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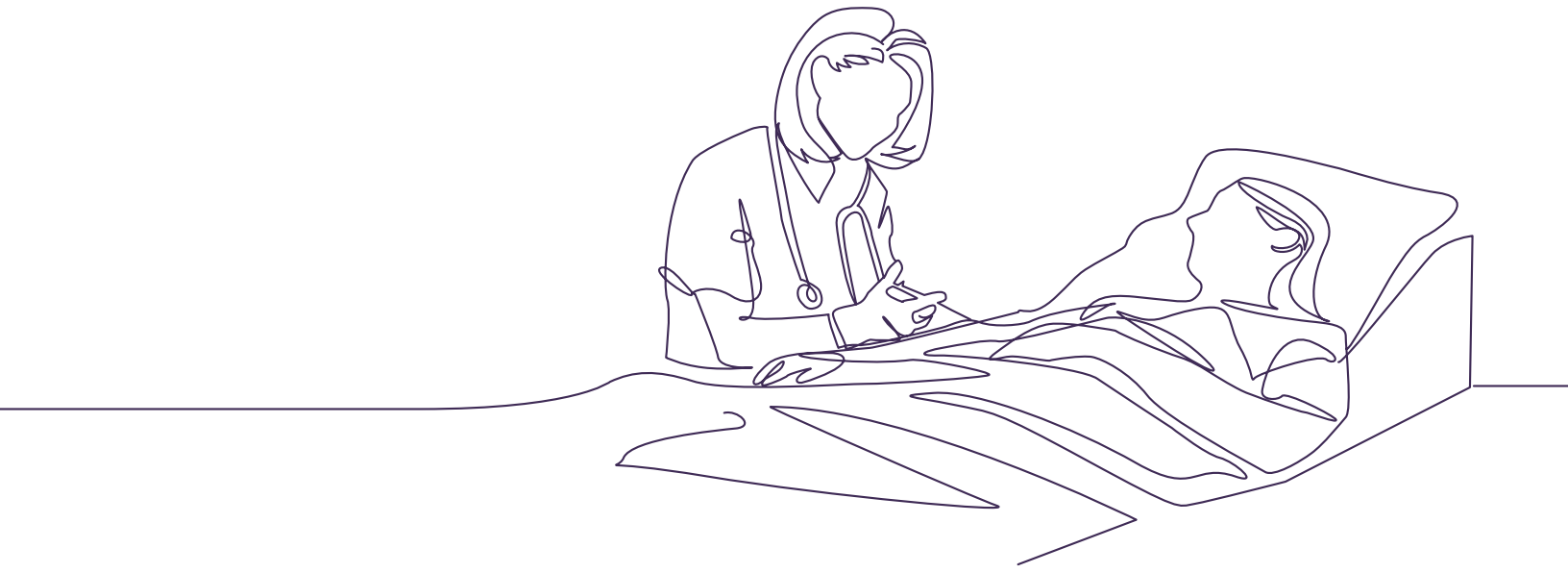
Choosing a Nursing Communication Platform

A step-by-step guide to reaching your care team collaboration goals.

Index



Introduction

A 2018 time and motion study revealed that in four hours, nurses spend around 32 minutes communicating with patients and family and 51 minutes communicating and coordinating with members of the care team.[1]

That's 34.6% of nurses' time each day spent communicating.

In addition to caring for sicker patients (the result of more intense and compressed hospital stays[2]), nurses are responsible for communicating with family members of patients, ancillary staff, care coordinators, and multiple consulting specialists. Unfortunately, technology aimed at streamlining nurse communication has often missed the mark and even compounded the problem.

The American Academy of Nursing Workforce Commission's Technology Drill Down project found that nurses were frustrated by siloed, task-specific technology that required workarounds and was not user friendly.[3] In response, the evolving healthcare landscape has seen cutting-edge clinical communication technology proliferate to fill in gaps and return nurses to the bedside.

Deployed strategically, an integrated clinical communication solution can eliminate many nonclinical tasks and empower nurses to deliver faster, more attentive patient care.

Backed by 20 years of experience helping hundreds of thousands of clinicians improve patient care through optimized communication, PerfectServe is now offering this step-by-step guide to help organizations improve collaboration, streamline nurse workflows, and refocus nurses' time on exceptional patient care.

Current State of the Clinical Communication Market

Value-based care initiatives are driving requirements to bring together secure text, interactive patient care technology, nurse call, alarms, notification platforms, call/transfer center technology, and even the EMR/EHR to support collaboration within and beyond the inpatient setting.

In leading organizations, clinical communication technology is the cornerstone of a broad initiative to overcome care coordination challenges, improve transitions in care, and satisfy new patient experience expectations.[4] Advanced clinical communication solutions address enterprise-wide needs, consolidate and integrate siloed applications, help reduce vendor footprint, and simplify clinical workflows to streamline patient care.

The following table covers a broad spectrum of functionality associated with clinical communication platforms. Items may represent:

- Core Functionality (C)
- Integration (I)
- Core or Integration, Depending on the Vendor (C, I)

Functionality	Typical Offering	Functionality	Typical Offering
Active Directory/LDAP	I	Mobile Device Management	I
Alert & Alarm Management	I	Nurse Call	I
Analytics	C, I	On-Call Scheduling	C, I
Automated Communication Workflow*	C	Pager Support	C, I
Barcode Scanning/Proximity Badges	C, I	Patient Messaging	C, I
Bed Management	I	Patient Throughput	I
Contact Center/Transfer Center	C, I	Physiologic Monitors	I
Critical Result Communication	I	Real-Time Location Tracking	I
Digital Rounding	C, I	Smartphone, Tablet, & Web/Desktop Support	C
EHR Management	I	Telephony Support	C, I
HIPAA-Compliant Bi-Directional Texting	C	Wayfinding	C, I

*Examples can be found under “Step 2: Define Important Workflow Enhancements”.

Step 1:
Begin With the End in Mind

Start by challenging your assumptions about communication and collaboration. Attempting to automate your existing communication processes without first exploring opportunities for improvement would limit the potential of any new technology.

Ask yourself the following questions:

- What outcomes would you like to achieve?
- What are the key nursing drivers in your organization?
- How do you want your clinical communication solution to improve patient care processes, reduce unnecessary steps, and maximize patient and clinician satisfaction?

Years of research and experience working with hospitals and health systems have revealed the following goals as top priorities for nurse leaders.

"When healthcare professionals communicate effectively—conveying critical information in a timely or easily understandable manner, clearly spelling out orders or instructions, and answering questions thoroughly and thoughtfully—they deliver safer and higher-quality care."

– James Merlino, MD[5]

Accelerate Decision-Making to Reduce Care Delays

In contrast, extended and/or error-prone communication can delay treatments such as medication delivery, testing, and therapy. The consequences of a care delay can range from negligible to severe and may include an extended length of stay, exacerbation of illness,[6] late OR start times, clinician overtime, sentinel events, and more.

Communication-related care delays may involve:

- Difficulty finding or interpreting the on-call schedule.
- Schedule errors that lead the nurse to contact the wrong provider.
- Issues relaying information through office staff or the answering service.
- Trouble locating the nurse on the unit when a clinician calls back.
- Not knowing if a message has been received and acted upon.
- Restarting the communication process or escalating to another provider when a message is not returned.

An effective solution will reduce care delays by ensuring the correct person is immediately reached. Streamlining message delivery eliminates errors and reduces communication cycle time, which we define as the average time it takes to receive a response from a care team member after sending them a message.

Automating the communication process can bring average response times down from 45 minutes to 15-20 minutes.[7]

25-60%

Reduction in Communication Cycle Times[7]

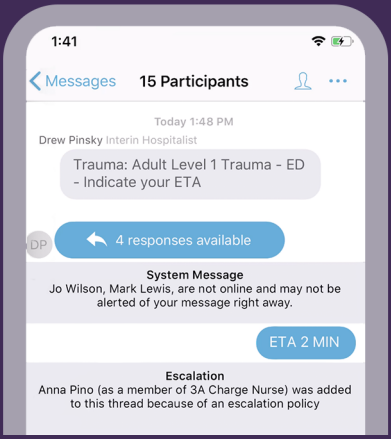
Pro Tip:

Your current communication cycle times can be identified through time and motion studies. Goals for reducing communication cycle times vary across facilities.

Organizational Goals May Include:

35%
Faster Critical Result Acknowledgment

20%
Reduction in Code Blue Events



30%
Faster Rapid Response Team Arrival Times

20%
Reduction in Patients Leaving the ED Before Being Seen

5%
Decrease in Length of Stay

Improve Care Quality

An advanced clinical communication solution should achieve the following:

- **Timely Critical Result Notifications**

  Dangerous and costly complications—such as transfers to the ICU, additional medication, and cardiac arrest—can be mitigated or avoided by ensuring the on-call provider is rapidly notified about abnormal lab values (e.g. low potassium) and critical radiology results (e.g. signs of a pulmonary embolus).

- **Reduction of Code Blue Events**

  The right clinical communication solution can support early intervention to address signs of patient deterioration in two ways:

  — Automatic relay of alerts such as Modified Early Warning Scores (MEWS—a physiologic scoring system used to detect early deterioration) to the correct on-call provider.

  — Faster and more accurate manual notifications sent by the care team to the appropriate on-call provider.

- **Rapid Response Team Mobilization**

  For efficient mobilization of resources, advanced clinical communication solutions allow care team members to use their mobile phones to instantly activate designated response teams (e.g. code stroke or code STEMI), notifying all team members of emergency details.

- **Improved ED Throughput**

  Overcome challenges to ED throughput communication—such as specialist and surgical team availability, diagnostic service and procedure coordination, on-call provider availability, and transfer coordination—with a solution that expedites communication to decrease response times, improve throughput, increase bed access, and reduce patient wait times.

- **Reduced Length of Stay**

  Cutting communication cycle times by 15-20 minutes expedites care and allows for faster transfer out of the ED, PACU, and ICU, freeing up beds for new admissions.

Increase Referrals by Optimizing Transfer Center Operations

Referrals are a major source of patient admissions (and revenue) for tertiary care centers, but many health systems find the transfer process to be cumbersome and inconsistent. For a referring physician, the communication chain may start with accepting physician specialist or emergency room personnel, followed by the nurse supervisor, who would then contact bed control to ensure availability.

Multiple handoffs lead to delays in patient care, frustrating experiences, and lost referrals.

A state-of-the-art clinical communication solution reduces the time required for contact/transfer center personnel to reach providers, arrange transfers, and move patients to their assigned beds. The impact of a clinical communication platform on your organization's admission volume will depend on current referral activity but should yield a 5-10% increase with proper implementation.[8]

Increase Patient Satisfaction

Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores surface data about patient perspectives of care for consumer comparison, increasing accountability and incentivizing hospitals to improve their quality of care. Some hospitals struggle to obtain the requisite 300 completed HCAHPS surveys over the 12-month reporting period.

A clinical communication solution can help in two important ways:

1. Improving the Patient Experience
2. Encouraging Patients to Complete Surveys

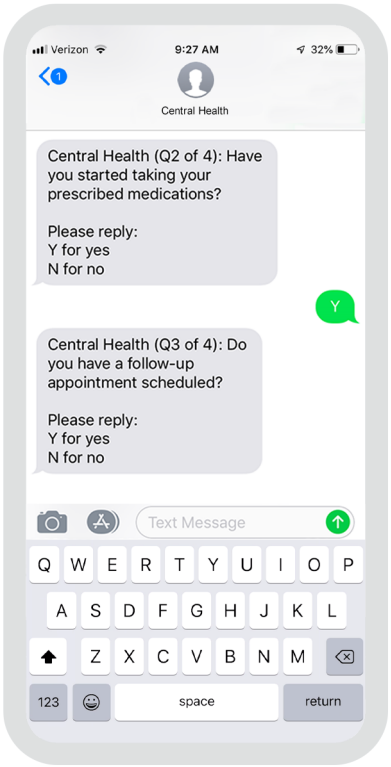
Pro Tip:

Evaluate your current transfer processes by surveying your nurse supervisors and bed control personnel, estimating the potential impact of process improvements on your organization's referral rates, and using current referral statistics to calculate corresponding revenue.

5-10%
Increase in Admissions[8]

1-2 Point
Increase on Each Measurement Criteria[9]

40-50%
Increase in Survey Response Rates[10]



Patient perceptions of six out of ten key HCAHPS topics can be addressed by improving care team communication:

- Nurse Communication
- Doctor Communication
- Responsiveness of Hospital Staff
- Pain Management
- Quietness of Hospital Environment
- Understanding of Care Post-Discharge

The best way for organizations to capture positive patient perceptions is to text message patients with links to complete surveys on their phone. Because 96% of adult have cell phones[11] and texting is the number one cell phone activity, surveys distributed via text message can drive increased participation from patients.

Reduce Readmissions

The nationwide quest to avoid preventable readmissions involves a variety of strategies to engage patients post-discharge, the most common being for nurses and care coordinators to call patients at home to collect assessment data and reinforce educational materials. But with the escalating frequency of robocalls, patients are increasingly likely to ignore unexpected calls, creating a frustrating game of phone tag between nurses and patients.

A clinical communication solution that includes automated text messaging with patients can reinforce treatment instructions while encouraging specific next steps (e.g. filling a prescription or scheduling a follow-up visit). Two-way texting can be used to gather patient responses and monitor key health indicators (e.g. blood glucose levels). An advanced solution can even highlight responses outside of the expected range, flagging patients at higher risk for readmission so nurses can focus their outreach efforts accordingly.

Some of the benefits of patient texting include better care plan adherence, decreased readmissions, more satisfied patients, reduced labor costs, and an overall reduction in manual tasks that gives nurses more time to practice at the top of their licensure.

30%
Decrease in Readmissions

Pro Tip:

Identifying your target readmission reduction rate depends on historic program effectiveness. Organizations that have had limited success should strive for a 20-30% reduction.[12] Calculate estimated savings based on the average readmission cost per patient.

Step 2: Define Important Workflow Enhancements

Technology vendors may look similar on paper, but the right clinical communication solution will simplify several communication workflows by eliminating steps and speeding up processes to improve clinician and patient satisfaction. Organizations looking to optimize mobility and care team efficiency should focus first on the workflows in need of improvement.

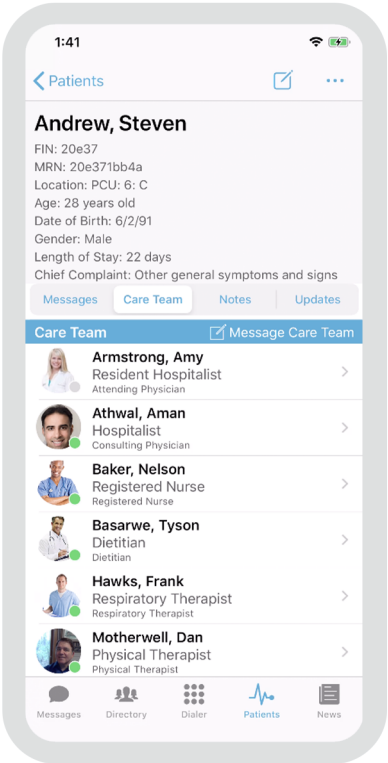
True efficiency can only be achieved with a comprehensive solution. Avoid purchasing point solutions or technology that can only address a limited set of challenges. Skim past the ambiguous feature lists and examine the use cases, which can help you envision specific scenarios and map out desired workflow improvement goals.

The degree to which a clinical communication solution can simplify your communication likely depends on the flexibility of the rules engine and routing mechanisms. A solution with thoughtful, built-in intelligence will offer several nursing workflow improvements and remove extra steps from the following processes.

1 Care Team Assignment

How much time each day do your nurses spend calling departments and waiting on hold to locate the assigned care team member?

Efforts to track down the assigned patient care technician, respiratory therapist, physical therapist, pharmacist, or other care team member can be frustrating, with assignments sometimes stored in several different places (including the EHR and nurse call system). Integrating all patient assignment sources allows nurses and other care team members to easily view and contact each patient's assigned care team.



2 Role-Based Assignment

How often do team members wait on hold while a unit charge nurse is located? How long are patient transfers delayed by trying to obtain bed assignments or transfer assistance?

Locating personnel in specific roles (e.g., ICU charge nurse, nurse supervisor, patient transport coordinator, etc.) is often time consuming. Staff throughout the organization should have the ability to easily message care team members in role-based assignments from the clinical communication solution, whether the right team members are identified through application integrations or self-assignment of roles.

3 Physician/Service Coverage

How often do your nurses call the attending physician of record only to discover they are no longer the primary physician, or they are not on call for the patient today?

Information stored within the EHR about the admitting or attending physician or service is often outdated. Much like the aforementioned care team assignment functionality, integration with multiple sources allows a sophisticated clinical communication solution to identify the correct physician of record and the current on-call schedule to direct communication to the right provider.

4 Call Schedule Management

How frequently do your nurses call the wrong person in the middle of the night trying to reach the on-call provider?

Paper call schedules are difficult to maintain—shift assignments change throughout the month, and it takes a lot of time and resources to distribute printed copies across departments. With a clinical communication solution that includes electronic call schedule integration and management, nurses can enter a simple search like "cardiologist" and instantly initiate a call or secure message to expedite treatment. Users should also be able to search for specific providers associated with a patient, such as the cardiologist. Clicking to contact an off-duty provider should show an alert such as: "Dr. Smith is not on call at this time. Would you like to connect with Dr. Jones, who is currently providing coverage, or continue calling Dr. Smith?"

5 Voice Calling

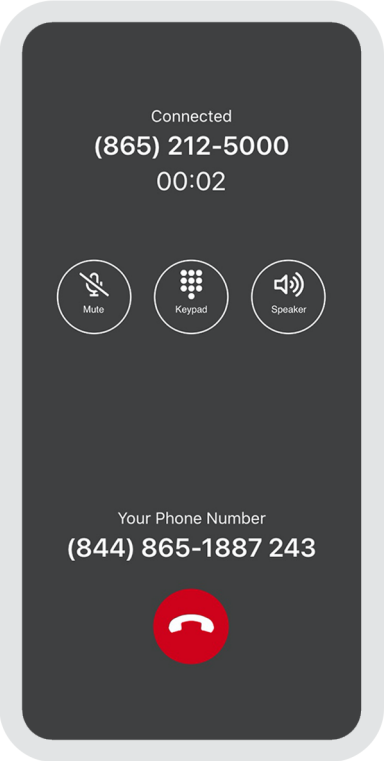
Do your nurses sometimes get confused when toggling between the EHR, telephone app, and messaging applications?

Toggling between a messaging application and phone dialer is a cumbersome user experience. Modern clinical communication applications either integrate with the smartphone's native dialer or incorporate voice calling to allow users to dial out directly from the messenger app. Additional integration with the organization's telephone system ensures that users can call any four- or five-digit extension from their smartphone, even from offsite.

6 Call Masking

How often is patient care interrupted when patient family members call the nurse's direct mobile phone number?

Nurses' direct phone numbers can be exposed to patients and/or family members through caller ID. Call masking prevents patients from seeing your staff's mobile phone numbers by displaying the main unit or organization phone number on the caller ID.



7 Hold Nonurgent Messages

Have your nurses been reprimanded for waking a provider with a nonurgent message? Has your team failed to remember/relay a nonurgent message or consult in the morning?

Managing nonurgent messages overnight can be a challenge. Your clinical communication solution should include qualifying questions for off-hour communication and the option to hold nonurgent messages until normal working hours.

8 Read Receipts

How often are nurses left wondering if a physician or care team member has received their message? How long do nurses wait before sending another message?

Date and time stamps provide visibility into the delivery and read status of patient care messages to help ensure issues are addressed promptly.

9 Multiple Alert Tones

How many times a day do important care processes (medication administration, patient education, clinical procedures, etc.) get interrupted by nonurgent message alerts?

An alert that disrupts a clinical task or procedure is particularly frustrating when the message can wait. A clinical communication solution with multiple alert tones and customization options helps clinicians instantly differentiate the nature of each message (urgent, nonurgent, physician reply, etc.), physiologic monitor notification, and alarm to help nurses determine if they need to stop what they're doing to check the message.

10 Unavailable Mode

How often do staff members receive calls back from the OR circulating nurse to say the provider is unavailable? How much time lapses between sending an initial message, manually escalating to another provider, and resolving the issue?

Care delays often occur because physicians or nurses are in sterile procedures and cannot be interrupted. Advanced clinical communication technology allows users to indicate if they are unavailable. If a care team member tries to message someone who is unavailable, the sender gets the option to reroute the message to the covering provider or send to the unavailable recipient anyway (to be addressed after the procedure is complete).

11 Automatic Escalation

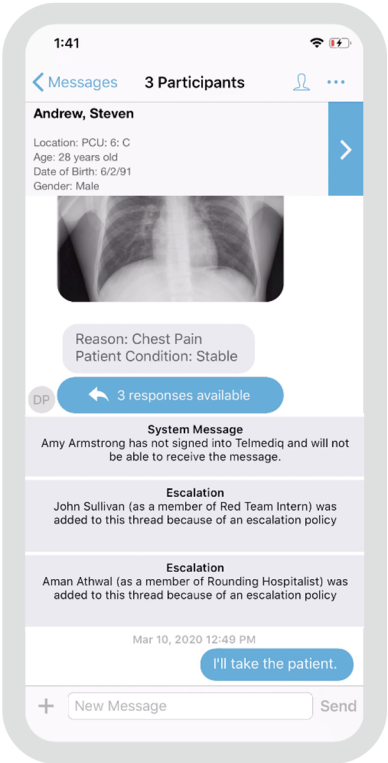
How long do your nurses wait before escalating urgent messages? Do they ever get delayed by patient care and take too long to escalate a message to another provider or manager?

Manual escalation requires nurses to recognize the need to escalate and choose the appropriate timing for escalation. A smart clinical communication solution can remove manual escalation decisions and support rapid issue management by auto-escalating urgent messages not acknowledged within a specific timeframe to the next-level provider or manager.

12 Care Continuity During Shift Change

How much nurse time is wasted trying to contact respiratory therapists, nurse managers, or physicians after their shift has ended? How does it impact the time required to address patient needs?

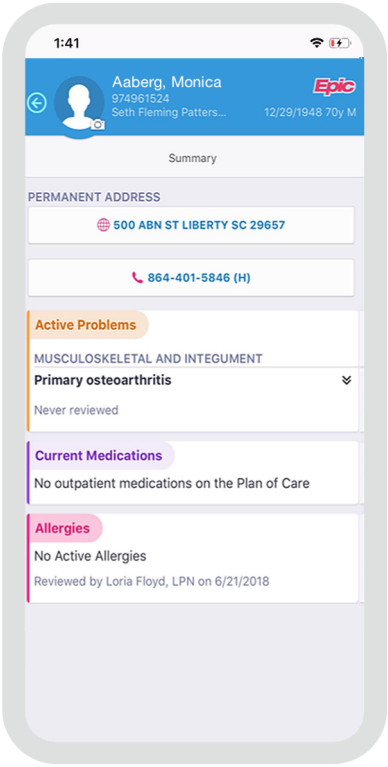
Trying to reach a provider or care team member who has gone off shift creates frustration and delays issue resolution. The right clinical communication solution will indicate when a provider is no longer on call and offer the option to start a new conversation with the on-call clinician, saving time and improving nurse satisfaction.



13 Group Message Threads

How often are orders or discharges delayed because care team members are operating without complete information?

Nurses tend to start multiple communication threads with different team members as needed, and then wind up mediating across threads as care progresses. Advanced communication solutions support group messages and allow care team members to be added to existing threads to see the full conversation history for a holistic understanding of the patient's needs.



14 EHR Integration

Do your clinicians toggle between your communication system and your EHR, sometimes having to type patient information from the EHR into a message to ensure proper context?

Working in two separate systems—one for documentation and another for communication—is not ideal for nursing staff. An advanced clinical communication solution integrates with the EHR to simplify the workflow. (Learn more in Step 3: Identify Required Integrations).

15 Access to Out-of-Network Providers

How do your nurses connect with out-of-network providers today? Phone lists in the unit? The hospital operator? How do your clinicians ensure HIPAA-compliant communication with out-of-network providers? How often does your team experience communication failures when trying to reach outside providers?

Communication processes often break down when clinicians try to reach a provider outside their network, such as a dialysis center or rehabilitation facility. Clinical communication technology should span the patient's entire care ecosystem to ensure consistent and reliable communication that expedites planning and transitions of care.

16 Rapid Response Team and Code Team Deployment

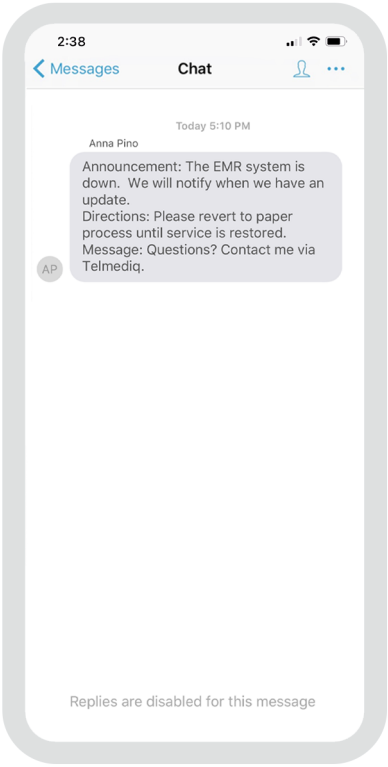
Do your clinicians have to call the operator to activate a rapid response team? How long does it take? How do they know when team members will arrive?

Advanced clinical communication technology can manage multiple teams for specific emergencies such as sepsis, stroke, myocardial infarction, full cardiac arrest, etc. A user can activate the relevant team from their smartphone to immediately relay the nature of the event and the patient location to appropriate personnel. Designated code team members receive the message simultaneously and all recipients can view each team member's read receipts and replies.

17 Mass Notifications

How does your organization communication to all employees throughout a major event, such as a hurricane or snowstorm? How are staff kept informed about the status of planned or unplanned EHR downtime?

A clinical communication platform should provide fast, reliable delivery of emergency messages to all users or certain groups within the organization. Mass notification capabilities help keep staff informed before, during, and after critical events such as natural or man-made disasters.



Step 3:
Identify Required Integrations

Clinicians will only use new technology that delivers significant workflow benefits—ease of use, faster care, increased patient throughput, better outcomes, etc. That means your clinical communication solution needs more than basic HIPAA-compliant texting functionality. To best support adoption, compliance, and unified communication, your solution must integrate with the following key hospital systems and devices to simplify workflows at the outset.

EHR

Nurses spend a great deal of time communicating and documenting, making integration between the clinical communication platform and the EHR critical. Patient lists and care team assignments support accurate routing, and new orders and results are the impetus for action. Tight integration with Epic, Cerner, and other EHRs saves nurses countless hours that would otherwise be spent toggling between applications, searching for data, and manually typing information into text messages.

Embedded Messaging

Embedded messaging allows staff to initiate communication in the clinical communication application without leaving the EHR, automatically tying patient context into the message to reduce the amount of information clinicians must enter manually. Likewise, staff can launch the mobile EHR app from the clinical communication application to review information or document care, eliminating the need to toggle between applications or leave one solution to open another.

Scenario

A nurse receives a message through the clinical communication app stating that the physical therapist would like to visit patient Smith in room 404 to begin rehabilitation in 30 minutes. The nurse launches the mobile EHR app directly from the message and reviews the medication administration record. Since the patient's last pain medication dose was four hours ago, the nurse visits patient Smith to assess her level of pain. The nurse decides to administer another dose of pain medication to ensure that patient Smith can maximize the value of her physical therapy, and then replies to the physical therapist that pain medication has been delivered and patient Smith is expecting the visit.

STAT Order Notifications

The ability to access the EHR from any location creates opportunity for order entry without concurrent communication between doctors and nurses. Integration with the EHR enables the automatic notification of all appropriate personnel about new STAT orders to minimize care delays.

Scenario

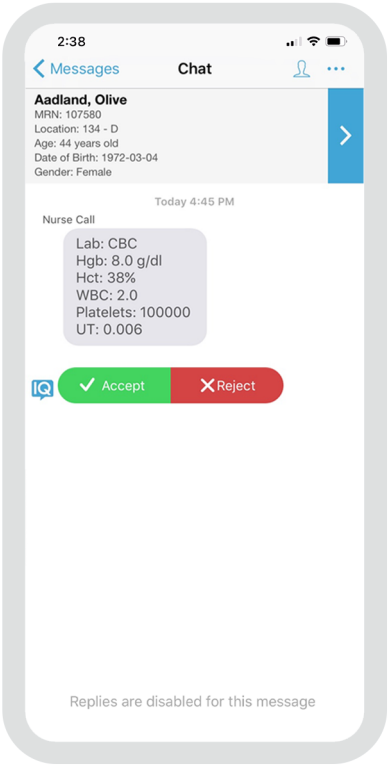
While rounding on a patient, a physician writes a STAT order in the EHR for intravenous potassium. The pharmacist and the patient's nurse receive an alert through the clinical communication app on their smartphones including the patient name, room number, and STAT order details. The pharmacist and nurse can both prioritize the new order and expedite the delivery of the potassium.

Critical Laboratory and Radiology Results

The Joint Commission's National Patient Safety Goal 02.03.0113 requires organizations to report critical results of tests and diagnostic procedures in a timely manner, but some organizations struggle to measure compliance and meet their goals. Integration with a modern clinical communication solution helps ensure that results are immediately delivered to the appropriate provider (either the ordering physician or the covering on-call provider), escalated within specific timeframes if necessary, and documented for auditing purposes. Automated routing saves lab and radiology technicians countless hours each month.

Scenario

A patient's blood culture results reveal a serious bacterial infection. The ordering provider has handed care off to her partner for the evening, so the clinical communication platform automatically routes the result notification directly to both the covering provider and the nurse caring for the patient. The covering provider acknowledges the alert and adds a note that she will change the antibiotic order in the EHR. All messages are automatically relayed to the laboratory department and the nurse taking care of the patient. System reports help the lab evaluate response times, evolve quality improvement efforts, and provide documentation for The Joint Commission.



Clinical Surveillance Alerts

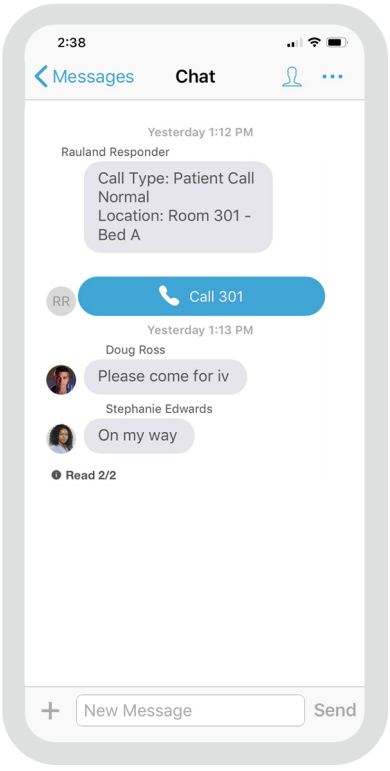
Advances in clinical surveillance provide hospital staff with early warnings of potential patient compromise including sepsis, respiratory deterioration, organ failure, etc. As algorithms constantly evaluate new information to determine risks, clinical communication technology should rapidly route any alerts to the appropriate clinical staff.

Scenario

The rule-based sepsis screening tool identifies a potential case of sepsis. The clinical communication platform receives a sepsis notification and immediately alerts the patient's care team about the risk. Since the attending physician is not on call, the alert is automatically routed to the covering physician. The patient's bedside nurse is performing a sterile dressing change and does not read the message within 10 minutes, so the system automatically escalates the sepsis alert to the charge nurse on the unit.

Nurse Call System

A recent study found that only 52% of bed calls require nursing care; all others can be answered by support staff.[14] If your organization has a next-generation nurse call solution that provides request details, supports task assignment, and enables callbacks from mobile devices, integrating it with the right clinical communication solution will help nurses focus on clinical work and delegate other tasks to the care team.



Scenario

A patient presses the "water" call button. The clinical communication platform receives the request and automatically routes the message to the patient care technician instead of the nurse, preventing the nurse from getting distracted by a nonclinical request. Later, the patient presses the general call button and the assigned nurse receives the message. The nurse clicks on the message to call back to the room from her smartphone. She has a quick conversation with the patient to determine if a trip to the patient's room is needed.

On-Call Schedule

With a modern clinical communication solution, scheduling applications that manage on-call shifts can be integrated to ensure all calls and messages are delivered to the correct on-call provider. If provider groups are using different scheduling tools, the clinical communication platform should integrate with each tool to ensure timely and accurate communication across the continuum.

Scenario

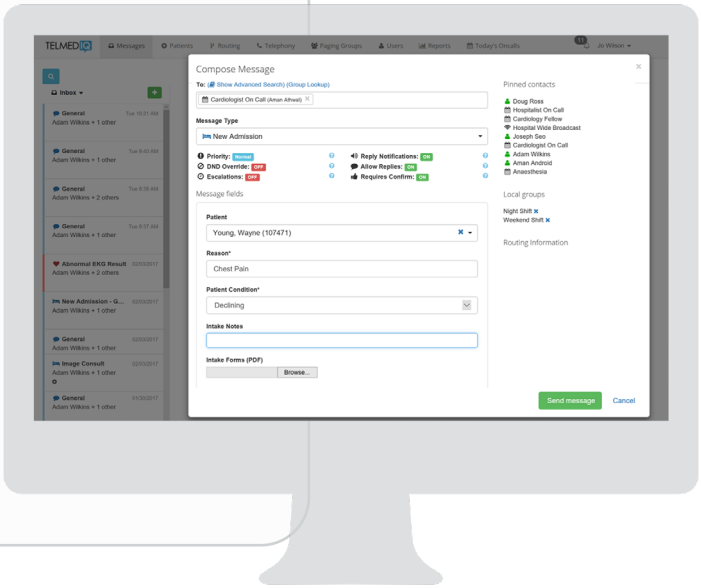
A hospitalist asks a colleague to swap shifts because his child is ill. The swap is completed in the scheduling application. Later that evening, when the ICU nurse messages the on-call hospitalist, the application automatically routes the message to the substitute instead of the originally scheduled hospitalist.

Call Center

Integrating the clinical communication solution with the call center system brings HIPAA compliance and streamlined workflows to the hospital's switchboard, transfer center, and answering service. Operators can call and send secure messages with patient details directly to the smartphone of the clinician.

Scenario

An operator receives a call from patient Smith's husband, who would like to speak to the patient's nurse. The operator sends a text message to the nurse asking if he is available to speak with Mr. Smith. The operator sees the message was read and receives a reply that the nurse is finishing lunch and would prefer to call Mr. Smith back in 10 minutes. The operator responds to the message with Mr. Smith's phone number. The nurse calls Mr. Smith 10 minutes later by clicking on the phone number in the text message.



Authentication Infrastructure

Integrating with Active Directory or a single sign-on (SSO) system facilitates easy provisioning of users onto the clinical communication platform and allows users to authenticate using their pre-established health system credentials. Active Directory integration also helps users more easily find and contact anyone in the organization by providing the most current names, roles, and contact information for all personnel.

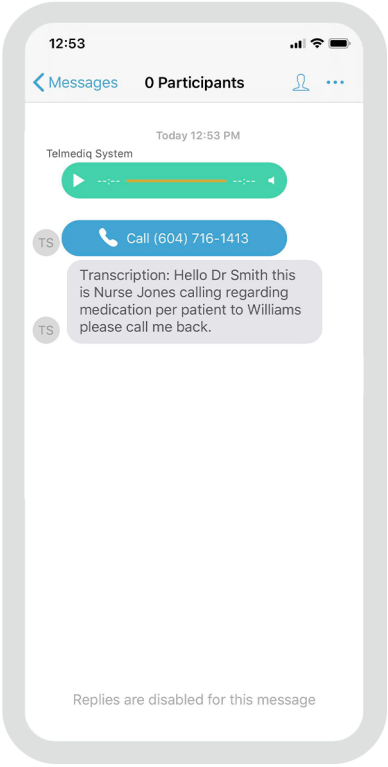
Scenario

At the beginning of the shift, a nurse selects a smartphone from the charger bank and uses her proximity badge to log into the device and the communication platform simultaneously—no need to enter credentials. When the smartphone is returned to the charging station, the nurse is automatically logged out of the system. The system keeps track of which nurses are on duty.

Pagers

Some large health systems may want to retain pager technology and/or ease the transition to smartphones by using both pagers and smartphones in tandem. To successfully leverage both types of device, a clinical communication platform must be able to send messages to pagers using the appropriate communication protocols while filtering Protected Health Information (PHI) since pagers are unsecure (i.e., they do not require authentication to read messages).

Solutions can allow clinicians working across health systems (and pager networks) to send and receive messages to and from each organization with a single device. Clinicians can be assigned a “pager number” within the clinical communication app and it will route pages to their smartphones.



Scenario

An orthopedic surgeon operates at two organizations: a private surgery center and a large teaching facility. When the large teaching facility implements a clinical communication solution, the surgeon wants to eliminate the two pagers she carries (one for each facility), but the private surgery center does not plan to implement the clinical communication solution. She also wants to avoid changing numbers or becoming difficult to reach.

The surgeon works with IT to integrate her private surgery center pager number with her clinical communication profile, ridding herself of pagers and routing all messages to her smartphone.

Hospital Phone System

Phone system integration allows users to dial and receive calls within the clinical communication application on their smartphone and from any phone on campus or within their network. A clinical communication solution can operate like a Private Branch Exchange (PBX) system, using a Voice over Internet Protocol (VoIP) dialer to allow users to dial four or five-digit department extensions they've memorized over the years. The PBX dialing feature prevents users from having to pick up a hospital desk phone to dial an extension or launch the telephone app on their smartphone to dial the full seven-digit phone number.

Scenario

A case manager has left the hospital campus and receives an alert about a critical lab result. To ask a question about the result, the case manager simply dials the lab's four-digit extension from the clinical communication app where she received the alert.

Alarm Management Technology

Alarm management middleware prioritizes and filters event notifications and relays relevant patient and event context to the care team. Integration with modern clinical communication technology supports appropriate message routing and escalation on the same platform managing other communication activities.

Scenario One

A patient's monitor leads fall off. The alarm middleware detects that the leads are off for more than 10 seconds, which triggers an alert to the clinical communication platform. The platform sends a "Leads Off" alarm to the nurse assigned to the patient. The nurse is unable to respond to the alarm within 30 seconds, so the alarm is escalated to the charge nurse. The charge nurse heads to the patient's room to resolve the issue.

Scenario Two

A confused patient attempts to get out of bed unassisted. The communication platform relays the bed exit alarm to all staff on the unit, "Bed Exit: Room 100." All available staff members respond to room 100 to prevent a life-threatening fall.

Step 4:
Select the Right Hardware

The right smartphones have the power to transform nursing workflows for the better. Nurses and other care team members need ruggedized devices that can be thoroughly sanitized, easily carried, and used to access all required applications while appearing professional (so patients don't think their clinician is distracted by a personal cell phone).

Most importantly, clinical devices need reliable connectivity, which can only be assured through careful vetting, selection, and maintenance by the health system. Consider the following aspects:

Wi-Fi Network

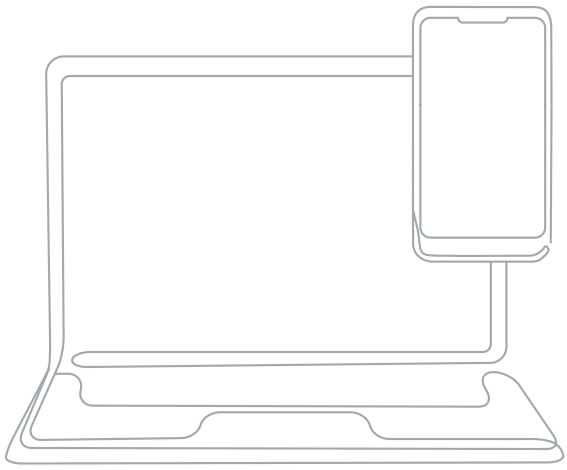
One of the most common failure points of a mobile communication strategy is the Wi-Fi network. [15] As more devices tax the system and the volume of data crossing the network increases, Information Technology (IT) Departments must conduct thorough bandwidth testing and eliminate dead spots before adding new devices.

Device Maintenance

Shared devices need their own strategy. Plan for modular charging, efficient maintenance, and regular disinfection. Let patients know the devices are being used for clinical work, possibly with branded device sleeves/battery packs.

Mobile Device Management (MDM) Software

MDM software centralizes the management of planned and reactive maintenance to minimize downtime, extend equipment life, and reduce budgetary spend. Organizations can use MDM tools to set up and perpetuate updates, upgrades, and patches. across all devices, as well as to help identify security issues and address them across the entire fleet before major problems develop.



Device-Specific Features

The table below describes device-specific features to consider when selecting smartphones for clinical use.

Feature	Consideration
Battery Life	• Can operate for at least 12 hours under high-use conditions • Potential for extended life cell phone batteries incorporated into ruggedized cases and/or swappable batteries
Enterprise-Grade Wi-Fi	• Test on your Wi-Fi network to ensure devices don't roam between access points and drop calls
Voice over Internet Protocol (VoIP) Functionality	• Support for VoIP calls natively
Durability	• Shock resistance for falls up to 6 feet • Fluid resistance
Cleaning and Disinfection	• Screens and casings made to tolerate hospital-grade disinfectants
Integrated Scanners and Cameras	• Ability to scan bar codes and support medication administration, wound photography, etc
Compatibility	• Support for all required apps and systems deployed at the organization

Conclusion

Clinical communication technology has evolved into a system-wide backbone for all care coordination activities. Nurse leaders can eliminate silos and consolidate functions into a single solution by taking an outcomes-driven approach to system evaluation, deployment, and success measurement. Choose a solution that addresses the holistic needs of your organization to reduce care delays, improve patient safety, streamline workflows, and generate a strong return on investment.

Evaluate solutions against your organization's goals for process improvement, desired workflows, and required integrations. The right clinical communication solution will lead to reduced communication cycle times, fewer care delays, improved care performance metrics, decreased readmissions, and better patient outcomes.

Getting Started

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