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How Next-Generation Cardiac Monitoring Documentation is Driving True Clinical Collaboration and Improved Patient Care

OVERVIEW

Cardiac monitoring devices are ubiquitous in healthcare environments, tracking patient data across care areas. The hope is that this monitoring will allow clinicians to anticipate and prevent a host of negative outcomes. Unfortunately, with the thousands upon thousands of monitoring devices spread across a typical hospital setting, the result is a cacophony of data.

The goal of achieving proactive patient care is attainable, today. Many health systems will struggle to achieve this goal unless a system is put in place to;

- Meticulously document patient data directly into the EMR

- Make patient data accessible to users at the point-of-care

- Store and access patient data over time

- Provide algorithmic frameworks to help analyze and interpret patient data to improve the efficiency and decision making in delivering quality care

This paper explores how streamlined, automated, and standardized cardiac monitoring documentation supports true clinical collaboration and improved patient care—cutting through the chaos of the medical device ecosystem.

THE CHAOS OF TYPICAL CARDIAC MONITORING DOCUMENTATION WORKFLOWS

THE PROBLEM

In many hospital environments, the typical workflows for documentation in cardiac monitoring are inefficient, paper-heavy, and error-ridden. Documenting device data can be like an arts and crafts project, where users are literally cutting and pasting paper, and then transmitting that data through fax machines, tubing systems, or even on foot to the appropriate caregivers.

Patient cardiac monitoring data is often only available in fixed locations—like a patient's bedside or a central monitoring hub. Because patient data is not available to clinicians on-the-go, clinical decision-making is delayed, redundant orders are placed, and key clinical resources are misappropriated.

Often, cardiac monitoring documentation processes are not standardized across facilities or care areas, creating opportunities for errors and duplicate data, which can lead to potential patient safety issues. After the patient leaves the health facility, current processes do not support post-discharge documentation.

This chaos has implications not only for patient care but for physician happiness and the well-being of the healthcare system. For example, one of the most consistent complaints among physicians is that they feel bogged down by inefficient documentation workflows—an issue that feeds the modern epidemic of physician burnout. A new study tried to measure the cost of physician burnout and conservative estimates find that nationwide physician burnout costs $4.6 billion per year.

This staggering cost is among the many compelling reasons to cut through the chaos and implement newer efficient solutions.

THE NEXT GENERATION OF CARDIAC MONITORING DOCUMENTATION

THE SOLUTION

So, what does it look like to cut through the chaos of patient monitoring data and outdated cardiac monitoring documentation processes?

There are four key elements to next-generation cardiac monitoring documentation: first, a solution must have the capacity to document data in near real-time; second, data must be accessible to users directly in the EMR across devices; third, a solution must support innovative and customizable predictive analytics to facilitate the analysis of patient data; and fourth, a solution needs to be compatible with a health system's existing infrastructure.
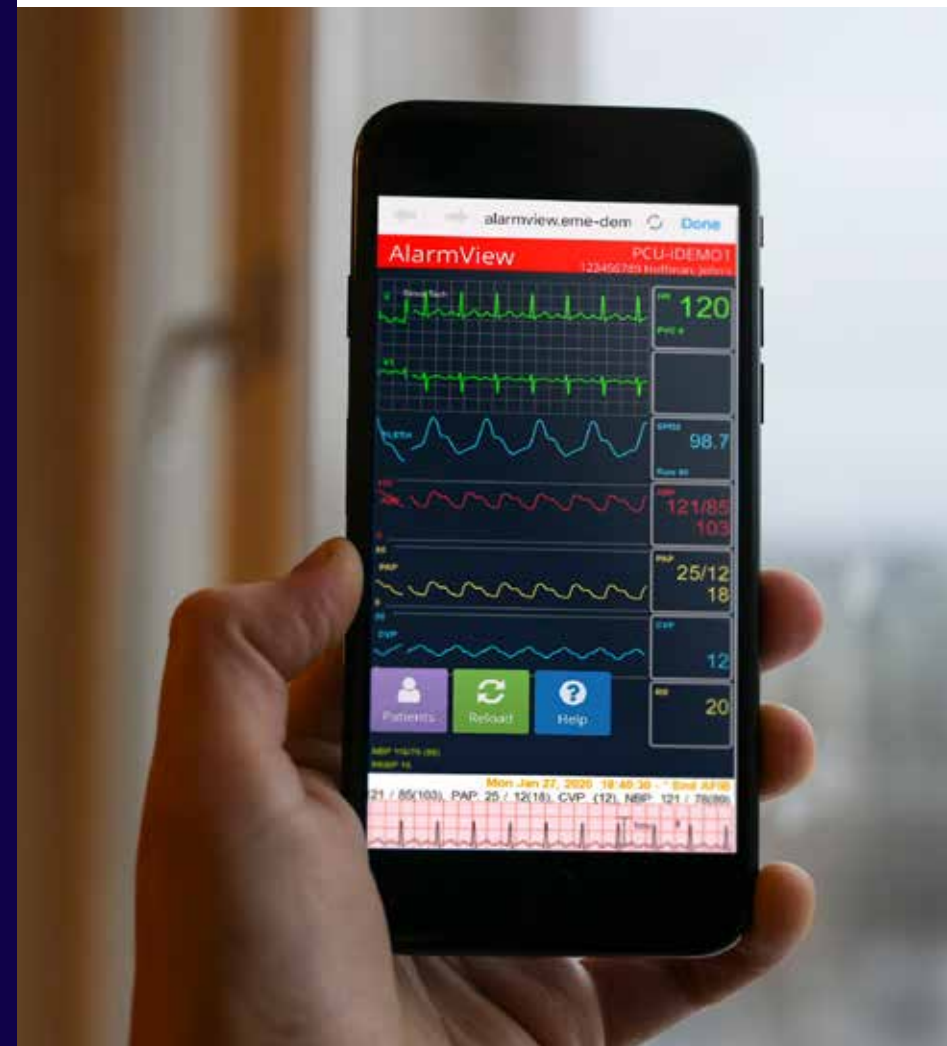
Document Data in Near Real-Time

Monitoring devices are collecting so much patient data, but users need to be able to see this data in context as soon as possible in order to act on it to improve patient outcomes. This necessitates an automated solution that delivers data directly into the EMR without delay and delivers to clinicians up-to-date streaming waveforms, alarms, and vital signs.

Make Data Accessible to Users Across Devices

Documenting all this information in near real-time is only effective if users can access data wherever they are—not just from a centralized hub. On-the-go clinicians need to be able to view the latest patient data on devices, including a desktop, smart phone, smart watch, or tablet.

Support Innovative Predictive Analytics

Once cardiac monitoring patient data is documented and accessible to users, a next-generation solution must provide a framework to aid caregivers in analyzing all the data. Incorporating a predictive analytics strategy is essential to cutting through the chaos of so much data. The goal is to give clinicians predictive tools from a single unified platform, within existing workflows, that will allow for earlier interventions.

Work Within Existing Infrastructure

A true solution to outdated and costly cardiac monitoring data documentation should not require expensive and redundant hardware. A solution that cuts through the chaos works within a health system's existing infrastructure, without requiring new devices/hardware.

THE VALUE OF TRUE CLINICAL COLLABORATION AND IMPROVED PATIENT CARE

THE BENEFITS

Once a solution is in place that cuts through the chaos of mountains of unwieldy medical device data, the benefits are inevitably realized. At the heart of true clinical collaboration is accurate, robust, efficient, timely, and standardized patient data documentation. If clinicians cannot access patient data, they have limited information to make decisions. And if they cannot access patient data simultaneously with other users, even while on-the-go, and in near real-time, then their ability to communicate and collaborate is reduced. When they can work collaboratively, the combined expertise of clinicians across care areas inevitably improves patient outcomes. And sharing the load of decision-making and patient data interpretation/analysis between users relieves the burden on any single clinician, helping to ease the costly issue of physician burnout.

Healthcare systems implementing next-generation cardiac monitoring documentation solutions that utilize the four key elements, described in the section above, experience improvements in workflow efficiency, patient care, and overall cost savings.

Improving Workflow Efficiency

One such organization found that next-generation cardiac monitoring documentation saved its users significant time and hassle. Prior to implementation, according to a representative from the organization, "the average estimated time from the capture of a cardiac event until a copy of the strip was in a physician's hands was 2 hours." Now that process is automated and takes mere minutes.

More Data Access Yields Better Care

The scale of patient data that organizations can collect and store inevitably leads to improved patient care. Conventional patient monitoring hardware only allows for short periods of trending (24-48 hours). A nurse at one organization reported, "This situation prevented me from effectively evaluating patient trends." A next-generation cardiac monitoring documentation solution allows for an indefinite storage capacity, increasing the likelihood that patient needs will be anticipated and met.

Cutting Chaos and Costs

The implementation of a next-generation cardiac monitoring documentation solution yields a dramatic increase in the amount of data captured and documented directly in the EMR.

For example, in a 6-month period post-implementation, one hospital reported:

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99.45%	Accuracy on over 180,000+ cardiac strips sent to Epic
1,000	Average strips per day sent automatically to Epic EMR,
$1.4M+	Saved in annual operational savings (saving the $4-5 previously spent for printing and processing each cardiac strip)

CONCLUSION

Patient monitoring devices are so ubiquitous in healthcare environments that it can be easy to simply accept the noise and chaos and unwieldiness of patient device data, rather than to innovate solutions for harnessing it. But this chaos has real implications for healthcare systems, for clinicians, and for patients.

For example, cardiac patient care and outcomes have massive global implications. More people around the world die of heart disease each year than of any other cause. This is according to the American Heart Association's 2019 statistics. Among this year's stats, AHA references a study projecting that the total medical costs associated with heart disease will rise to $749 billion in the next 16 years. This is a crisis situation, requiring all of the innovation we can muster to help improve cardiac patient care and outcomes.

Excel Medical and Hillrom are at the forefront of these efforts, providing next-generation solutions for cardiac patient monitoring device data collection, documentation, and delivery. Excel Medical's purpose is very simple: to cut through the chaos of data documentation, designing solutions that reinvent how cardiac monitoring and medical device data is delivered to clinicians—in near real-time, across devices, directly in the EMR.

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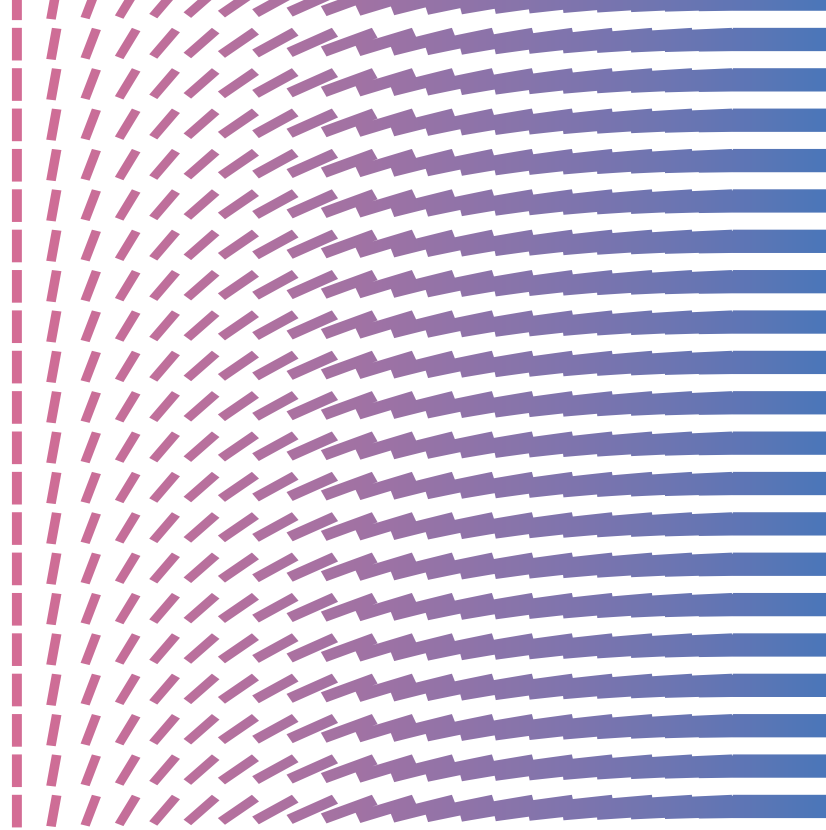
For more information, please contact your local distributor or Hillrom sales representative at 1-800-535-6663.

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130 E. Randolph St. Suite 1000, Chicago, IL 60601

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