LEVERAGING REAL-TIME CLINICAL COMMUNICATION TO IMPROVE HEALTHCARE OUTCOMES

Evolving tools and new innovations improve experiences for clinicians and patients.

EXECUTIVE SUMMARY

Development of the real-time health system is a multifaceted, overarching objective, and it is driving many of the decisions and investments healthcare organizations make. Clinical mobility, including the communication and collaboration on which patient care depends, is intrinsic to real-time care delivery. Clinical communication and collaboration (CC&C) solutions enable clinicians to access the information and the colleagues they need, quickly and easily, while improving the patient experience.

Mobile devices are just one aspect of an integrated ecosystem that improves care coordination. The foundational platform is a CC&C solution that integrates with core applications and with phone and nurse call systems to support secure, timely exchanges of critical information among care team members and between caregivers and patients.

By transforming day-to-day workflows for clinicians and ancillary staff, CC&C solutions have the power to significantly elevate the quality and timeliness of care coordination. These types of improvements also have a dramatic effect on the well-being of clinicians, which is no small concern when large numbers of healthcare professionals continue to report burnout and job dissatisfaction.

By selecting the right CC&C solutions and supporting tools, such as mobile device management and clinician check-in and check-out processes for mobile devices, healthcare providers can achieve a meaningful shift in the quality and efficiency of clinical mobility workflows. Increases in clinical efficiency lead to less nurse toil and improved morale among clinicians, improvements worth consideration given the nurse shortage.

The Impact of Clinical Mobility and Collaboration

When the Journal of the American Medical Association (JAMA) published an analysis of financial waste in U.S. healthcare spending in 2019, the results were staggering. The wide-ranging examination indicated that as much as $935 billion is wasted each year (approximately one-quarter of all healthcare spending).

Several causes contribute to this problem, but a clear connection exists between procedural weaknesses and financial loss. Specifically, failure of care coordination wasted an estimated $27.2 billion to $78.2 billion annually. It is little surprise, then, that providers are investing in solutions designed to improve care coordination by providing real-time communication and collaboration support to clinicians and ancillary staff.

Findings such as these suggest that providers can't afford not to optimize the clinical communication and collaboration on which healthcare depends. In fact, CC&C is one of the key deployments for healthcare providers between 2021 and 2023, according to Gartner's Strategic Roadmap Timeline to the Real-Time Health System. Stronger CC&C, in turn, positions providers to pursue the next wave of advancements, including care team collaboration and next-generation communications.

The Landscape

The case for transformation in healthcare can be traced to 2007, when the Institute for Healthcare Improvement introduced the Triple Aim. This framework set the stage for a new approach to healthcare that improves the patient experience, improves the health of populations and reduces costs. Expanding these goals to include a better experience for providers and clinicians yielded the Quadruple Aim, now the broadly accepted framework with which to drive and evaluate change initiatives.

A thread running through many aspects of the Quadruple Aim is the quality of CC&C processes: timeliness, accuracy, completeness and efficiency. To a large extent, CC&C is the network that connects care team members and facilitates their many tasks and handoffs. Poor CC&C is evidenced by, among other red flags, ineffective and inefficient communication, difficulty in tracking and locating critical personnel and medical equipment, troublesome alarm management and alarm fatigue, and burdensome and ineffective clinical documentation.

These and other issues led to the creation of a framework called the Real-Time Health System (RTHS). RTHS combines elements of electronic health records (EHRs), virtual care platforms and analytics capabilities to streamline communications and clinical operations, improve patient safety, and document critical results. RTHS may be a paradigm shift, but it also may sound familiar: It echoes many of the tenets of clinical mobility.

The Goals

CC&C solutions address the high-quality communication that makes real-time healthcare possible. For many organizations, this goal remains out of reach: 39 percent of healthcare professionals describe communication with care team colleagues as difficult or very difficult, according to a 2019 survey.

In most hospitals, clinicians share devices, which requires them to check in devices at shift change. This process is deeply inefficient and reduces the time clinicians can spend with patients.

Similarly, the proliferation of mobility solutions means that clinicians may depend on multiple applications that are not well integrated. This creates a frustrating user experience and a challenging IT environment. Many users are also dealing with EHR solutions that are not designed for mobile devices or have only recently become so. CC&C solutions enhance healthcare organizations' investments in their EHR systems by eliminating gaps those systems don't address, including Voice over IP (VoIP), dynamic directory, nurse call alarms and telemetry alerts.

During the COVID-19 pandemic, personal protective equipment shortages necessitated the use of mobility and virtual solutions to deliver care safely. These experiences highlighted, for both clinical and nonclinical staff, the importance of real-time messaging between every member of the care team. The pandemic also emphasized the need to protect the well-being of healthcare professionals. In fact, integrating employee well-being firmly into work processes has emerged as a key factor for organizational success, according to Deloitte's "The Social Enterprise in a World Disrupted" report.

One way to do that is to ensure clinicians' day-to-day workflows are as easy and efficient as possible. To that end, CC&C solutions typically help to achieve three primary goals:

- **Streamlined communication:** Removing barriers to communication improves care delivery and reduces employee frustration and inefficiency. Intuitive, seamless communication allows nurses and physicians to engage in real-time collaboration at the point of care and during care transitions.
- **Reduced toil:** Documentation and administrative tasks are a major barrier to productivity. Administrative complexity was cited by JAMA as a major source of financial waste, and physician surveys point to administrative burdens as a contributor to burnout. Streamlining tasks and workflows can generate a measurable improvement in clinician satisfaction and patient experiences.

Achieving Real-Time Situational Awareness

When Gartner published its 2018 Hype Cycle for Real-Time Health System Technologies, it gave providers a new framework for distributing moment-by-moment data throughout the care team and into care delivery. The concept of "real-time situational awareness," derived from military and security fields, has been a driving factor for forward-looking providers ever since.

The COVID-19 pandemic added momentum to the trend. True situational awareness rests on the ability to use technology to access, share and employ data in real time and in ways that empower caregivers to make timely, high-quality decisions about care. The goal, Gartner writes, is to "transform every component of care delivery, administration and analytics by putting in the hands of people and machines real-time situational awareness at operational, tactical and strategic levels."

Real-time insight and analysis improve decision-making at three key phases, according to HIT Consultant:

- **Perception:** Examinations, EHRs, data and colleagues enable caregivers to understand what's happening with the patient.
- **Comprehension:** Analysis, including the routing of data to the appropriate staff, supports decision-making.
- **Projection:** Insights and analysis support an informed projection of future events to drive next steps.

- **Improved outcomes:** Integrated CC&C solutions make it possible to access critical information, such as medical records and lab results, and to reach the right specialist quickly and easily. That leads to better health outcomes and potential reductions in length of stay.

Supporting Clinical Mobility and Collaboration

CC&C solutions eliminate the logistical and technological problems that often arise when users cobble together disparate solutions. Comprehensive platforms provide multiple modes of real-time communication so that caregivers can make decisions quickly and providers can focus on strategic priorities. In doing so, they improve clinical communication in three broad areas:

- **Caregiver to caregiver:** Care transitions require exceptional communication to prevent the potentially serious errors that can arise through miscommunication, as noted by The Joint Commission. Accordingly, CC&C solutions that facilitate a clear, robust exchange of information between caregivers at shift changes are more than simply convenient; they can be lifesaving. In other use cases, texts and voice calls can eliminate paging and reduce many of the delays inherent in manual processes. Broadcast messaging enables easy communication with specific groups or an entire organization.
- **Patient to caregiver:** Integration of interactive patient care (IPC) systems and CC&C platforms enables a patient to enter a request and have it sent to the correct caregiver on a mobile device. Some platforms leverage voice recognition technology to support smart assistant functionality.
- **Machine to caregiver:** Clinicians rely on information from a variety of sources to make healthcare decisions. Effective CC&C solutions integrate data such as bedside telemetry and patient vital signs into a single platform. They also provide high- and low-level alerts that can be sent directly to care providers' mobile devices.

Within these scenarios, CC&C solutions deliver three core capabilities:

- **Dynamic directory:** Dynamic directory, or dynamic call routing, is essential for clinical collaboration. This feature uses answering rules to automatically direct a call to the correct care provider for a specific patient, based on on-call scheduling, answering service hours or other factors.
- **Role-based calling and messaging:** This capability aligns with the shift-based nature of healthcare work by directing communications to the correct caregiver based on roles rather than individuals. Users no longer need to look at a directory of names and scroll through to find the correct person to handle a specific need at a specific moment.
- **Active response:** In emergency situations, CC&C platforms can send alerts directly to recipients, eliminating the need for overhead paging. This alternative reduces noise and stress in the already hectic care environment.

The Challenges

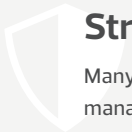As healthcare organizations deploy CC&C solutions, they often encounter one or more of the following challenges:

- **Interoperability:** Organizations often have too many platforms and applications that do not integrate with each other.
- **Device management:** Shared mobile devices introduce identity management challenges, whereas BYOD programs require unique management and support approaches.
- **Security and compliance:** Cybersecurity continues to become more challenging, reflecting the expansion of virtual care and the high value of healthcare data. Compliance with regulatory mandates such as HIPAA also creates demands on clinicians that healthcare organizations must address.

Solutions

When organizations set out to transform work, 35 percent prioritize the implementation of new technology solutions, and 45 percent focus on building a culture around growth, adaptability and resilience, according to Deloitte. There is significant room for hardware modernization at many healthcare organizations, according to a 2019 survey that found 89 percent of organizations still rely on fax machines and 39 percent use pagers.

That said, the most successful organizations recognize the potential in the confluence of people and tools; the right solutions, for instance, can reinforce cultural values of resilience and adaptation. The most important solutions for CC&C transformation are:

Streamline Security with SSO

Many organizations are augmenting identity and access management systems with single sign-on (SSO) authentication. SSO adds speed and convenience to the user experience, particularly when clinicians share devices and have to access numerous applications. Eliminating the need to remember multiple passwords and to manually log in to multiple systems can be, on its own, a meaningful improvement to day-to-day workflows.

However, it is important to understand the dependencies among different elements of a CC&C platform. SSO solutions may vary in their OS compatibility, methods of deployment and application integration. Understanding the requirements and capabilities of a specific SSO solution is important so that it can be installed and configured correctly. Variables may arise not only from the IT environment itself but also from the ways in which users interact with devices (for example, one user assigned to a single device versus several users sharing a device).

Other considerations include whether the SSO supports both cloud and on-premises applications, supports the necessary security protocols for the healthcare setting and provides a native mobile application for optimal use with mobile devices. IT staff may also want to assess management features, such as the flexibility to set password complexity and expiration requirements.

- **Devices:** Augmenting consumer smartphones are mobile devices designed for the healthcare industry, supporting features such as role-based escalation, centralized management, and adherence with security and privacy requirements. In addition to HIPAA-compliant texting and voice conversations, devices can send and receive alarm notifications directly from the point of care. Direct communication allows clinicians to reduce response time, prioritize needs and improve patient satisfaction. Devices also can host key clinical applications, including EHRs and barcode medication administration systems.
- **Cases and charging:** Organizations that manage hundreds or thousands of devices need dedicated solutions for storage, charging, transport and syncing. Multiport battery charging trays and cabinets ensure that devices are ready when the next shift arrives. Charging dock features may include LED status indicators and support for a variety of connections, such as Lightning and USB ports. "Self-healing" features ease maintenance burdens on IT and help desk staff by automatically fixing software errors when devices are plugged into the dock. Features that allow disinfection while charging protect clinicians and patients by removing bacteria and other microorganisms.
- **Scanning:** Code scanning helps to keep patients safe; it can prevent medication errors that may cause harm and extend hospital stays, for example. For standalone scanners and applications on devices, EHR integration has become integral to mobile, point-of-care workflows.
- **Mobile device management:** MDM solutions enhance control, security and efficiency. Role-based personas add ease and consistency to device provisioning, ensuring that clinicians and ancillary staff have the applications they need. Security features make it easier for IT staff to enforce policies and best practices, thereby mitigating risk and maintaining compliance.
- **CC&C software:** Platforms bring clinical communication, information and workflow together in a single, mobile-friendly platform. These tools connect the care team quickly and easily, support accuracy and consistency, and allow for individual customization (for example, sorting messages, alerts and notifications by priority or by patient). Dynamic directories and seamless application integration let clinicians access the information and alerts they need, without having to spend time navigating discrete, manual systems.
- **VoIP:** VoIP provides the mobility and flexibility that caregivers need, while keeping calls secure and private. Features include videoconferencing, routing of calls to smartphones, voice-to-text translation, customization, and scheduling of messages and greetings.
- **Security:** Increased reliance on mobile devices as tools for clinical care, combined with expanded attacks on healthcare systems, make mobile-specific security a must. Device-based protection leverages machine learning to detect threats and avert attacks, keeping endpoints secure wherever they may be. Unified CC&C platforms also enhance security: Research from the Ponemon Institute

shows that on average, siloed tools and manual processes delayed security patching in healthcare by an average of 9.5 days.

- **Analytics:** Just as more information helps clinicians make better decisions, more data empowers IT staff for better technology management. Analytics and visualizations of clinical workflow solutions help staff understand and refine the deployment of solutions and proactively identify and address potential issues.

Services

Crafting the right solution for a specific institution or system requires expertise in the intersection of healthcare and CC&C technologies, together with a structured framework for gathering actionable information from stakeholders. Many providers engage third-party specialists to facilitate critical phases of clinical mobility initiatives.

Such services may include:

- Clinical mobility workshops: Focus groups for IT and clinical staff, together with detailed assessments of clinical workflows, are the best starting point for any CC&C strategy. Such workshops are designed to identify critical needs and concerns and to inform the selection of hardware and software solutions that will achieve desired goals and resolve challenges.

Improve Job Satisfaction with Supportive Solutions

As the healthcare industry grapples with multiple disruptions, the mental and emotional duress of caregivers is one of the most pressing, according to the "2021 Healthcare Trends Survey Report" from AMN Healthcare, B.E. Smith and Merritt Hawkins. More than one-third of executives said clinician issues (including burnout, dissatisfaction and desire to leave the profession) could become a significant disruptor over the next three years.

In the wake of COVID-19, these issues are more serious. Numerous surveys and studies have documented post-traumatic stress disorder, anxiety, depression and other concerns among healthcare professionals. Medscape's "2021 Physician Burnout & Suicide Report" states that 42 percent of physicians say they are burned out.

The existing nurse shortage adds urgency to the need for a strong, resilient workforce. The AMN Healthcare survey shows that 83 percent of providers anticipate a nursing shortage in 2021, and 30 percent expect a physician shortage as a result of retirements, an aging patient population and other factors.

In response, providers must stabilize care teams, in part by streamlining day-to-day workflows and reducing unnecessary friction. Solutions that improve the caregiver experience will ultimately translate to better patient experiences and stronger business outcomes.

- Network assessment and optimization for mobile devices and VoIP
- Device configuration and device retirement at end of lifecycle
- Lifecycle management through managed mobility services, such as MDM support and mobile help desks
- Financing options, including leasing
- Pro services for MDM deployments
- Pro services for CC&C deployments

Strategies to Support Clinical Workflows

Having the right IT infrastructure in place and deploying CC&C solutions strategically allows staff to begin reaping the benefits of these tools much more quickly.

Infrastructure

Wi-Fi is the foundational platform for a fully optimized CC&C ecosystem. Organizations need to understand the wireless demands VoIP solutions require and ensure that networking infrastructure can support them.

Integration is also key to a successful deployment, given that CC&C is a holistic solution that serves to connect clinicians with each other and with essential tools and applications. EHR platforms, PBX and nurse call systems, and priority applications (such as staff scheduling software) all need consideration.

Eliminating manual processes in favor of automation can significantly reduce the friction and inefficiencies that lead to poor care coordination. Dynamic directories, for example, can replace the whiteboards and spreadsheets that clinicians have used in the past. Gains in timeliness and real-time collaboration lead to enhanced care and better patient outcomes.

Security is always essential, but healthcare organizations face special challenges. First is the fact that stolen patient records are more financially lucrative than other types of data. The value of these data assets, combined with the rapid expansion of virtual care amid the pandemic, has increased cybercriminals' motivation to target healthcare providers.

In addition, the healthcare industry has been less effective than other industries in deflecting breaches and containing their costs. IBM's "Cost of a Data Breach Report 2020" showed that healthcare organizations took an average of 329 days to identify and contain a breach, nearly two months longer than the overall average.

Moreover, data breaches are significantly more expensive in healthcare, costing $7.1 million on average, nearly twice the overall average of $3.9 million. CC&C initiatives should include MDM and other tools to ensure that as organizations facilitate better communication, they also enforce the necessary encryption and access management to protect healthcare data.

Adoption

When choosing and implementing a new solution, it is imperative to get clinicians and IT teams on the same page. Clinicians must understand the parameters set by IT staff, and technology professionals must be cognizant of clinicians' logistical concerns and workflow considerations.

Understanding the needs of all stakeholders is important, in part, because they may have varying perspectives in areas that

are relevant to CC&C solutions. For instance, one survey found a significant difference between clinical and nonclinical staff in their perception of how communication disconnects affected patient care.

Successful implementations occur when organizations take deliberate steps to bring all stakeholders together early in the process. This also means obtaining executive sponsorship for clinical mobility projects. This can ensure that the right solutions are chosen and that solutions eliminate (rather than exacerbate) any organizational silos.

Training helps teams learn to use new tools consistently and correctly, which can be a major factor in boosting adoption initially and for the long term. Training also ensures that organizations leverage new solutions to their full advantage, maximizing the return on investment. Effective change management practices recommend identifying thought leaders and technology champions who can serve as resources for their peers and advocates for adoption.

Finally, healthcare providers should consider a phased approach that adds new elements and capabilities gradually. The complexity of integrating new mobility solutions into workflows, and adapting workflows where needed, leads many organizations to deploy CC&C solutions on a measured cadence that is well supported by training and other resources.

By providing caregivers with the information they need, when they need it, healthcare organizations empower clinicians for efficient, seamless communication, documentation, notification and decision-making — core capabilities for the coordination and delivery of timely, exceptional care.

CDW: We Get Clinical Mobility

CDW Healthcare has more than 30 years of experience in healthcare and a dedicated healthcare practice. We have expertise in the hardware and software behind CC&C solutions, and we have strong partner relationships with all the major vendors in this space. Our in-depth experience in the field ensures that we understand the needs and challenges of both clinicians and healthcare IT departments.

Our services are designed to help healthcare providers choose and implement the solutions that best align with organizational objectives:

- **Clinical Mobility Workshop:** We use focus groups with clinical and IT staff, together with clinical workflow assessments, to deeply understand processes and to guide the selection of the right CC&C platform for a specific organization. We also develop recommendations to address targeted outcomes, as well as current experiences and challenges.
- **Wireless network site survey:** Mobility solutions work only as effectively as the supporting Wi-Fi allows. Our site survey ensures that wireless coverage and capabilities are aligned with CC&C solutions.
- **Consulting services:** We work with organizations on CC&C integration, deployment, training and other aspects of rollout and optimization.

CDW Amplifed™ Services

CDW Amplified™ Workspace services employ a comprehensive approach that enables employees to work from anywhere, on any device.

DESIGN Platforms
Our design and planning workshops help you align your business goals and needs to create an outcome-based collaboration strategy based on end-user satisfaction.

ORCHESTRATE Connectivity
Our certified experts help you create an implementaion plan, deploy your fully configured solutions and help ensure adoption success among employees.

MANAGE Operations
Our certified experts provide 24/7/365 support and routinely track, measure and optimize your digital workspace solutions to help you exceed business goals.

Sponsors

Learn more about how CDWG can help your organization effectively deploy clinical communication and collaboration solutions.

CDW·G PEOPLE WHO GET IT®