



Why Healthcare Providers Need Device Convergence and the Technology to Make It Happen

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Communications are vital to any organization, but for healthcare providers, reliable communications literally can be a matter of life or death.

Communications technologies improve patient outcomes through a variety of voice, messaging, paging, conferencing, and video applications that enable clinicians, nurses, and other healthcare professionals to stay in contact with each other. Advancements in communications solutions give healthcare providers the ability to track down the resources they need or to contact mission-critical personnel in case of an emergency without having to pass through a switchboard. Technology solutions also provide access to patient data and enable collaboration with other healthcare professionals, improving quality of care and, in many cases, eliminating risks to patients' wellbeing.

Since 2009, the Affordable Care Act (ACA) and the Health Information Technology for Economic and Clinical Health (HITECH) have incentivized technology adoption to help improve patient outcomes and patient safety. Healthcare organizations responded by deploying electronic health records (EHRs) and the devices needed to collect and access data, as well as solutions that enable healthcare professionals to securely communicate and collaborate.

Although technology has myriad benefits for healthcare organizations and their patients, it has also created a new problem: Many healthcare professionals are now required to use multiple devices, which can include smartphones, hospital phones, mobile devices for EHR access, pagers, and devices attached to mobile carts. **No one has a device that does it all.**

Risks Created by Too Many Devices

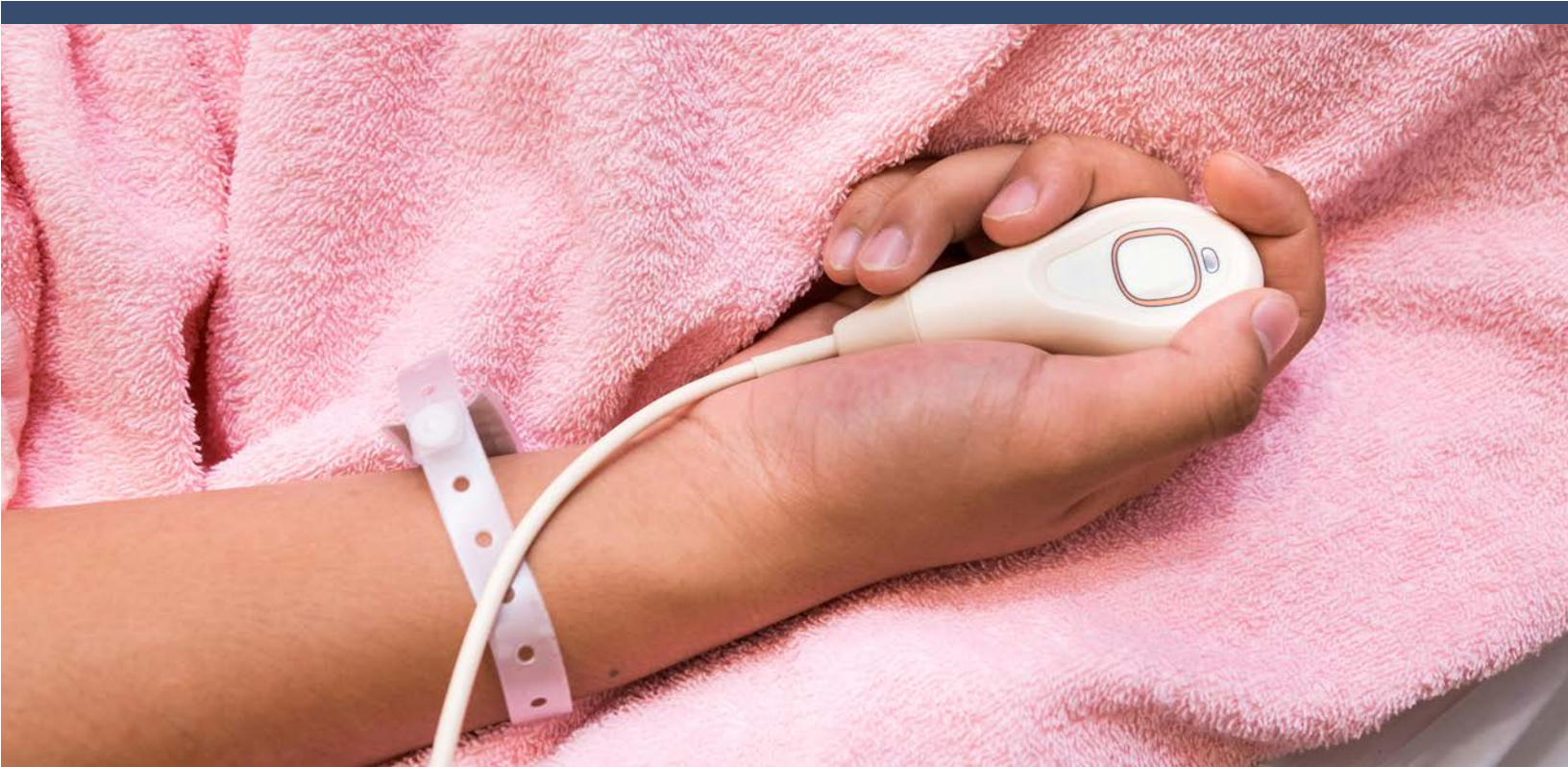
The increased number of devices used in healthcare has resulted in some undesirable outcomes:

1. Devices aren't used

When caregivers are required to juggle multiple devices for data access and communications, it can result in the decision simply not to carry them. If carrying too many devices is interfering with effective job performance, healthcare professionals will opt to carry tools or supplies needed for patient care rather than an “extra” mobile device.” A device intended for communication could remain on a desk or at a nurses’ station, where messages are recorded instead of received.

When the message doesn't get through, the next step can often be an overhead page. If the healthcare professional is in a noisy environment at the time of the page, however, the message still may not be received. Pages usually require passing information to a switchboard operator or another employee, which can lead to errors that using a “middleman” can sometimes cause, and pages don't provide an opportunity for two-way communication. Furthermore, if a page occurs at the wrong time, the distraction it causes could disrupt a procedure and endanger a patient.





2. Alarm Fatigue

Another problem that occurs with too many devices is alarm fatigue. When the Joint Commission updated its alarm guidelines for 2016, it pointed out at least 85% of alarms don't require clinical intervention.¹ Even the most conscientious caregivers start to tune them out, creating a digital “boy who cried wolf” situation — if alarms are never important, why rush to respond to them?

The problem, however, is that 15% of alarms are cause for urgency and intervention. According to 2013 Joint Commission statistics, about 80 deaths occurred over a 2.5-year period from caregivers ignoring alarms due to alarm fatigue. The Association for the Advancement of Medical Instrumentation (AAMI), however, asserts those numbers are underreported, and the actual number of deaths related to caregivers not responding to alarms due to alarm fatigue could be as much as 10 times higher.²

Joint Commission guidelines require healthcare organizations to establish alarm management protocols so the most critical alarms aren't missed or ignored. This includes setting a priority for alarms and delaying or dealing with non-critical alarms in a different fashion to reduce the number of audible alerts healthcare professionals hear.

¹ “New for 2016: Joint Commission updates alarm guidelines,” Healthcare Business & Technology, December 30, 2015, <http://www.healthcarebusinesstech.com/alerts-2016/>

² “Alarm Fatigue: A Patient Safety Concern,” Advanced Critical Care, October/December 2013, http://www.nursingcenter.com/journalarticle?Article_ID=1617134

³ National Patient Safety Goals Effective January 1, 2016, http://www.jointcommission.org/assets/1/6/2016_NPSG_HAP.pdf

The Solution: Device Convergence

When it comes to technology and healthcare, there truly can be too much of a good thing. Devices intended to improve patient outcomes can, when there are too many of them, have the opposite effect. Instead of facilitating workflows and allowing clinicians, nurses, and other healthcare professionals to reach colleagues more easily, using multiple devices can make it harder.

The solution is fewer devices. Device convergence solutions provide all of the functions of the various devices now in use, but delivered through fewer devices.

An example is the Procensis softphone dialer available from BlueStar's AppSolutions website. This app connects mobile devices used to access the healthcare organization's EHR with the facility's internal PBX via Wi-Fi. It works with Cisco Unified Communications Manager (CUCM) or Cisco Unified Communications Manager Express (CME) to provide the user with access to all contacts, and it assists with alarm management by pushing through high priority calls and notifying the user of waiting, non-critical calls and messages and even gives the user the ability to redirect calls right from the mobile device.

Enabling communications through the same device healthcare professionals use to access patient records consolidates at least two devices — at a minimum. Conceivably, one secured device could be used to access EHRs, hospital systems, scheduling, alarm management, as well as unified communications and collaboration applications.



The ROI of Converged Devices



Eliminating risks to patient outcomes from ineffective communication is certainly reason enough to deploy device convergence solutions. There are, however, additional benefits:

More efficient workflows and greater productivity

Enabling access to patient records and communications can provide nurses with true mobility. With devices that provide multiple functions, they have all of the tools they need right at their fingertips, without being tethered to a cart or taking extra steps to return to a nurses' station.

Eliminating steps also brings a facility closer to having real-time data that could impact life-or-death situations. Real-time data is also beneficial to the operations side of a healthcare facility. It provides up-to-date data on inventory, patient discharges or admissions, and schedules and staffing, to give managers the information they need to make fact-based, cost-effective decisions.

Using a simple, intuitive, touchscreen device can also boost efficiency and productivity by simplifying workflows and training for new employees who are familiar with similar interfaces from using consumer touchscreen devices.

Providing healthcare professionals with the right communications tools also empowers them to choose the most appropriate communication method — whether voice, message, or code — under the circumstances.

Lower capital expenditures and maintenance costs

There is also traditional ROI from a dollars and cents perspective. Fewer devices mean lower capital expenditures and lower maintenance costs. Minimizing the number of different types of devices also helps healthcare facilities' IT departments more easily accomplish provisioning, updates, mobile device management (MDM), security, and hardware repair, maintenance, and support.

Furthermore, apps that enable communications on devices used for other functions can be used in other areas of the facility such as logistics and receiving, also lowering the cost of technology in those departments.

Function that extends beyond the four walls

Solutions that add communications functions to devices used for accessing patient records could potentially provide better communications among different offices or locations of healthcare organizations with urgent care centers or satellite facilities. If they are currently connected via the healthcare organization's PBX telephone network, the app would work and keep healthcare professionals connected throughout the organization.



Fewer Devices, More Functions

Reducing the number of devices healthcare professionals in your organization use without decreasing functions, can improve communication and patient outcomes, as well as improve workflows and lower the burden on your IT staff.

Solve the problem of well-intentioned technology growing into device management and alarm fatigue problems. Speak to a healthcare technology solutions provider about how you can accomplish device convergence for your organization and its staff.

About Procensis

Procensis is a leading mobility solutions provider. We're focused on delivering the latest mobile technology to support unified communications to enable businesses to achieve their most effective workflows. We have deep expertise in the convergence of data, voice, and video on today's high-speed networks and enterprise devices. Our VoIP softphone and push-to-talk clients have been optimized to operate on the latest Enterprise devices operating on the Android platform. For more information, please contact Procensis at 267-893-6235 or visit us at www.procensis.com.

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Zebra makes businesses as smart and connected as the world we live in. Zebra tracking and visibility solutions transform the physical to digital, creating the data streams enterprises need to simplify operations, know more about their businesses, and empower their mobile work forces. For more information, please contact Zebra at 1-866-230-9494 or visit www.zebra.com.