? The nurse now can know what they are walking into, and who they need to communicate with via a call or text to coordinate care. The enterprise digital CMU is the hub and spoke model that can drive consistency to patient workflows and analysis on productivity and the delivery of care, and along with that, the potential elimination of care variation.

Understanding the specific context of each patient can allow caregivers to set patient-customized alarm limits to reduce false or unnecessary alarms, based on a patient's average normal ranges, and can provide the opportunity for unprecedented patient vigilance. Contextual patient information also creates workflow efficiencies and better data visualization for telemetry monitoring technicians and their associated care teams.

Using a visual-based command center approach, the enterprise digital CMU gives the technician an alarm analytics dashboard to monitor all of his patients and their statuses, as well as the dispatch and assignments of alert notifications to the care teams. The dashboards can help empower care team members to use their professional judgment, along with other care area information, to strike the optimum balance between patient vigilance and alarm burden. Rather than relying on paper processes and landlines, clinician workflows are transformed through digitization and mobile communications.

Three steps to adopting an enterprise level digital CMU to remotely manage multi facility's telemetry patients

Step one

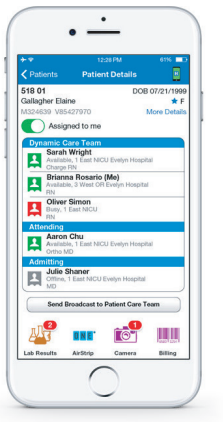
Establish a chain of command in the digital escalation path.

Step two

Understand all staff affiliated with a patient and if an alarm was accepted, rejected or escalated.

Step three

Relay the context of the alarm and the patient status to know the appropriate direction of care before reaching the patient.



EVENT NOTIFICATION

MOBILE VISUALIZATION

CARE TEAM COLLABORATION

Never possible before, the enterprise digital CMU allows hospital administrators the opportunity to have a complete longitudinal record of each patient's history and care path. Macro data analysis can also provide information on efforts to standardize care and reduce time to bedside in critical alarm situations, as well as reduce the alarm burden on care providers.

New opportunities

The integration of event notification and response, mobility, contextual information, and analysis in an enterprise digital CMU can lend itself to new opportunities in care management and operational analysis in hospitals. What other service lines can benefit from the potential created by enterprise digital CMUs and mobile smart device workflow integration? In the near future, this care delivery model may be expanded to monitor other care areas such as critical care, home health, long-term care management and chronic disease management.

Brian Janssen
Sr. Product Marketing Manager
Mobility, Communications, and Informatics
GE Healthcare
Brian.Janssen@ge.com

Brian has been with GE Healthcare for over 12 years in product management roles leading a number of products in the patient monitoring segment. Currently, he is the Sr. Product Marketing Manager for the Mobility, Communications, and Informatics product portfolio. Prior to GE, he held a variety of roles in consulting, strategic marketing, product management, business strategy, and account management at Andersen Consulting/Accenture, Ford Motor Company, and J.D. Powers' Power Information Network. Brian holds a BSME with Distinction from Iowa State University and an MBA from Dartmouth College's Amos Tuck School.

Eric Bauer
Executive Director of Marketing
Clinical Care Solutions - USCAN
GE Healthcare
Eric.Bauer@ge.com

Eric has over 32 years of sales and marketing experience in the healthcare industry and 23 years of experience in the patient monitoring segment with Marquette Electronics and GE Healthcare. Eric has held roles including sales, channel management, and regional sales management. He was General Manager of the GEHC Maternal and Infant Care business, General Manager of Zone Sales, and is currently the Executive Director of Marketing for Clinical Care Solutions for US and Canada. Eric holds a Bachelor's degree in marketing from University of Missouri-Columbia.

References

1 *https://www.travelnursing.com/news/features-and-profiles/the-4-mile-shift-how-far-do-nurses-walk/*

2 *http://www.healthcarebusinesstech.com/latest-mobile-use/*

For more information, contact your GE Healthcare representative.

©2018 General Electric Company – All rights reserved.

GE Healthcare reserves the right to make changes in specifications and features shown herein, or discontinue the product described at any time without notice or obligation. Contact your GE Healthcare representative for the most current information. GE and the GE Monogram, are trademarks of General Electric Company. GE Healthcare, a division of General Electric Company. GE Medical Systems, Inc., doing business as GE Healthcare.

July 2018
JB59387US