The Savvy Hospital Leader’s Guide to Clinical Communication and Collaboration

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Introduction

The era of information silos in healthcare is, finally, coming to a close. Since EHR systems have united previously separate systems – like physician order entry, imaging, lab, and pharmacy – hospitals are looking for ways to become more aware, integrated, collaborative, and patient-centric.

Gartner has coined this shift as the industry’s evolution to “real-time health systems”:

*The RTHS intersects with critical care delivery systems such as the electronic health record, virtual care platforms and healthcare analytics technologies. Together, they capture, correlate and make use of patient event data in real time in order to make more timely clinical and patient management decisions that are necessary for operational efficiency, improved care quality and a positive patient experience.*

Sound space aged? Maybe, but the reality is the future is here – many organizations are evolving to become real-time health systems with the help of technology. Clinical communication and collaboration (CC&C) platforms interoperate with the EHR and other clinical systems to improve care coordination, streamline workflows, achieve better outcomes, and provide the situational awareness required to be fully real-time and patient-centric. For example, imagine multiple patient alarms going off at the bedside, technology capturing and combining those alerts, then sending them to the right provider’s mobile device with real-time vital signs and live waveforms for an informed and rapid response. If the CC&C acronym is unfamiliar, it’s time to get up to speed. Clinical communication and collaboration (CC&C) platforms are rapidly growing to become mission-critical systems that complement the EHR, and Gartner predicts CC&C platforms will replace stand-alone messaging solutions by 2023. Consider this your two-part guide to CC&C platforms.

Using the latest research from Gartner, we’ll define CC&C and demonstrate the value and advantages of a CC&C platform. You’ll learn what hospitals and health systems are doing to support CC&C today, as well as how we expect these systems to evolve. Then, it’s time to design your approach and build truly robust enterprise communications. We’ll also provide tips to help you select a vendor that will be the best fit for your organization.

Source: Spok
Clinical communication and collaboration systems can reduce care team toil, and improve care team effectiveness and related enterprise key performance measures. Healthcare provider CIOs and clinical leadership should use this guide to see where this market is heading and identify notable vendors.

Key Findings
- CC&C systems have gained traction within healthcare providers due to the increased use of mobile devices, the smartphone in particular, and an industry focus on improved outcomes, care coordination and the patient experience.

  • New channels to collaborate on care are vital to coordinate transitions of care within today’s complex, often disjointed, care delivery system. Minimally, care coordination requires robust bidirectional communication among care team members. Ideally, it requires sophisticated care team collaboration capabilities and ubiquitous situational awareness.

  • Toil – work that is manual, repetitive, automatable and tactical – scales linearly and has little enduring value. Whenever possible, healthcare provider CIOs should introduce technologies and systems that can reduce toil. CC&C is one of those systems.

Recommendations
Healthcare provider CIOs developing the IT strategy for next-generation care delivery should:

  • Determine the amount of unnecessary toil embedded in care delivery workflows through focused interviews with nursing staff and care team members, and analyze the results in light of industry norms and benchmarks, such as the Mayo Clinic’s Physician Well-Being Index.

  • Improve care coordination and transitions of care by equipping care teams with CC&C tools that interoperate with other core components of the care team collaboration ecosystem. Those components include the contact center, interactive patient care, alarms and notifications, and nurse call systems.

  • Give preference to CC&C vendors who have proven system integration and interoperability capabilities, and whose product architectures and service delivery models are adaptable to changing business requirements and circumstances.

Strategic Planning Assumption
By 2023, the patient-centric secure messaging capabilities of clinical communication and collaboration (CC&C) systems will have largely replaced stand-alone secure texting among care team members.

Market Definition
This document was revised on 30 July 2018. The document you are viewing is the corrected version. For more information, see the Corrections page on gartner.com.

CC&C systems are IT systems deployed by healthcare providers, and used by clinicians and support staff to communicate and collaborate on patient-related activities. They are used to share patient information, capture alarms and notifications, and optimize care transitions and patient throughput. CC&C systems can contribute to improved patient safety, outcomes, satisfaction and retention. They offer secure messaging, collaborative and integration capabilities that amount to the convergence of conventional inpatient communications technologies such as the private branch exchange (PBX), VoIP, email and paging with more advanced capabilities associated with the smartphone, wearables and the cloud. CC&C systems are used to coordinate the activities of care team members in an effort to improve:

  • Care measures
  • Clinical workflows
  • Patient experience
  • Patient safety
  • Patient throughput
  • Transitions of care
CC&C systems have matured over the past year, during a time when the incentives for improved care quality and an enhanced patient experience have become more aligned with the needs of the patient, and the cultural and financial realities providers face. The economics of care delivery have created an abiding need for alternatives to existing care delivery models.

**Market Description**

**Functional Capabilities**

Vendors participating in the CC&C market have been resourceful in describing the products and services they offer. Capabilities such as secure messaging, voice and paging support are common to most CC&C platforms. Most CC&C systems are interoperable with electronic health record (EHR) systems, nurse call systems, alarms/alerts/notification platforms, interactive patient care systems, and on-call and staff scheduling systems. Increasingly, CC&C systems take advantage of patient data held in patient throughput and capacity management systems, bed management systems, and telemetry provided by location and condition-sensing technologies and wayfinding systems. Some CC&C platforms can do rounding, capture quality data and charges, and participate in supply management, crisis management and incident response workflows. Table 1 (on page 5) offers a more complete picture of the spectrum of CC&C vendor capabilities. Table 2 (on page 6) outlines the systems that CC&C systems commonly interface or integrate with.

In the main, CC&C systems can positively impact the patient experience and care team productivity. A more expansive view of CC&C involves its fit into the real-time health system (RTHS) (see “Maturity Model for the Real-Time Health System”). It provides clinicians ready access to a more comprehensive real-time patient clinical context, and timely access to their peers, medical knowledge and, of course, the patient. In the near term, CC&C systems are a vital component of an emerging and reconstituted care team collaboration ecosystem (see “Innovation Insight for Care Team Collaboration”). In the longer term, CC&C will play an important role in digital care delivery and virtual care (see “Healthcare Provider CIO Strategies for Scaling Digital Care Delivery”).

**HIPAA Compliance**

U.S. healthcare providers are compliant with the Health Insurance Portability and Accountability Act (HIPAA) to the extent that they have implemented the appropriate controls. These include physical, administrative and technical controls to ensure the confidentiality, integrity and availability of the protected health information (PHI) they create, capture, manipulate and house. HIPAA-compliant healthcare providers have evidence, often in the form of a third-party assessment, that they have satisfied the intent of the HIPAA/Health Information Technology for Economic and Clinical Health (HITECH) Act rule in practice – a rule that is, for the most part, technology-neutral and nonprescriptive.

A CC&C platform must fit into or complement the overall system of privacy and security policies, administrative safeguards, and technical controls that a HIPAA-compliant healthcare provider has in place. Most CC&C vendors do this by observing best practices such as executing business associate agreements and submitting to or providing third-party HIPAA assessments. They also apply technologies such as login and password management, strong authentication measures, encryption, log management, audit trails, session timeouts, and mobile device management support. Gartner has begun to refer to healthcare vendors that have exercised a standard of due care with respect to HIPAA/HITECH as “HIPAA-ready” (see “Healthcare Providers: It Is Time to Trust Cloud Service Providers as Partners”).

**Market Direction**

CC&C has gained more attention recently due to the year-over-year increased use of mobile devices, and an increased focus on the patient experience and retention. Healthcare reform, a changing market, the introduction of consumer devices into the healthcare provider arena and new vendor entrants have helped create a more vibrant CC&C market. Healthcare provider mergers, acquisitions and consolidations have also driven CC&C interest and buying activity.

**Market Analysis**

The value proposition of CC&C is manifest – clinicians see its many benefits. CC&C can positively influence patient safety and the patient experience, care team productivity, employee satisfaction and morale, the healthcare provider’s ability to manage patient throughput and capacity, workflow optimization, and incident response and disaster preparedness. CC&C is in sharp contrast to the inefficient clinical workflows characterized by disjointed paging and phone calls that exist in many healthcare provider settings today. CC&C
### Table 1. CC&C Vendor Capabilities

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Key: AD/LDAP = active directory/lightweight directory access protocol; C/IM = crisis and incident management; CRM = customer resource management; EHR = electronic health record; IPC = interactive patient care; RTLS = real-time location services; MPI = master patient index; PTCM = patient throughput and capacity management; PBX = private branch exchange; and VoIP = voice over Internet Protocol.

Source: Gartner (July 2018)
systems can assist the healthcare provider in responding to meaningful-use mandates, and improving care quality measures and patient satisfaction scores.

The CC&C space has thinned out as of late due to the inability of some secure texting/messaging vendors’ inability to cross the capabilities chasm. The market is still in an early but less chaotic stage. It is firmly entrenched in the Trough of Disillusionment (see “Hype Cycle for Real-Time Health System Technologies”) while evolving rapidly. CC&C vendors are working closely with their healthcare provider clients to refine their platform capabilities to satisfy RTHS use cases and requirements.

Interest in CC&C systems will remain strong as vendors in this space work to differentiate themselves from their competition with innovations and alliances, and as more patient information finds its way to mobile devices and the point of care. Handheld devices have always been endpoints for alarms and notification systems, and nurses have been their primary constituents. CC&C is a logical extension for alerts and notifications and contact/call center systems. This is reinforced further by the slow but inexorable replacement of pager devices, Digital Enhanced Cordless Telecommunications (DECT) and VoIP consoles with smartphones and tablet devices. So-called “megasuite” vendors see CC&C as real-time, point-of-care consumers of patient data, and the CC&C vendors regard their EHR as a vital source of patient information.

Almost all CC&C vendors expect that patients or their caregivers will become more important members of the care team as time goes on. This is particularly true for CC&C vendors with patient engagement origins. To counter unsustainable healthcare costs and mediocre outcomes, healthcare providers have begun to deploy CC&C systems to enable care teams to more closely collaborate in the delivery of care. CC&C – in concert with the EHR, and other clinical and patient management systems along with the application of sophisticated population health analytics – will begin to have a positive impact on care quality and the patient experience. It is not clear, however, in what manner CC&C will impact healthcare affordability.

Mergers, acquisitions and strategic alliances in the CC&C space (e.g., Uniphy Health and Practice Unite to form Uniphy Health; Vocera Communications’ acquisition of Extension Healthcare; and Thoma Bravo’s, acquisition of Imprivata) will likely continue as dominant nurse call vendors look to become care team collaboration platforms.

**Care Team Collaboration**

The venerable nurse call system has been comfortably ensconced within the healthcare provider for some time now (see “Is Nurse Call Still Necessary?”). As hospitals evolve into RTHSs, their workflows will be defined less by a specific category of software, and they will be less constrained by their vendors’ product roadmaps. Out of necessity, workflows will be defined by rapidly changing care delivery requirements, which will be accommodated by the convergence of more mobile and modern solutions that possess the ability to interoperate with other systems to form new solutions. RTHS solutions such as CC&C, interactive patient care (see “Market Guide for Interactive Patient Care Platforms”), and alarms and notifications platforms are increasingly assuming nurse call responsibilities. With the advances in these platforms and others that offer care coordination, location and condition sensing, and medical device connectivity, less costly and more agile ways will emerge to satisfy nurse call requirements. Nurse call’s position within the healthcare provider will be increasingly challenged as RTHS technologies as systems evolve to accommodate new care delivery models.

Care coordination is the purposeful organization of patient care activities among two or more participants (including the patient and the family) to facilitate the delivery of care. Coordinating care involves marshaling care team members and other resources to complete required patient care tasks outlined in a care plan. Care coordination is accomplished by the timely exchange of patient information and other operational intelligence surrounding the patient among care team members. A new care team collaboration (CTC) IT ecosystem (see Figure 1) is materializing to overcome
persistent care coordination challenges, transitions of care and new patient experience expectations.

More rigorous transitions of care measures are contributing to the need for an ecosystem of situationally aware and interoperable middleware and point-of-care IT solutions that foster care team collaboration within and beyond the inpatient setting. Point-of-care solutions such as CC&C, interactive patient care (IPC), nurse call, and alarms and notifications platforms are converging to form a comprehensive care team collaborative. Call centers are joining this mix and will integrate more tightly with these systems to meet new consumer and provider expectations. Location and condition sensing, Internet of Things (IoT) technologies, and other RTHS solutions (see Note 2) will provide the patient context and operational intelligence necessary for the emerging care team IT collaborative to effectively address the care coordination problem.

A new vendor landscape will emerge to service this IT ecosystem. It will decrease healthcare providers’ dependence on large clinical vendors whose product roadmaps and capacity for innovation do not always coincide with the needs of the healthcare provider, or the interests of the consumer and patient.

Exemplars
The CC&C vendors profiled in this Market Guide include:

- AGNITY Global
- Cerner
- Diagnotes
- Halo Communications
- Imprivata
- Ingenious Med
- Mobile Heartbeat
- PatientSafe Solutions
- PerfectServe
- QliqSOFT
- Spok
- Telmediq
- TigerConnect (formerly TigerText)
- Uniphy Health
- Voalte
- Vocera Communications

Representative Vendors

The vendors listed in this Market Guide do not imply an exhaustive list. This section is intended to provide more understanding of the market and its offerings.

AGNITY Global
Fremont, California, U.S.
Ownership: Private
Coverage: APAC, Caribbean and Latin America, EMEA, North America
Care Venues: Acute, Ambulatory, Home Health,
Long-Term Care, Remote Care

Licensing Model: Subscription

Service Delivery Model: On-Premises, Hosted, Cloud, Cloud SaaS

Product(s): Agnity MobileCare Pro, Agnity MobileCare Enterprise, Agnity MobileCare Monitor, Agnity Mobilecare TeleConsult

Notable Clients:
- LifePoint Health
- RCCH HealthCare Partners

Vendor View: A CC&C system should enable communication workflows that improve the productivity of the clinical staff and improve the ROI for the facility. Users of the CC&C system should be able to communicate with anyone, anytime and anywhere, utilizing mobile and web-based technologies. Users should have access to data, alarms, alerts and other relevant patient data via the CC&C system and only require a single device. Agnity MobileCare provides a comprehensive unified communications solution along with access to any health IT system for patient data, alerts, alarms and IoT.

Cerner

Kansas City, Missouri, U.S.

Ownership: Public

Coverage: Global

Care Venues: Acute, Ambulatory, Behavioral/Mental Health, Long-Term Care, Postacute, Urgent/Emergent Care

Licensing Model: Subscription

Service Delivery Model: Hybrid

Product(s): CareAware Connect

Notable Clients:
- CarolinaEast Health System
- Coral Gables Hospital
- Lawrence Memorial Hospital
- Truman Medical Centers
- Universal Health Services
- Wood County Hospital

Vendor View: CC&C is a single system that seamlessly engages all members associated with patient care, across venues and disciplines, with accurate and timely communication that enhances care coordination, eases clinical practice, and improves overall quality of care. CareAware Connect supports deep and direct EHR integration to support true clinical mobility for critical workflows such as meds administration and identification of the patient-centered care team. CareAware Connect leverages established, certified middleware for bedside-system integration of patient alerts, which supports alarm escalation and resolution criteria. The same middleware provides a direct extension of EHR-based event notifications such as critical results, sepsis and discharge.

Diagnotes

Indianapolis, Indiana, U.S.

Ownership: Private

Coverage: U.S.

Care Venues: Acute, Ambulatory, Long-Term Care, Postacute, Private Practice, Behavioral Health Centers

Licensing Model: Subscription

Service Delivery Model: Cloud

Product(s): Diagnotes

Notable Clients:
- Community Health Network
- Hancock Health
- Indiana University Health

Vendor View: A CC&C system allows everyone across the care continuum — including clinicians, nonclinicians, partners, affiliates and patients — the ability to communicate using the most appropriate channel(s) and any device on the same, HIPAA-compliant communication platform. A CC&C system is more than secure texting; it allows all constituencies to connect and collaborate in an efficient and effective way to provide and receive
collaborative care. A CC&C system should be tightly integrated to the provider’s EHR system so that clinical workflows are streamlined, and critical patient data is easily accessible and shareable. Documenting key communication in the patient’s record is also essential to ensure quality and continuity of care. Diagnotes is a powerful, enterprise-grade, clinical communication and collaboration platform. Using concepts familiar to all mobile device users, it is fast to implement and highly intuitive to adopt.

Four key elements distinguish the Diagnotes Platform:

- Deep EHR integration allows users to: automate essential clinical workflows, such as consult requests; share identifying and clinical patient data; and create and save summaries of all discussions on the platform.
- Physicians, nurses and nonclinical staff can communicate with each other, as well as with patients and caregivers, on a single platform.
- Users can communicate with external partners and affiliates, and are not limited by organizational boundaries. Group communication is available on multiple channels including text, voice and video.
- Diagnotes is hosted in the Amazon Web Services cloud, making it more accessible, reliable and secure than other hosted environments, and is Fast Healthcare Interoperability Resources (FHIR)-enabled, allowing for easy integration with other applications and software platforms.

**Halo Communications** (formerly Doc Halo)

Cincinnati, Ohio, U.S.

Ownership: Private

Coverage: U.S.

Care Venues: Acute, Ambulatory, Long-Term Care, Health Information Exchanges (HIEs)

Licensing Model: Subscription

Service Delivery Model: Cloud

Product(s): Halo platform

Notable Clients:

- Asante
- Atrium Health (formerly Carolinas HealthCare System)
- Hospital Sisters Health System
- Trinity Health
- University Hospitals Health System
- The University of Maryland Medical System

Vendor View: Halo Communications’ Halo platform improves collaboration among healthcare clinicians. It combines all key communication types (e.g., secure messaging, VoIP calls and mobilized integrations with alerts, nurse calls, picture archive and communication system [PACS], labs and EHRs) into a single, easy-to-use interface that works across web and mobile devices. Halo implements at the enterprise level to all roles (e.g., doctors, nurses and other care team members) and departments, avoiding the communication and care pitfalls often observed with fragmented role and department-specific deployments. In addition to offering a unified user directory, Halo Smart Scheduling & Teams facilitates true role-based communication, giving users confidence that their message, voice call or alert will reach the recipients on call at that time who are available to assist. Secure, multitenant cloud hosting allows Halo Communications to quickly scale its platform and deploy to all facilities and clinicians, regardless of user or location, while also eliminating the need for costly investment in redundant on-premises hardware and FTE maintenance. All components of the Halo platform are designed from the ground up to work together holistically. This provides the best possible clinical user experience, which ultimately increases end-user adoption. Halo integrates with third-party vendors as well, but provides a more holistic starting point for a seamless user experience. Halo simplifies collaboration, so clinicians can focus on care.

**Imprivata**

Lexington, Massachusetts, U.S.

Ownership: Private

Coverage: North America

Care Venues: Acute, Ambulatory, Long-Term
Care, Skilled Nursing Facility, Hospice, Physician Practices

Licensing Model: Subscription

Service Delivery Model: Cloud

Product(s): Imprivata Cortext

Notable Clients:
- Beaufort Memorial
- Community Hospitals and Wellness Centers
- St. Charles Health System

Vendor View: Clinical communications and collaboration platforms facilitate care coordination by allowing physicians, nurses and patients to connect, communicate and collaborate securely from any workstation or mobile device. CC&C systems work to connect care teams through the use of secure messaging that integrates into key workflows throughout the healthcare IT infrastructure. Imprivata Cortext improves care coordination and the efficiency of clinical communications with secure text, photo and group messaging synchronized in real time across any desktop or device. Imprivata Cortext supports native platforms for iOS, Android and Windows, along with a web version for ubiquitous access. Imprivata Cortext integrates with Imprivata OneSign to enable instant communication across every desktop. As users roam from workstation to workstation, authenticating with their badge or fingerprint using Imprivata OneSign, Imprivata Cortext is auto-launched and logged in, enabling them to send and receive messages instantly. For IT, there are no profiles to manage. For clinicians, no clicks, usernames or passwords are required. For shared workstations, Imprivata Cortext can be customized for fast user switching to seamlessly and quickly switch users.

Ingenious Med

Atlanta, Georgia, U.S.

Ownership: Private

Coverage: U.S.

Care Venues: Acute, Hospice, Long-Term Care, Postacute, Rehabilitation, Skilled Nursing Facility

Licensing Model: Subscription

Service Delivery Model: Cloud

Product(s): Ingenious Med

Notable Clients:
- Geisinger Health
- ApolloMD
- IN Compass Health
- Gwinnett Medical Center
- Phoebe Putney Health System
- Millennium Physician Group

Vendor View: Ingenious Med defines CC&C as systems and services that support clinicians and care team members to improve communications and better coordinate care. Ingenious Med supports several key CC&C capabilities including physician charge capture, secure messaging, patient throughput and capacity management systems (e.g., rounding, cross-cover, virtual huddles, tracking and management of high-risk/high-cost patients, and discharge barrier management), quality measure reporting and document image capture. Ingenious Med provides significant ROI through the following differentiated capabilities to enhance revenue and reduce costs:

- High physician engagement (which comes from Ingenious Med’s focus on usability and how the app is embedded in a physician’s typical workflow).
- Compelling practice performance analytics to enhance revenue and reduce costs. Ingenious Med analytics provide visibility to where operations are optimized (or not) to help drive standardization, with the ability to drill down by location, specialty and individual physician level.
- Tracking and prioritization capabilities to help reduce length of stay and readmissions to prepare for the transition to value-based models.

Ingenious Med, because of its size and scale, can support the largest health systems in the U.S.

Mobile Heartbeat

Waltham, Massachusetts, U.S.
Ownership: Public
Coverage: North America
Care Venues: Acute, Ambulatory, Long-Term Care
Licensing Model: Perpetual, Subscription
Service Delivery Model: On-Premises, Cloud
Product(s): MH-CURE
Notable Clients:
• Eisenhower Medical Center
• Hospital Corporation of America
• NewYork-Presbyterian
• Torrance Memorial Medical Center
• Vanderbilt University Medical Center
• Yale New Haven Hospital
Vendor View: MH-CURE provides all modalities a clinician would expect/require to communicate in an integrated, easy-to-use fashion – secure text, VoIP, paging, video, and alert/notifications, along with key contextual information about patients and their associated care teams. Specifically, MH-CURE:
• Provides real-time understanding of patient, care team, availability/presence and functional roles (e.g., on call) that make it simple and easy to find the right clinicians and engage them using the preferred modality.
• Has open APIs based on industry standards that allow interoperability into health systems clinical systems.
• Provides enterprise support across the entire clinical and operational user base – including doctors, nurses, ancillary staff and transport.
MH-CURE satisfies all the components of the definition of a CC&C above and can deliver at enterprise scale. There are many pilot CC&C implementations around the country that remain just that – pilots. MH-CURE’s greatest success as a CC&C system occurs with full enterprise rollout.

PatientSafe Solutions
San Diego, California, U.S.

Ownership: Private
Coverage: North America
Care Venues: Acute, Ambulatory, Long-Term Care, Postacute, Skilled Nursing Facility, Specialty Surgery Centers
Licensing Model: Subscription, Term Contract by Licensed Beds
Service Delivery Model: Hosted, Hybrid
Product(s): PatientTouch
Notable Clients:
• Children’s Hospital Los Angeles
• CHRISTUS Trinity Mother Frances
• Aria-Jefferson Health
• Martin Luther King, Jr. Community Hospital
• Methodist Le Bonheur Healthcare
• ProMedica
Vendor View: PatientSafe Solutions understands clinical workflow and what it takes to deliver a communications and collaboration solution that can eliminate fragmentation at the point of care. The vendor’s PatientTouch platform was built by doctors and clinicians for the entire extended care team and leverages more than a decade of experience enabling clinical mobility in all types of care settings. PatientTouch consolidates disparate communications devices, applications and systems into one clinical communications solution on one smartphone device. The platform aggregates and delivers relevant context from current clinical systems and communications infrastructure to the right care team member at the right time. PatientTouch consolidates secure messaging, voice, pages, alerts and critical lab results in a single app, on one device, for clinicians and providers in and outside the hospital. The PatientTouch platform extends to enable a wide range of inpatient clinical workflows in the same interface: rounding, assessments, documentation, specimen collection, altered mental status and sepsis protocols are just a few of those available.
PatientTouch embeds relevant care team, patient and clinical context in communication and
workflow threads, supporting – not interrupting – the flow of care. The solution integrates enterprisewide facility layouts, care team directories, roles and assignment schedules for instant access to current assigned, on-call and extended-care team members. Electronic medical record (EMR) and clinical system integration enables secure in-app access to up-to-date patient medications, labs, vitals and care progress. All text messages, pages, alerts, labs, vitals, workflow tasks and reminders are organized in a single prioritized inbox for each care team member, speeding decision making and collaboration.

PerfectServe

Knoxville, Tennessee, U.S.

Ownership: Private

Geographic Coverage: North America

Care Venues: Acute, Ambulatory, Home Health, Hospice, Long-Term Care, Postacute, Rehabilitation, Skilled Nursing Facility

Licensing Model: Subscription

Service Delivery Model: Hosted, Cloud

Product(s): PerfectServe

Notable Clients:
- Advocate Health Care
- Hospital for Special Surgery
- Memorial Hermann Health System
- Mercy Health
- Spectrum Health
- St. John Providence Health System

Vendor View: A CC&C solution facilitates timely communication and collaboration across all care team members and care settings, improving care coordination, care team efficiency and patient experience. For these gains to be realized, a CC&C platform must provide immediate and automatic connection to the right care team member, across any communication modality, facilitating collaboration and expediting communication-driven workflows to enable time-sensitive care. The CC&C solution needs to not only meet the immediate tactical needs of the healthcare organization, but, importantly, also support and facilitate its strategic mission and position the organization for future value-based accountable care delivery.

PerfectServe provides Dynamic Intelligent Routing – the automatic identification and immediate connection to the right care team member for that particular situation at that moment in time. This eliminates the need to search through paper or electronic schedules, such as the EHR, and the unfortunate experience of contacting the wrong person, all of which consume valuable patient care time.

PerfectServe incorporates multiple call schedules across multiple facilities, workflow rules and contact preferences for each practice/group into a tailored intelligent routing algorithm for each. With each communication, PerfectServe analyzes a combination of multiple contextual variables in real time – many more variables than just a high-level “role” of the recipient. Such variables would include, but are not limited to, patient assignment, initiator, urgency and location. This algorithm automatically directs communication to the right physician, nurse or other care team member.

PerfectServe offers comprehensive practice communications management with cloud-based Dynamic Intelligent Routing. All communications – whether from a patient, facility, care team member or colleague, are streamlined and standardized into a single multimodal solution. PerfectServe’s automated answering service capabilities eliminate human error and improve response time at reduced costs.

QliqSOFT

Dallas, Texas, U.S.

Ownership: Private

Coverage: Global

Care Venues: Acute, Postacute, Ambulatory, Home Health, Hospice, Long-Term Care, Skilled Nursing Facility, Specialty Clinics.

Licensing Model: Subscription

Service Delivery Model: On-Premises, Cloud, Hybrid

Product(s): QliqSOFT Secure Texting, QliqSOFT
CareChannel, Qliq Snap & Sign, Qliq Snap & Fax, Qliq OnCall Scheduling

Notable Clients:
- Decatur Memorial Hospital
- Mercy Health
- Prime Healthcare
- SUNY Upstate Medical Center
- University of Texas Health Science Center
- Virtua

Vendor View: QliqSOFT’s product differentiators include:
- Qliq’s “cloud-pass-thru” architecture is substantially more secure than competitive “client/server” architectures because no protected health information (PHI) is stored or decrypted on the QliqSOFT server.
- Qliq uses an individual public/private key encryption model. Each Qliq user has a unique encryption key pair, and each message is encrypted specifically for a single user. QliqSOFT has no access to the decryption keys (private keys). Therefore, it is impossible for QliqSOFT to decrypt messages in transit and cannot access PHI. Since cloud pass-thru is peer-to-peer, all messages are encrypted/decrypted only in the app on mobile devices and computers.
- Qliq offers a message archiving (auditing) solution called QliqSTOR that resides behind the customer’s firewall and in their direct control. QliqSOFT does not store the archive containing extensive PHI on its cloud server. This drastically reduces third-party vendor risk of a PHI breach.
- QliqSOFT offers the CareChannels collaboration solution that specifically aligns communication around the patient, links to the dynamic care team and enables cross-organization communication.
- CareChannels addresses the collaboration needs now essential for success with value-based care initiatives. It enables continuous care team collaboration focused around a patient from the start to the end of a patient care episode.
- The QliqSOFT Secure Texting and CareChannels apps include functionality specific to healthcare providers.
- The QliqSOFT platform integrates many applications to enable broader collaboration.
- QliqSOFT delivers SaaS solutions at flexible per-user pricing. Commonly, the setup time is modest due to turnkey implementation and built-in active directory connections.

Spok

Springfield, Virginia, U.S.

Ownership: Public

Coverage: Global

Care Venues: Acute, Ambulatory, Long-Term Care

Licensing Model: Perpetual, Subscription

Service Delivery Model: On-Premises, Hosted

Product(s): Spok Care Connect

Notable Clients:
- Banner Health
- Duke Health
- Emory Healthcare
- Peninsula Regional Medical Center
- Robert Wood Johnson University Hospital
- Sentara Healthcare

Vendor View: The Spok Care Connect suite is an enterprisewide platform that enables multimodal communication among all members of a patient’s care team, including physicians, nurses, supporting organizations, and, increasingly, the patient and his/her family. It includes the management of alarms and alerts from the various medical devices and care systems. The platform also comprises a contact center solution, centralized and integrated directory/database, web directory, nurse call integration, clinical monitoring, alarm management and integration, critical test results
communications, paging, secure messaging, care team communications, and enterprise directory integration. It includes an on-call system. Spok Care Connect spans the care continuum within the hospital, providing communications solutions for all those who are responsible directly or indirectly for patient care. Spok’s clinical alerting capabilities position it as the only clinical communication and collaboration vendor able to connect to all medical devices. Spok Care Connect provides support for a wide range of input and output devices, including pagers, smart devices, tablets, remote monitoring equipment, nurse call devices, wireless telephony, and nonclinical alerting equipment such as refrigerators, HVAC and fire alarms.

**Telmediq**

Victoria, British Columbia, Canada

Ownership: Private

Coverage: North America

Care Venues: Acute, Ambulatory, Long-Term Care, Postacute

Licensing Model: Subscription

Service Delivery Model: Cloud

Product(s): Telmediq Healthcare Communications Hub (HCH)

Notable Clients:
- Alameda Health System
- County of San Mateo Health System
- Greenville Health System
- Healthfirst
- Hennepin Healthcare
- Methodist Le Bonheur Healthcare

Vendor View: Telmediq is a cloud-based CC&C solution that unifies texting, voice communications, alerting, pager replacement, on-call scheduling and clinical workflows across the healthcare organization. By connecting all members of a patient’s care team, Telmediq enables more efficient care delivery and improves patients’ experience and safety. Key integrations include the EHR, scheduling systems, lab systems, enterprise directory, hospital phone system, pager network, nurse call system, patient monitors and call center software.

Key differentiators include:

- Clinical directory – A clinical directory that allows clinicians to find both Telmediq and non-Telmediq users, as well as a user’s location and phone number throughout the healthcare system and associated clinics.

- Enterprise alerting – Enterprise alerting is included in the vendor’s base offering, so healthcare systems do not need to deploy an additional enterprise alerting system.

- Inclusive licensing model – Unlimited usage/users based on a bed licensing model ensures inclusion of all users in the healthcare system.

- Integrated call scheduling – Robust built-in on-call scheduling capability with the ability to route calls and messages.

- Local integration agents – The first company to forward patient alarms and nurse calls through a central, cloud-based solution.

- Multi-EHR support – Ability to support a hybrid environment of different EMR platforms in a single healthcare system.

- Patient-centric messaging – Built around the EHR, Telmediq is able to display patient lists, filter patients by location, index conversations against a patient and store conversations back to the medical record.

- Policy framework – Ability to define advanced policies for message and call routing.

- Robust cloud-based framework – Run from Amazon Web Services, and built on native cloud technologies, provides massive scale and reliability.

- Support for legacy telephony – The only company that can integrate with a hospital’s non-session initiation protocol (non-SIP)/VoIP hospital switch via the public switched telephone network (PSTN).
• Virtual pager replacement – Allows for the assignment of virtual pager numbers to clinicians and call groups.

TigerConnect (formerly TigerText)
Santa Monica, California, U.S.
Ownership: Private
Coverage: U.S., Singapore
Care Venues: Acute, Postacute, Ambulatory, Skilled Nursing Facilities, Home Healthcare, accountable care organizations (ACOs), HIEs
Licensing Model: Subscription
Service Delivery Model: Cloud
Product(s): TigerText Essentials, TigerFlow, TigerFlow Enterprise
Notable Clients:
• Adventist Health System
• Children’s Hospital of Philadelphia (CHOP)
• Community Health Systems (CHS)
• Geisinger Health
• LifePoint Health
• Northwell Health
Vendor View: With functionality well beyond secure text messaging, CC&C systems centralize data from otherwise-siloed systems – such as EHRs, nurse call, scheduling, answering and paging – into a single, mobile-friendly platform that makes patient information actionable in real time at the point of care. This accelerates workflows, enhances care team effectiveness and improves patient satisfaction. Differentiating capabilities include:
• 99.99% uptime
• Out-of-the-box integrations for major systems:
  • EMR/EHR
  • Alerts and alarms, including nurse call
  • VoIP – voice/video/PBX
• Lab results
• Scheduling
• Answering service
• Paging
• Role-based messaging
• High (nonpager) messaging volume
• Robust data tracking and analytics/insights
• Clean, intuitive, easy-to-use app interface
• Unified directory across facilities
• HITRUST CSF security certification

Uniphy Health
Newark, New Jersey, U.S.
Ownership: Private
Coverage: U.S.
Care Venues: Acute, Ambulatory, Home Health, Skilled Nursing Facility
Licensing Model: Subscription
Service Delivery Model: Cloud
Product(s): Uniphy Health Clinical Communications Platform
Notable Clients:
• BayCare Health System
• Catholic Health Services of Long Island
• Hackensack Meridian Health
• Lakeland Health
• RWJBarnabas Health
• Valley Health
Vendor View: A CC&C system helps solve one of the biggest challenges in healthcare – poor communications. A good clinical communication and collaboration system is designed to address the needs of physicians, nurses, other clinicians
and patients inside and outside the hospital. The system should be secure, easily accessible and easy-to-use. It should provide multiple ways to communicate, including text, voice and data, be configurable to address multiple workflow needs, and integrate with multiple clinical and operational systems, including multiple forms and sources of data and content.

Uniphy Health’s approach extends communications outside the four walls of the hospital and across clinical networks. It takes a holistic approach by addressing a broader set of communications issues including physician-to-physician, nurse-to-physician and physician-to-patient communications. The organization aims to solve its clients current communications challenges, and help them adapt to future and evolving needs, driven by the massive changes that healthcare is undergoing.

Uniphy Health’s solution is highly configurable, and includes standard CC&C features such as secure text, VoIP support, workflow, EHR integration and role-based functionality. Uniphy Health Clinical Communications Platform includes broader communications tools, such engagement functionality and integration with third-party apps, to meet the needs of healthcare’s increasingly distributed model. Uniphy Health’s solutions are white-labeled to include the client’s branding so that users perceive that their organization is providing them with a custom solution.

Voalte

Sarasota, Florida, U.S.

Ownership: Private

Coverage: North America

Care Venues: Acute, Ambulatory, Outpatient, Rehabilitation

Licensing Model: Perpetual, Subscription

Service Delivery Model: On-Premises, Cloud, Hybrid

Product(s): Voalte Platform

Notable Clients:
- Novant Health
- Stanford Health Care
- UCSF Medical Center
- Johns Hopkins Medicine

Vendor View: A complete CC&C enterprise system supports and improves communication workflows for healthcare staff both inside and outside the hospital, while enabling administrators to take advantage of current and future technology investments. Two main users are caregivers inside the hospital and providers outside the hospital. Using shared smartphones, those inside the hospital communicate using a Wi-Fi-only smartphone to make VoIP calls, send secure text messages, and receive alarms and alerts from hospital systems. Providers and others outside the hospital use personal devices to communicate with hospital caregivers. Users install an application on their device, log in and communicate with others who are using personal devices or shared devices, all with one unified CC&C system. A comprehensive CC&C enables hospitals to integrate with current and future technology investments, such as nurse call, patient monitoring, electronic medical records systems, on-call scheduling and third-party applications.

Voalte Platform provides a complete solution built for the way caregivers communicate inside and outside the hospital. Voalte Platform is tailored to the way clinicians work in a real-world healthcare environment. It combines dynamic user assignments, a patient-centric directory, VoIP calling, alert notifications and secure text messaging into one solution. Voalte has the clinical and technical expertise to successfully deploy smartphones in a hospital environment. Great software is only half the solution. Knowing how to provision, deploy and maintain devices for clinical users is key. Voalte Platform provides a core set of technologies that not only power Voalte products, but also empower healthcare organizations to leverage their existing and future systems via APIs and SDKs.

Vocera Communications

San Jose, California, U.S.

Ownership: Public
Coverage: Australia, EMEA, North America, New Zealand, U.K.

Care Venues: Acute, Ambulatory, Long-Term Care

Licensing Model: Perpetual

Service Delivery Model: On-Premises, Hosted, Cloud, Hybrid

Product(s): Vocera Clinical Communication and Workflow Platform

Notable Clients:
- BayCare Health System
- Franciscan Alliance
- Holland Hospital
- Parkland Hospital
- Phoenix Children’s Hospital
- Reading Hospital

Vendor View: The Vocera Platform is the foundation of every Vocera solution, and enables clinicians and staff to communicate and collaborate immediately, directly, intuitively and effectively. It enables the right person to receive the actionable information at the right time, and to know which information is most important. The platform allows a more human experience for care teams, patients and families. Vocera solutions are enabled by voice and secure texting communications, and the sharing of clinical information in real time.

Product differentiators:
- Facilitates instant, direct communication inside and outside the hospital without a need to know names or numbers.
- Allows users to standardize on an application, while allowing clinicians and staff to communicate using the device that is right for their role, including the proprietary hands-free wearable Vocera Badge.
- Provides a comprehensive platform that lets users call, securely text, access and exchange relevant clinical and operational data using the right device for the role. It can scale from single departments to entire integrated delivery networks.

IT differentiators:
- Can be configured to aggregate information from multiple different clinical and operational systems to deliver information to the right person at the right time with sender, patient and event context.
- Can aggregate information from more than 140 different systems to provide more complete information at the point of care, including comprehensive analytics without additional middleware investments or system management.
- FDA 510(k)-compliant middleware to deliver secondary alarms built-in, simplifying procurement and management, and eliminating the need for additional middleware investments or system management.
- Defense-grade security unsurpassed in the industry, including credentials from the U.S. Army, Department of Defense, NIST and the American Institute of Certified Public Accountants.
- Backed by a clinical team with more than 40 nurses and clinicians that assesses a clinical environment, and designs consistent, accurate workflows as part of the largest, most experienced professional services team in the industry.

Market Recommendations

Hospitals are evolving into RTHSs — entities that collect and analyze data gathered during the course of business, and use that information to optimize workflows and business processes, balance resources with demand, and improve decision making surrounding patient care and utilization. CC&C systems are not passive actors in this new operational and management paradigm, but rather a rich source of patient event data, and encounter and engagement activity necessary to satisfy revenue, cost, quality and patient experience expectations.

Supporting the evolution to the RTHS requires sound requirements and viable use cases, process re-engineering, new and enhanced IT systems and technologies, and a scalable and
responsive supporting infrastructure. Moving off the status quo requires implementing new programs surrounding IT consolidation, standardization, automation, instrumentation, integration, performance monitoring, and system decommissioning, as well as extending the reach of IT into new venues of care.

CC&C is critical to becoming a next-generation healthcare provider. Increase enterprisewide situational awareness surrounding the patient and provider by implementing pervasive real-time location- and condition-sensing services. Correlate situational awareness telemetry and patient event data with real-time analytics to yield up-to-date “operational intelligence.” Use this intelligence to better coordinate existing critical workflows and dynamically orchestrate new workflows to improve patient safety, clinical outcomes, operational efficiencies and the patient experience.

Improve care coordination by equipping care teams with mobile CC&C systems that interoperate with the core components of the CTC ecosystem. CC&C systems are used to coordinate activities with clinicians and staff; share patient information (such as text, documents, telemetry, images and video) to reduce response times; improve care transitions and patient throughput; and optimize the discharge process.

Note 1
Representative Vendor Selection
The vendors included in this Market Guide do not imply an exhaustive list, but rather are technology providers that meet all or a portion of the major CC&C capabilities set forth within this research. Vendors were identified by analyst, client and market interactions, and other public sources of information.

Note 2
Real-Time Health System
The real-time health system is a management and operating paradigm for the next-generation healthcare provider to action real-time information to achieve clinical and business objectives. It includes a collection of concepts, principles and technologies forming a reference model and technology archetype to capture data, synthesize information, determine action and orchestrate resources to achieve results. It is evident in care delivery and administrative processes, in the patient and clinician experience, and in the network of partner organizations. It is the foundation for digital business and digital care delivery for a health system.

Source: Gartner Research, G00320356, Barry Runyon, 12 July 2018
The 6-Step Guide to Building Enterprise Clinical Communications

You now have the lay of the land: You’ve read the Gartner Market Guide for Clinical Communication and Collaboration, and you fully understand the value of delivering meaningful information to the right provider to act on it in real time. You know that a real-time health system (RTHS) requires mobility, interoperability, situational awareness, and real-time analytics, and you realize that these are best solved by a platform that spans the entire hospital or health system rather than piecing together point solutions.

So, what’s next? The value is clear, yet spearheading it as an initiative at your organization may seem daunting.

To provide focus and help you establish your enterprise CC&C, we’ve outlined six tenets you should consider. Using clinical workflow examples and case studies we’ll demonstrate the potential impact and ROI each offers.

Think BIG
The term ‘enterprise’ implies big, so you’re probably already thinking that way, but you may need to think bigger yet: A CC&C solution will affect not only all clinical departments within your organization, but also departments and roles that may not be clinical in nature.

Consider this: During a hospital stay, patients typically see 17.8 healthcare professionals – physicians, nurses, radiologists, lab techs, etc.1 If that number is expanded to include all hospital employees, they’re interacting with three times as many staff members: about 60.2

The patient’s care path is different today than even a few years ago – they’re interacting with more staff than ever before, and care teams are larger and more diverse. They may also be spread among multiple physical facilities. This heightens the requirement for collaboration among the care team and requires a ‘big tent’ approach to encompass all members of the health system. Everyone who touches patient care, whether they’re in a clinical or nonclinical role, has an impact on the patient experience. They must be able to communicate with others to effectively do their jobs, as numerous workflows involve staff members across the continuum of care.

An enterprise CC&C platform provides communication capabilities for everyone involved in caring for the patient, from the clinical care team members to the contact center operators, environmental services, and transport. It also supports a diverse device mix, allowing each role to use the most appropriate device and be a part of the full care team communication process.

Let’s take a look at how this makes a difference within the hospital:

CHALLENGE: A discharge order is entered in the EHR, but then requires manual, independent communication by caregivers and other staff members to complete the discharge process.

SOLUTION: A communication platform promptly notifies appropriate personnel to facilitate handoffs and begin required tasks through connectivity with the EHR – automating the tasks that need to be done at discharge.

1https://www.ncbi.nlm.nih.gov/pubmed/17514218
2https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3047732/#ref11
Think UNIFIED

The enterprise approach to CC&C requires a unified base, or a single source of truth for on-call schedules and contact details and preferences that everyone can access, update, and rely on for communication. Most hospitals rely on many sources for this information. For example, you might have an employee directory maintained by HR, an EHR directory that only includes clinical care team members, and schedules that are the responsibility of the respective clinical department, each of which may have their own method for creating and updating schedules.

It’s easy to see why so many sources of information are not sustainable for effective enterprise communications. It’s a system that encourages different roles to use disparate sources of information, which sets up the potential for incorrect contact information, out-of-date schedules, and a lack of contact preferences. All of which can create frustrations for staff. Over half of nurses say they have difficulties determining which physician is available at any given point in time.\(^3\)

Communication breakdowns also have real consequences for patient safety: A recent study found communication failures were at least partly responsible for 30 percent of all malpractice claims, resulting in 1,744 deaths and $1.7 billion in costs over five years.\(^4\)

A CC&C platform allows all staff members to access an enterprise, web-based directory and find (in real time) the information they need. As long as they’re logged in they can access it wherever they are, because this information sits behind your organization’s firewall.

When care team members can access, update, and most importantly, trust the information for their colleagues, it has a big impact. Listed below are just a few of the examples of positive impact we’ve heard from hospitals who have migrated from multiple sources of information and manual processes to enterprise directory and scheduling, all accessible by anyone in their facility via the web.

Think SECURE

The Gartner research indicates that CC&C vendors should be ‘HIPAA ready’. That’s certainly important when healthcare is one of the top four most vulnerable industries to cyberattacks\(^5\), and 39 percent of healthcare organizations aren’t prepared for a cyberattack.\(^6\) Additionally, one in three hospital CIOs estimate that more than 20 percent of data is shared in their facility via unsecured methods.\(^7\)

Those stats may not surprise you, but this stat about mobile communication among care teams just might. Nearly all – 96 percent – of physicians admitted to using consumer messaging applications, such as iMessage\(^8\) or WhatsApp\(^8\), for patient care coordination.

It’s critical that protected health information (PHI) is safeguarded at every stage of communication. The solutions listed above do not have the level of encryption needed in healthcare. In addition, they aren’t supported by an enterprise directory. What’s more, these vendors likely haven’t signed a HIPAA business associate agreement (BAA).\(^9\)

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Source: Spok

5\[^5\]https://umsa-security.org/top-4-industries-most-vulnerable-to-cyber-attacks/  
6\[^6\]https://nulltx.com/top-4-most-vulnerable-industries-to-cyberattack-in-2017/  
7\[^7\]https://www.spok.com/infographic-chime-survey-2017  
**CHALLENGE:** A physician enters orders for lab tests via CPOE. The request is sent to the phlebotomist via the EHR, and entered in the laboratory information system (LIS) once completed. The ordering physician doesn’t know when the results are published, and sends an unsecure text with patient data to the lab.

**SOLUTION:** A CC&C platform automates the steps in the workflow and delivers the result. Other relevant patient data travels from the ordering physician to the EHR to the phlebotomist to the LIS, back to the ordering physician in the EHR. This effectively closes the loop, and at every stage, in transit and at rest, the data remains secure.

**Think SMARTER**

Gartner recommends that CC&C vendors help hospitals reduce unnecessary toil – those manual, repetitive, non-value adding tasks that can contribute to clinician frustration and burnout. Over half of physicians report feeling burned out, and physician burnout has even been called a “public health crisis” by a group of leading hospital CEOs.

An example of toil is repeatedly responding to alarms and alerts that don’t require medical intervention. Physicians and nurses grapple with a landslide of information every day, including a high volume of alerts. A Johns Hopkins study recorded 350 alarms per patient per day – and over 90 percent were false positives. A CC&C platform can help reduce this toil – and consequently address provider fatigue and burnout – by capturing alarms and notifications, delivering the ones that need attention, and suppressing the ones that do not require action.

Only CC&C technology can intelligently evaluate and prioritize alarms, and most importantly, suppress unnecessary alarms, then send alerts.
that need action to the right providers. This helps ensure clinicians remain uninterrupted for alerts that don’t require their immediate attention. For those alarms that do require their attention, the clinician has all of the information at their fingertips needed for response. This information can range from the patient name, DOB, and room — to the type of alarm, and even live waveforms of patient vitals. This enables the recipient to better understand what is happening from wherever they are and respond appropriately. For example, if the arrhythmia indicates cardiac arrest, the clinician may initiate a code blue from their mobile device, before they even get to the room.

This workflow (on bottom of page 22) demonstrates how alarm surveillance technology can evaluate multiple alarms and only send the one that needs to be addressed to the right person. You can see how this goes a long way toward reducing alarm fatigue and physician and nurse burnout.

CHALLENGE: Valuable information from patient care devices is not being shared in meaningful ways with the right people, often resulting in alarm fatigue among the care team and slower response to critical events.

SOLUTION: Integration of comprehensive, continuous patient data to enable advanced smart alarms and a more holistic view of the patient status, while actively filtering out nuisance and non-clinically actionable alerts from devices.

Think INTEROPERABLE

Interoperability connects key people and information in a way that brings new meaning, context, and clinical insights. It goes well beyond basic secure messaging, voice calls, and alerts, to connect care teams across settings with more meaningful information for improved clinical workflows.

Care coordination can be improved by equipping care teams with mobile CC&C systems that interoperate with the core components of the care team collaboration (CTC) ecosystem, like the EHR, nurse call, patient monitoring devices, and other ancillary systems, according to Gartner.

Fewer than one-third of hospitals engage in sending, receiving, and integrating patient data from the EHR. A CC&C platform can complement your EHR system by getting the right information out of the EHR to the right providers at the right time, and can even write acknowledgements of alerts back to the EHR.

Beyond the EHR, a CC&C platform also integrates with other existing ancillary systems within the hospital, like nurse call, patient monitoring, and test results systems. Beyond the systems care teams use to deliver care, CC&C platforms can encompass the entire facility and systems like the contact center, security, refrigeration, fire alarms, and emergency notifications. Connecting these components opens the door to infinite possibilities for interoperability:
Interoperability has the power to reduce toil, accelerate workflows, and improve patient safety along with patient and provider satisfaction. In this workflow (top of page 24), a physician receives a test result that prompts her to change the patient’s medications. She then places a STAT order for more meds via CPOE. Through a common language, HL7, a CC&C platform can notify the patient’s assigned nurse with the STAT orders on her smart device. The order is exchanged through the CPOE and EHR systems, and delivers new meaningful information to the right providers. This allows clinicians to do more from their phones — quickly, accurately, and securely — than ever before, and supports the delivery of exceptional patient care.

Of course, interoperability has great potential to improve patient safety and outcomes. One hospital reduced its code blue rate by 70 percent with their CC&C platform and EHR integration. Clinical surveillance in the EHR creates an alert when there were signs of potential patient deterioration, which automatically triggers the CC&C platform to take that alert and deliver it to the correct provider’s mobile device. With this interoperability-supported workflow, care teams are able to intervene with patients early, before an emergency situation like a code blue is needed. The interoperability component of a CC&C platform is key to move from a fragmented to a unified, enterprise communication environment.

**Think REAL TIME**

Another area where timely response is especially critical for hospitals is responding to signs of sepsis. Sepsis is a top patient safety issue for virtually every hospital: One in three patients who die while hospitalized have sepsis — more than 250,000 Americans each year. Sepsis is also the most expensive condition treated in U.S. hospitals, costing $24 billion annually. Sepsis poses a unique challenge because it is tricky to diagnose.
Signs of sepsis are commonly associated with other conditions, yet it’s critical to diagnose and treat sepsis quickly. The risk of death increases 8 percent with each hour that passes before treatment begins, and the mortality rate for septic shock is nearly 50 percent.

A CC&C platform can help hospitals recognize and respond to early signs of sepsis to improve patient safety and outcomes. Let’s take a look at how this works:

**CHALLENGE:** A sepsis alert isn’t useful if it doesn’t get to the care team members who can act on it.

**SOLUTION:** A healthcare communication platform can take the EHR’s sepsis alert or a critical test result and automatically deliver it to the right clinicians, often a sepsis rapid response team, on their mobile devices.

With a CC&C platform, elevated modified early warning system (MEWS) scores captured by the EHR can be delivered to the on-call rapid response team’s preferred devices, so intervention can begin right away. This same workflow can be replicated for a wide variety of clinical scenarios. After implementing this workflow for sepsis response, one academic medical center reduced length of stay by 10 percent and reduced mortality rate by 20 percent for patients with elevated MEWS scores.

**Build for Your Future as a Real-Time Health System**

Now that you’ve read the market research from Gartner and know the tenets of enterprise communication to keep top of mind, you’re ready to start building. A CC&C platform connects the communication ecosystem and supports the quadruple aim: Better outcomes, lower costs, improved patient experience, and increased provider satisfaction.

All of this matters because your patients’ lives depend on this foundation of communication, and the enterprise approach to CC&C is vital to achieving better patient outcomes.

Your CC&C platform checklist:

1. **Big:** Encompasses everyone in the organization, as well as all relevant systems, to support anytime, anywhere communications
2. **Unified:** Enterprise-wide directories, schedules, and statuses allow clinical and nonclinical care team members to connect
3. **Secure:** PHI and other sensitive information is protected at all times via encrypted, HIPAA-compliant communications
4. **Smarter:** Intelligent workflow engines process event-driven information to deliver the most meaningful information and clinical context to the right providers
5. **Interoperable:** Support exchange of information among the EHR and ancillary systems to streamline workflows
6. **Real time:** Automate notifications of real-time patient events to speed response and improve patient safety and outcomes

Source: Spok
About Spok

Spok, Inc., a wholly owned subsidiary of Spok Holdings, Inc. (NASDAQ: SPOK), headquartered in Springfield, Virginia, is proud to be a global leader in healthcare communications. We deliver clinical information to care teams when and where it matters most to improve patient outcomes. Top hospitals rely on the Spok Care Connect® platform to enhance workflows for clinicians, support administrative compliance, and provide a better experience for patients. Our customers send over 100 million messages each month through their Spok® solutions. When seconds count, count on Spok. For more information, visit spok.com or follow @spoktweets on Twitter.