

# Is Nurse Call Still Necessary?

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Real-time health system solutions (clinical communication and collaboration, interactive patient care, and alarms and notifications) will continue to assume nurse call responsibilities. Healthcare provider CIOs and clinical leadership should use this research to rethink nurse call requirements.

## Key Findings

- Nurse call, as it stands today, is not uniquely positioned to meet the needs of evolving care delivery models and patient experience requirements.
- Real-time health system (RTHS) solutions such as clinical communication and collaboration (CC&C), interactive patient care, and alarms and notifications platforms are assuming nurse call responsibilities.
- UL and U.S. Food and Drug Administration (FDA) certifications will no longer keep new competition and disruptive vendors at bay.
- As hospitals evolve to RTHSs, their workflows will be less and less defined by a specific category of the software they implement or their vendors' product roadmaps; rather, they will be more defined by rapidly changing care delivery requirements.

## Recommendations

Healthcare provider CIOs and clinical leadership:

- Assess nurse call in light of its ability to satisfy patient and care team communication requirements versus delivering conventional nurse call capabilities.
- Delay refreshing your nurse call system until you have a firm grasp on your patient and care team communication requirements in light of new care delivery models.
- Investigate functional alternatives to nurse call, such as interactive patient care, CC&C and alarms and notifications platforms, or a combination of these RTHS solutions.

## Strategic Planning Assumption

By the end of this decade, 30% of nurse call systems will have been replaced by real-time health system solutions.

## Analysis

### Nurse Call Capabilities

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The prime directive of nurse call is to alert nurses to the needs of a patient. As its name implies, nurse call (aka call light) systems are for patients to communicate with nurses — for any number of reasons — but primarily in case of discomfort, pain or emergency. Nurse call is also used for nurses to communicate with one another and with physicians and care team members. Nurse call can be wired or wireless; can interface with IP phones, pagers, smartphones, communication badges, location services, and staffing and scheduling systems; and includes more conventional nurse call features, such as:

- Master, duty, patient and emergency pull stations
- Dome and corridor lights
- Master console for real-time interactive display and control of calls and staff assignments
- Interfaces to building control and monitoring systems
- Interfaces to enterprise PBX or IP telephony systems
- Person and asset tracking interfaces
- Alarms and notifications, and other bedside system interfaces
- Patient management and clinical system interfaces
- Bed status monitoring and alerting
- Reporting for response times and patient satisfaction metrics

Nurse call commonly interfaces with hospital systems — such as the electronic health record (EHR) system, housekeeping, dietary, pharmacy and transition management — in order to facilitate care.

### Capabilities Versus Categories

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For decades, the venerable nurse call system has been comfortably ensconced as a system of record within the healthcare provider (see Note 1). Many hospitals have multiple nurse call systems. In a market dominated by a few vendors, there is much at stake for healthcare providers and vendors alike.

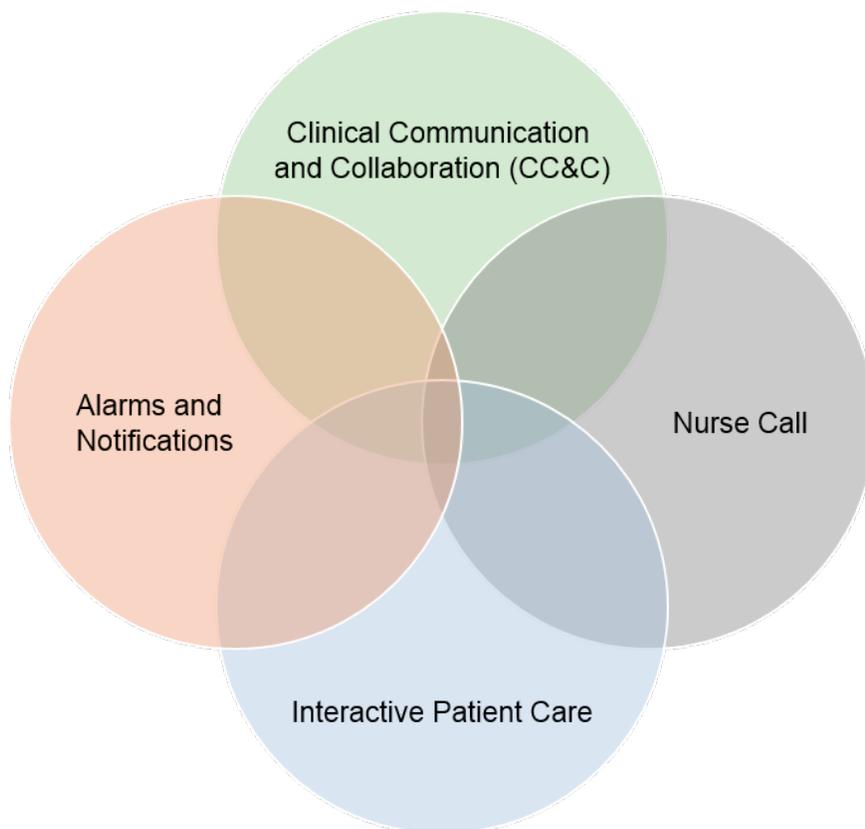
As hospitals evolve into real-time health systems (RTHSs; see Note 2), their workflows will be less defined by a specific category of software (for example, nurse call) and less constrained by their

vendors' product roadmaps. Out of necessity, these 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

With the advances in clinical communication and collaboration (CC&C; see "Market Guide for Clinical Communication and Collaboration"), interactive patient care (see "Market Guide for Interactive Patient Care Platforms"), alarms and notifications platforms, care coordination, location and condition sensing, and medical device connectivity platforms, other 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 and systems evolve to accommodate new care delivery models. Conventional nurse call requirements will be increasingly satisfied by the convergence of RTHS solutions' capabilities (see Figure 1).

Figure 1. The Convergence of RTHS Solutions



Source: Gartner (April 2016)

CC&C systems are mobile services primarily directed at clinicians to improve care team communication and collaboration. To do this, a CC&C system must provide capabilities such as secure messaging, email, voice, paging emulation and integration, along with applications and

systems such as nurse call, alarms and notifications platforms, patient throughput and capacity management systems, location-sensing and condition-sensing technology, charge capture and supply management systems, and the EHR. CC&C systems are used to coordinate the activities of clinicians and staff members around the patient, and to share patient information.

Interactive patient care platforms use commercial-grade interactive high-definition TV, wireless peripherals (TV controls, pillow speakers), bedside multimedia devices and tablet PCs to provide patients with convenient bedside access to caregiver and personal communications, hospital services, entertainment, and educational content specific to their illness or procedure. Interactive patient care platforms can keep patients and their families from feeling isolated, and provide them with the means to conveniently access information about their care, the care team and the services offered by the facility. There is a great deal of overlap between interactive patient care and nurse call capabilities.

Alarms and notifications platforms are responsible for capturing patient telemetry and event data as well as alarms from medical and patient monitoring devices, and then filtering and distributing the events and alarms to nurse call and other care team collaboration systems. The platforms also use this information for patient surveillance, and apply clinical algorithms to enhance patient safety and outcomes. Some alarms and notifications vendors (for example, Extension Healthcare) are extending the reach of their systems with smartphone apps that offer certain capabilities found within CC&C apps. CC&C vendor Vocera Communications includes alarms and notifications capabilities as part of its platform, as does nurse call vendor Amplion.

## UL 1069

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Most states require hospitals and long-term care facilities to have nurse call systems in order to be licensed. In the U.S., nurse call systems are tested against the provisions of UL 1069, the "Standard for Hospital Signaling and Nurse Call Equipment," and most hospitals require their nurse call systems to be UL 1069-listed. The testing is the basis for certification or approval by a Nationally Recognized Testing Laboratory (NRTL), as required by the U.S. Occupational Safety and Health Administration (OSHA). UL 1069 tests nurse call systems for reliable operation and performance. If a nurse call system includes so-called "pocket paging" devices, then these devices are tested for fire and electrical shock-producing hazards. If a nurse call system interfaces with a pocket-paging system, then the entire system (nurse call system and the pocket-paging devices) is tested against the provisions of UL 1069. Newer wireless nurse call systems have been included in the seventh and latest version of the UL 1069 standard.

While the intent of UL 1069 certification is to ensure nurse call system user safety and reliability, it has also served to limit competition and innovation in the nurse call space. New mobile communication and collaboration platforms that do not fall under this certification requirement will redefine this space by satisfying nurse call requirements without being labeled "nurse call systems." Industry certifications will no longer keep legitimate competitors and disruptive vendors at bay. CC&C vendors, interactive patient care vendors, and alarms and notifications vendors will continue to assume more traditional nurse call responsibilities.

## To Nurse Call or Not to Nurse Call

Healthcare provider CIOs and clinical leadership should closely examine nurse call vendor roadmaps. They also should look beyond legacy nurse call vendors to determine whether their nurse call requirements can be satisfied in other ways. A good place to look for opportunities to rationalize and innovate is in the lowest layer of Gartner's Pace-Layered Application Strategy. A system of record is often found in business processes that focus on standardization or operational efficiency and are subject to regulatory and compliance requirements. For better or worse, nurse call is one of those systems. Nurse call systems have evolved with the introduction of converged voice and data networks, alarms and notifications platforms, location-sensing and condition-sensing technologies, unified communications, and wireless mobile devices into the healthcare provider. As nurse call hardware (such as emergency pull stations, corridor/room dome lights, bed stations, motion detectors, pillow speakers, handheld devices and others) becomes more commoditized, open and nonproprietary, it will open up the space for other vendors to reinterpret nurse call requirements.

## Gartner Recommended Reading

*Some documents may not be available as part of your current Gartner subscription.*

"2014 Strategic Road Map for the Real-Time Healthcare System"

"Market Guide for Clinical Communication and Collaboration"

"Market Guide for Interactive Patient Care Platforms"

"Predicts 2016: Healthcare Provider CIOs Must Address the Clear Signposts of IT's Sea Change"

"Healthcare Provider Industry Research Targets Key Priorities"

### Note 1 Pace Layers

- **Systems of record** are established packaged applications or legacy homegrown systems that support core transaction processing and manage the organization's critical master data. The rate of change for regular updates is slow (every six to 12 months), and these applications have a long life cycle. The processes are well-established and common to most organizations, and often are subject to regulatory requirements.
- **Systems of differentiation** are applications that enable unique company processes or industry-specific capabilities. They have a medium life cycle (two to five years), but must be reconfigured frequently (every three to six months) to accommodate changing business practices or customer requirements.
- **Systems of innovation** are new applications that are built on an ad hoc basis to address new business requirements or opportunities. Typically, these are projects with a short life cycle (three to 12 months) that use departmental or outside resources.

## Note 2 Real-Time Health System

The RTHS represents the transformation of the healthcare provider into an efficient, patient-friendly enterprise whose reach will create more care options for the consumer. This new model will require new and existing parts of the healthcare system to connect, communicate and collaborate more effectively than they have in the past. The RTHS uses information and communication technology to disrupt care delivery as we know it, and reduce the time it takes for medical knowledge to be shared, adopted and applied. The RTHS also uses operational intelligence to determine the need for change or intervention, and, in doing so, eliminates waste and latency, accelerates workflows and business processes, balances resources with demand, and improves care quality and the patient experience. To successfully operate as an RTHS, healthcare providers will have to expand their use of location sensing and condition sensing, positive patient identification, mobile communication and collaboration, and embedded technologies. The RTHS will use real-time intelligence to optimize the management and execution of its most critical clinical and business workflows in order to meet new standards of care, regulatory mandates and patient expectations.

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