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CONNECTED CARE

Challenges and Opportunities to Improve
Workflow and Enable Better Patient Care

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CONNECTED CARE:

Challenges and Opportunities to Improve Workflow and Enable Better Patient Care

The proliferation of new bedside medical devices and other systems and technologies, including electronic health records (EHRs), smartphones, secure texting apps and more, has added new demands on nurses. Those demands only intensified since the onset of the COVID-19 pandemic.

Hospitals and health systems have had to adapt care delivery to their unique circumstances, expanding critical care services amid widespread uncertainty about regaining pre-pandemic volumes and revenues. Connected care — linking EHRs with medical devices, databases and other information sources — is driving better outcomes through increased efficiency and providing real-time, actionable patient data for inpatient remote monitoring systems, virtual intensive care units (ICUs) and clinical surveillance.

This executive dialogue explores the balance between the advantages of new technology and the additional demands that it can place on front-line providers. Panelists share the experience and challenges brought by COVID-19 and how adjustments and education helped in the proper utilization of technology and effective patient care. ●

KEY FINDINGS

- 1 With the onset of the pandemic, the adoption of **virtual meetings** can improve communication and make it more efficient for health care front-line workers, patients and their families, and for scheduling telehealth appointments. The increase in virtual meetings also will raise the need for rules and standards to keep everybody engaged.
- 2 There is a greater need for **integration of medical devices with EHRs at the patient bedside**. While it improves continuity of care, it also poses new challenges for health care facilities and/or systems with multiple types of technologies where communication becomes critical.
- 3 COVID-19 has forced health care staff to **find innovative methods of using technology** to enable nursing teams to work smarter and make appropriate adjustments, such as installation of smartphones and remote monitoring technology to reduce alarm fatigue.

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MODERATOR Bob Kehoe

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MODERATOR: (*Bob Kehoe, American Hospital Association*): **How has the COVID-19 pandemic changed the way your organization is thinking about connected care? What technology solutions have you found most useful since the pandemic's onset?**

CAROLE KLOVE, R.N. (*Elemeno Health*): The pandemic has caused us to be increasingly distant in our personal and professional lives. Digital solutions, whether it is Webex, BlueJeans or Zoom, have become more of the norm and we have had to learn new technology to support team huddles, staff meetings and particularly cross-training. We have to rethink how we use technology, and how we can harness digital solutions to help with asynchronous but still connected care. For the health care staff with whom we have been working, COVID-19 was constantly impacting PPE supplies, the need to reevaluate practices and reassigning teams. For example, a hospital may need to move or float an orthopedic nurse to the emergency department. Using technology like Elemeno as a virtual preceptor in the pockets of the front-line teams can fill in those learning gaps. When we get past COVID-19, I hope we continue to utilize these new tools to support our teams, and not backslide to the way we used to do things — hold large staff meetings, train in person and use binders for storing or sharing information. This is an opportunity to embrace change.

AMY HERMES, R.N. (*Stoughton Health*): Being from a small, rural, critical access hospital with 25 licensed inpatient beds and a 10-bed geriatric psychiatry unit, COVID-19 has required us to be more efficient in a variety of ways. Previously, we wanted to have everybody at the table for staff meetings, safety huddles or team communications. I hope we continue to use video platforms. The key is to reach the masses.

From a patient care perspective, our nighttime hospitalist uses a robot. Our providers use either a virtual platform or the telephone to interact with patients. We've been able to put that into place for some of our specialty doctors. Now, we are looking at piloting virtual visits in our urgent care unit as we head into the flu season so we can alleviate bottlenecks.

The other thing that was particularly challenging for staff was learning how to keep family members connected with the restriction of visitors. We were able to get iPads and information out to the staff to make sure that patients and their families were connected. And when they couldn't have their loved ones at the bedside, at least they could see them on an iPad, with a Zoom call or on Facebook. I hope we keep that going.

"[One] thing that was particularly challenging for staff was learning how to keep family members connected with the [COVID-19] restriction of visitors."

— Amy Hermes —

KATIE CHIEDA, R.N. (*Fisher-Titus Medical Center*): I am from an independent community hospital with 99 beds and we have long-term care and emergency transport. The pandemic put us in fast-forward mode for telehealth in our ambulatory setting, as it was on the road map but not completely worked out. We adopted technology that existed for certain segments of the organization, and pushed that out for everything from staff meetings to service meetings with physicians. Even our board meetings went virtual. I think there is value in that. There's also a need for rules and standards around using these tools to keep everybody engaged.

CRYSTAL GRAY, R.N.-CNML (*Summerlin Hospital Medical Center*): We shut down visitation here in the Las Vegas Valley due to the tremendous spike at the end of July. We were fortunate to have COVID-specific units. Those nurses quickly developed a daily pattern to communicate with patients and families. We've really tapered down the amount of informa-

tion that we exchange with the administrative team. We tried to be very specific in our communications. We utilized FaceTime, which was huge for families unable to be with their loved ones. Our nurses rallied and both our critical care and med-surg teams were amazing.

We were also looking for learning opportunities and to educate our staff through our learning management system. Our educators were extremely important during this time. And while we did not have to cross-train any of our nurses, our nursing administration directors, managers, chief nursing officer and I became educators. We stepped back into that role and tried to communicate and connect with our staff so they remained engaged. Being visible on the units was important for communication as well. While that wasn't really technology, it was a different workflow for us.

DONNA ANDERSON, R.N. (*Bassett Medical Center*): While we were not as impacted as the New York City hospitals, we created a COVID-19 unit outside of the ICU, and one of the ways that we utilized technology is by limiting the number of intensivists. We created an effective planning group to determine how telemedicine could be used in ways that allowed intensivists to be stretched across 50 beds versus the traditional ICU. All of our COVID-19 patients were managed outside the ICU in a unit with negative airflow, which required cross-training and education that we dispensed virtually. So there was a lot of technology as well as side-by-side learning, versus partnering as a team for maybe three or four patients or having ICU nurses at every bedside.

Things were changing quickly, and nearly every day there was a new element added to the protocol. We used a communication tool called TigerText, whose format was succinct and bulleted in types of com-

munication, whether it was a practice protocol, or how we needed to move or change the usage of an area — facilities versus clinical. At 4 p.m. daily, everyone would receive a succinct lineup in TigerText. From both a staff and physician perspective, this became the most welcomed communication of the day because they expected it.

The way we created that work across the ICU was something we had been trying to do for a long time — building teams to expand the use of critical care beds and accommodate the community better. We probably had more access to staff through Zoom meetings than we ever had in any other type of forum. I still like seeing people face-to-face and rounding is important; but all of our rounding right now is in full face masks, face shields and masks. It is a little cumbersome.

“All of our COVID-19 patients were managed outside the ICU in a unit with negative airflow, which required cross-training and education that we dispensed virtually.

— Donna Anderson —

MODERATOR: Have you integrated all medical devices at the bedside with your EHRs to support automated documentation?

LARRY KIDD (*Henry Mayo Newhall Hospital*): Most of our devices are integrated into the EHR. We've been able to integrate our vital signs monitoring, pulse oximetry information and other patient data from devices. However, not everything is completely integrat-

ed and we are continuing to work on the interface such that we gather the most comprehensive picture of a patient's progress into the EHR. We're still on paper with our anesthesia documentation, but we're working to integrate that. It's an ongoing challenge and we've had to modify a lot of our initial EHR format in terms of being able to extract data.

We have a clinical informatics team that basically identifies fields by which we pull information. In some cases, it's a lot easier than others, so we have discrete elements that we pull, like vital sign

numbers or compliance and safety elements as follow-up to Joint Commission and other regulatory requirements. There are various reports that we push out daily regarding the results on specific metrics. In this way, we know by area where the fallouts are, and who needs to follow up in what areas.

GRAY: Our critical care units have been set up for many years to integrate with Cerner, which is how our vital signs automatically show up. In January, we were in the process of doing wiring throughout the hospital for CAREAware, so we could have handheld devices to document and go into the chart. That was obviously stalled with the onset of the pandemic in March. We have been focusing on getting all of our units wired to go live by the first quarter of 2021. The Cerner team and our information technology (IT) team develop reports for us. We became proficient in extracting important information and in the shift-to-shift handoff.

ANDERSON: We began our journey with Epic in 2012. During the first several years, there was a lot of optimization. Our journey is heading to a highly technological solution for easier electronic documentation for our nurses and providers. COVID-19 hasn't prompted any new and improved integration. Vital signs monitoring and flow from equipment to Epic is already built in and works great. Now, we're looking forward to handheld devices using voice entry. For the last five years, we have used Vocera as a communication device. This year, we upgraded to a Smartbadge that allows voice entry for integration from Vocera to Epic and to other safety devices that we have implemented like Masimo and our call system. Vocera also has a call system integration so that if a patient rings an alert/alarm through the bed, it goes through the Vocera system and notifies the nurse.

Reporting has evolved. It used to be difficult and we spent a lot of time manually auditing when you couldn't pull information out of an electronic system's discrete fields. One of the things that evolved over the last year has been the ability to get our Epic partners within Bassett, as well as Epic, to help us streamline the workbench reporting with a dashboard. I have a chief nursing officer dashboard that looks at safety and other metrics daily. Through shared governance, we're trying to get it down to the resource nurses so they know what they need to pay attention to as they round on the floors.

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— Halley Herndon —

HERMES: We have Epic and the MUSE system, which helps to integrate all of our EKGs and glucometers. We also have a Rauland communications system, which allows for some integration with Epic. During the pandemic, many of our nurses discovered that information could not flow from the isolation units to our environmental services staff. Teams that had Epic, on the other hand, knew patients were in isolation. When you start relying on some of the technology, and you have one team that it is working well versus other teams, then communication is critical. We realized that we needed to back up and think about how we communicate with the entire team, not just to the clinicians who are taking care of patients.

MODERATOR: Halley, you've worked in several different organizations and have clients around the country. Are these the kinds of challenges that you see as you look across the field?

HALLEY HERNDON, R.N. (*Capsule Technologies*): Yes. Our clients have been asking, 'How can you help us see data? How can you help us take those nontraditional units out of the ICU, so that both patient care and continuity exist?'

We've seen more requests for expansion in the integration space. There was an increase in the integration of e-ventilators directly into Epic. In some instances, people were identifying the need for continuous renal replacement therapy and even hemodialysis to get pushed into the record, given the different complexities with our patients that we were seeing.

KLOVE: We support hospitals through our cloud-based solution, Elemeno Health. While EHRs are generally built by IT professionals, our solution was built by and with input from nurses and doctors who effectively provide tools to help the front line. Our Elemeno clients also may use technology, such as Vocera or other monitoring alert systems, to provide the front-line staff with real-time patient alerts linked to patient monitoring systems. When there is a high-risk, low-frequency alarm or alert requiring swift response, nurses can go into a patient room with confidence, knowing that they have Elemeno's just-in-time microlearning to address the issue. Our solution works to reduce the number of 'clicks' to obtain needed information, so that our staff are empowered and perform better. Similarly, the audits are automatically tabulated on a team card so they know where they have opportunities to improve. Previously, it took months before the front-line staff saw the results of those audits. Now they have it in real time.

MODERATOR: That's a perfect segue to discuss alarm fatigue. Are you integrating alarms and alerts into mobile devices and smartphones, in particular devices carried by the nursing staff?

HERMES: Our nurses carry smartphones that have integrated features. As a critical access hospital, one of the challenges is monitoring patients on telemetry. We're not big enough to have a telem-

etry monitor sitting in front of the screen. We also have an ICU that's open and shut. If it's open, the ICU nurse wouldn't do the monitoring. We're able to send those telemetry waves, so nurses at least see and receive the five alarms for the critical waveforms. This is a huge benefit because they're alerted right away if they're in a patient room. We also have what we call Doc Halo to communicate with our providers. We're able to send text messages on a HIPAA-secure platform. It has eliminated waiting for a physician to call, and has afforded some efficiencies as well.

We have worked with the staff on making sure telemetries don't cause alarm fatigue. We're looking at patients' baseline rhythms and adjusting those accordingly, so that we aren't sending alarms all the time.

GRAY: We also have daytime and nighttime settings for GE and Philips alarms. We have the option of turning off the sound and relying only on visual cues. In addition, we have free telemetry technicians and you can still see some of those units where we have remote telecapability.

HERMES: Years ago, we went page-free because there are so many pages and overhead alerts that people were getting fatigued. Now, there are rarely pages that go off in our organization, because we've tried to equip people with phones with texting capabilities, so that they're not setting off overhead pages.

KIDD: Alarm fatigue remains a challenge for us. One thing that we've done with the COVID-19 unit, back to the technology piece, is converting one of our units into a hybrid, so that we are able to cohort patients and have COVID-19 patients from an ICU level all the way down to medical-surgical care on one unit. We have centrally located moni-

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— Carole Klove —

tor techs observing a number of patients visually. We have installed iPads in a room where patients can be viewed by the staff and communicate with them at any time. This has helped to reduce having staff constantly entering the room, yet reassures patients that someone is always available and will respond whenever needed. This also helped to address the need for staff to maintain constant direct line-of-sight observation of sicker patients. They're catching quite a few things by observing the patients through iPads, cutting down on a lot of the alarms and anticipating needs even before the patient has to call for it.

ANDERSON: We have started adopting a telesitter program, an audiovisual monitoring system for patients at high risk of falling. Also, about two years ago, we implemented coaching and teaching people how to do rounding intentionally so that they reduce call bells. We're now gathering data on this, but with the telesitter program, everybody has to have a rounding goal for every patient.

HERMES: We implemented a purposeful rounding program in our medical-surgical unit and it has made a difference. We've seen reduced falls, increased patient satisfaction, and we can track the number of call lights.

MODERATOR: From an integration standpoint, what challenges are you seeing in your organization and how are you overcoming them?

HERMES: We've been challenged to drive the cost out of health care, and what that might mean. We

are looking at our staffing and our benefits. And, how do we use technology to make us work smarter rather than harder? If that proactive data can be delivered to the nursing teams, then they won't be doing double-duty and backtracking.

ANDERSON: Solutions are becoming much more informed. You have experts around you. The expert with the experience at the bedside is the person who is in the best position to inform you. That's the proactive approach and that's exactly where we want to be.

HERNDON: Two years ago, when the American Association of Critical-Care Nurses issued a practice alert about developing alarm committees, it required a heavy lift for organizations, especially small community hospitals. Organizations are working to marry the subjective data gleaned from what the staff is reporting with the objective data using reporting and analytics.

We're seeing a drive and a desire for people to be able to change their practice models. People are saying, 'This is great, but how can we make this a little more precise? How can we change our practice model to be more proactive? How do we get the communication out?' We need to be able to set some filters, so that we can run these rules and information to make things more precise. We should have all the things in a snapshot so that we have all the data and can act. ●

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