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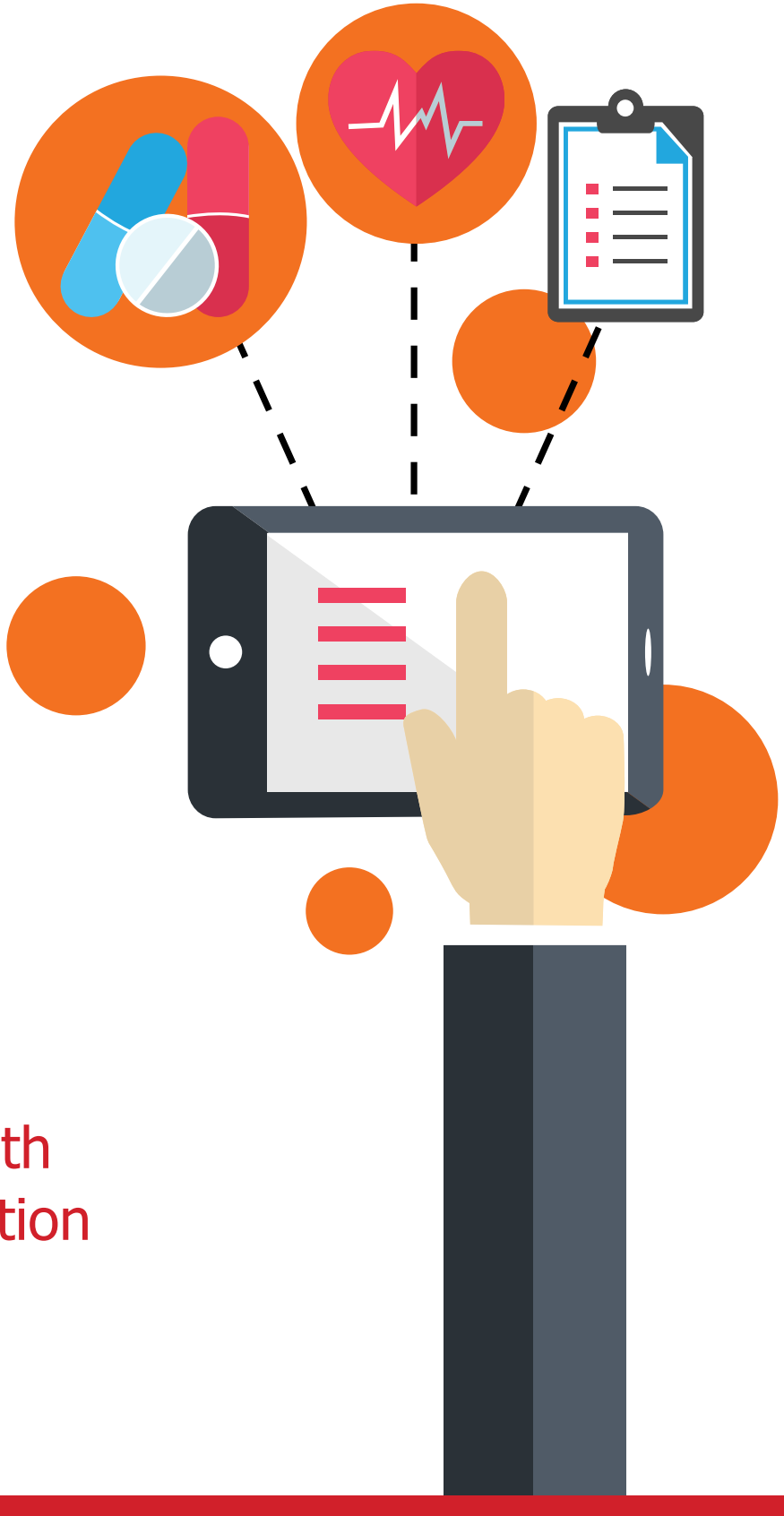


Streamline Care Delivery and Clinical Workflows with Care Team Collaboration

An Everbridge White Paper
In Partnership with Dr. Trisha Swift

Today's healthcare system is in the process of making one of the most significant transformations in its history. Organizations are shifting away from a volume-based business model and into the new value-based reimbursement industry. Value-based care is highly collaborative and requires a team-based care delivery approach to provide high quality and low cost services, while also meeting requirements of federal and state level payment regulations.

Dependence on inefficient communications processes (like the decades-old paging systems at most hospitals) can make it difficult for inter-professional care teams to effectively share information with their coworkers and other facilities in a timely fashion. Those delays could result in unnecessary costs, wasted time, and poor patient outcomes. Patient care delivery team members often use incompatible or outdated communication methods resulting in challenged and inefficient ways of transferring important information such as telephone calls with multiple hand-offs; missed calls; and unanswered messages or pages. Not only does this unnecessarily waste time that doctors and nurses could spend delivering patient care, it may also negatively affect outcomes and patient experience.

Hospitals routinely rely on out-of-date communications methods leaving clinicians forced to carry a toolbelt's worth of disparate devices including pagers, voice over Internet Protocol (VoIP) phones, and tablet computers. This is all in addition to their personal mobile phones. However, it is well known that patient and provider communications must meet HIPAA security and privacy standards; therefore, providers are limited in how they are permitted to leverage modern communications technology in their daily work. Therefore, there is a real risk presented in HIPAA compliance violations as human nature is to choose the path of least resistance and that could mean using personal devices for communicating protected information.

An integrated clinical communications and collaboration platform with secure messaging capabilities may solve these challenges and also create efficiencies that can improve outcomes and reduce costs. This type of communication splatform provides a single solution for secure mobile communications with staff, patients, and partners that can support multiple types of devices (phones, pagers, nurse call systems, tablet computers) and integration with multiple clinical systems.

This approach doesn't just streamline communication; a care team collaboration platform can enable emerging team-based and patient-centered care models and help providers meet patient safety regulatory standards.

Team-Based Care Models

Efforts to modernize and transform the healthcare delivery system will require a team-based approach to patient care. Team-based care involves collaboration among primary care physicians, nurses, dietitians, specialists, behavioral healthcare providers, patients, caregivers, and community services organizations. That collaboration, in turn, is dependent on effective communication. In fact, communication is critical to enabling best practices like multi-disciplinary rounding, care conferences, and other team-based processes.

Inefficient communications systems can impede the collaborative process. In emergency situations, poor communication can have dire consequences. Outlined below is a workflow example that could be enhanced through integrated clinical communications.

Workflow Example —
tPA Administration for Stroke Victims

Tissue plasminogen activator (tPA) is a protein used to break down blood clots in stroke victims. To be effective, it must be administered as quickly as possible after the onset of an ischemic stroke. In the U.S., that time window is 4.5 hours after onset of symptoms.

To administer tPA safely and effectively, caregivers must know the patient's "last known well" time. First responders such as emergency medical services (EMS) providers

typically gather this information either from the patient or their family. To ensure the tPA is administered within the 4.5-hour window, EMS may call that information in to the receiving emergency department. Intake staff then need to share the information with the nurse and physician who will alert radiology that a CT/MRI scan may be required to rule out hemorrhage and ensure that the tPA is prepared prior to the patient's arrival. Some hospitals may also have a written consent process for tPA administration; ideally that paperwork should be prepared prior to arrival in order to expedite the administration process.

In many hospitals, however, all of the above communication hand off takes place using a combination of phone calls and paging. Lag time in response anywhere in the process could lead to a delay in administering a lifesaving intervention (tPA) to a stroke patient.

Using a clinical communications and collaboration platform creates information flows for all relevant parties to receive simultaneous alerts or messages. The sooner the last-known well time is established, the more expeditiously all the other associated work can begin. With an integrated communications platform, EMS responders could send that information in real time via e-mail or text to the emergency department staff.

Thus, once received, the ER care team would receive instructions simultaneously about the incoming stroke patient. Those messages could be targeted to staff based on their roles and schedules, and escalated if staff are unavailable or if a timely response is not received. All staff members can communicate their status via HIPAA-compliant secure texts or a group chat session. The care team, patient, medication, and even the paperwork can all arrive simultaneously for a true patient centered care delivery approach.

Hospital-Based Workflow Improvements

Common hospital workflows can also be streamlined via a secure communications and collaboration platform by saving time and enhancing communication to ultimately improve outcomes and enable best practice HIPAA compliance. This is especially true for workflows that involve multiple levels of approval or clinician involvement.

Workflow Example — Communicating Critical Lab Results

For example, communicating critical lab results is a workflow that has a significant impact on patient outcomes, however, the process can be unnecessarily time consuming because of communication inefficiencies.

The Joint Commission has established a National Patient Safety Goal (NPSG) for the timely communication of critical laboratory results. Critical results of tests or diagnostic procedures that fall outside of the normal range could indicate a life-threatening problem. This NPSG calls for those results to be provided to the responsible licensed caregiver within an established time frame to ensure prompt treatment.

Multiple steps and hand-offs in communicating stat results can complicate the delivery of the patient's condition. A typical process using traditional communication methods looks like this:

- The lab is drawn and processed, indicating a critical result.
- The lab calls the nurse on the unit to communicate the result.
- The nurse calls/pages the physician to communicate the result.
- The physician calls back and may give corrective orders (new medication, IV fluids, etc.).
- The nurse validates the orders.
- The patient receives the intervention.
- The nurse documents the intervention and critical results communication time stamps.

If this process is not completed in a timely fashion due to difficulty in reaching the licensed caregiver, the patient can

be left in a potentially unsafe condition. Critical conditions increase the risk for complications and potentially prolong the length of stay.

In an integrated communications model, the lab or radiology department could simultaneously alert both the correct nurse and physician with the critical result at the same time. The clinicians could be reached on their mobile phones; however, if they are unable to respond, the solution could automatically escalate to locate other appropriate staff members. This type of notification could provide the physician the opportunity to enter an electronic order rather than a verbal order, and thus corrective order transmission to the nurse is safer and expedited.

This not only eliminates the bottlenecks associated with paging and waiting for a return phone call; it also encourages the use of electronic orders rather than verbal or phone orders. That improves clinical documentation and makes it easier to time-stamp the entire process to document compliance with the NPSG.

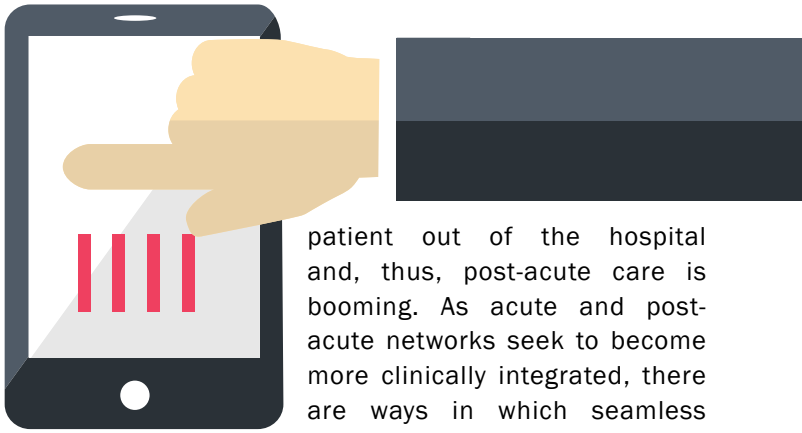
Population Health Management

Health systems focused on improving care and reducing costs have turned to population health management (PHM) strategies to coordinate care in the hospital setting and beyond. At a high level, this involves a significant amount of technology integration so different systems and different types of providers can aggregate, share, and analyze patient data.

At a more granular level, PHM also requires improved communication between providers. For example, a secure communications and collaboration platform can help improve outcomes by making it easier for acute and post-acute caregivers to communicate patient status and well-being to improve intervention responsiveness and prevent hospital admissions.

Workflow Example —
Communication in a Clinically Integrated Network

Patients are being seen in ambulatory settings at an increasing rate under the volume-to-value transition of the healthcare industry. In many cases, the goal is to keep the



patient out of the hospital and, thus, post-acute care is booming. As acute and post-acute networks seek to become more clinically integrated, there are ways in which seamless communication becomes key to avoiding unnecessary hospital admissions.

Particularly in home healthcare settings, patients may falter in medication compliance, or need small dose adjustments or dietary reinforcements to remain well and out of the hospital. Should a home healthcare provider notice minor shifts in patient condition and be able to proactively communicate this to the primary care provider in real time, further decompensation could be avoided, preventing a hospital admission downstream.

Common communications structures in home health involve the home healthcare provider taking note of a change in condition and then placing call to the primary care physician's office to leave a message with the administrative staff. The office staff then have to locate the physician and pass the information on to them. A change in medication or the care plan might then be passed back to the home healthcare worker, but, again, this may involve leaving multiple phone messages.

Streamlining this process using a clinical communications and collaboration platform would allow the home healthcare provider to directly message the physician, nurse, or care coordinator with the change in status. If necessary, they could even send along images (ex., wounds) or conduct a video chat with the physician. The physician could then update the care plan or send new medication orders electronically from a mobile device, while simultaneously updating the chart and alerting other members of the care team about the change.

By streamlining a communications process in the post acute care environment, interventions to keep the patient well and out of the hospital become an easier and timelier loop. Therefore the result is that there is potential to avoid a costly and otherwise unnecessary hospital readmission.

Conclusion

Healthcare organizations experience delays in care and communication breakdown with a reliance on voicemail and pager-based communications infrastructures. To meet evolving industry changes and team-based care delivery expectations while also remaining compliant with regulatory and accreditation requirements, providers need a more integrated approach. This is in order to achieve the cost and outcome improvements that are only possible through collaborative care.

A care team collaboration platform that supports all devices enable stakeholders (physicians, nurses, patients, EMS, etc.) to deliver the secure, reliable, and efficient communications experience required by the modern connected hospital. As demonstrated above, this type of platform can streamline many healthcare workflows, eliminating time wasted waiting for clinicians to respond to messages and pages, and ultimately improve patient outcomes.

Dr. Trisha Swift, DNP, MSN, RN, CPHQ, CPPS brings more than 15 years of experience in adult and pediatric health care operations. She has held broad executive leadership roles in quality/safety, regulatory compliance, and performance improvement for large, integrated health systems. Her clinical expertise includes critical care, medicine, cardiology, and peri/post-operative areas. Swift's executive experience covers a range of operational activities, such as development and implementation of strategic performance improvement plans, clinical and operational workflow design, physician alignment and integration, development of nursing professional practice models, and integration of healthcare IT solutions. Her doctoral dissertation topic was in population health management, and focused on improving acute to post-acute transitions of care through the use of technology and team-based care models.

Dr. Swift's experience covers healthcare aspects such as:

- ❖Physician Alignment and Development
- ❖Population Health Management
- ❖EMR & IT Solution Implementation
- ❖Governance and Organizational Structure
- ❖Zero Harm/Patient Safety
- ❖Regulatory Compliance & Accreditation
- ❖Performance/Process Improvement
- ❖Applied Clinical Informatics
- ❖Data Analytics

An Everbridge White Paper

About Everbridge

Everbridge is the leading unified critical communications platform trusted by corporations and communities of all sizes that need to reach the right people for immediate action, collaboration, and decision-making. Connecting more than 100 million people and internet-connected devices, the company provides reassurance that secure, compliant messages are delivered, locally and globally, received and responded to, no matter the recipients' locations. Everbridge is based in Boston, Los Angeles, San Francisco, Beijing and London. For more information, visit www.everbridge.com, read the company blog, http://www.everbridge.com/blog, and follow on Twitter and Facebook.

THE ONLY END-TO-END PLATFORM

- **HipaaBridge:** Use HipaaBridge within current workflows to quickly send secure messages, patient information reports, images or conduct telemedicine calls without incurring HIPAA violations.
- **Mass Notification:** Use Mass Notification to reach clinicians and employees about emergency situations and mass casualty events — across smartphones, email, SMS, push notifications and other modalities.
- **IT Alerting:** Use IT Alerting to help you restore system outages and quickly keep internal and external stakeholders informed.
- **Incident Management:** Use Incident Management with pre-defined notification procedures to speed up STEMI alerts and notify necessary hospital personnel faster to ensure patients receive life-saving treatment in record time.
- **On-Call Scheduling:** Use On-Call Scheduling for real-time shift calendars and integrated on-call notifications to automate the tedious process of contacting off-duty staff.

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