



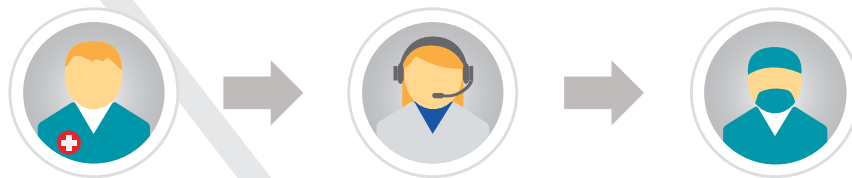
## NINE TIPS TO BRING ORDER TO HOSPITAL COMMUNICATION CHAOS

Communications in healthcare have become a web of information that is difficult to navigate and manage. Beeps from patient monitoring systems, constantly changing on-call schedules, diverse mobile devices, and the rise in care complexity mean more sophisticated communication technology is required to connect the right people with the right information for top-notch patient care. In this eBrief, you'll learn nine tips to cope with this chaos and establish the order your patients and staff so desperately need.

## INTRODUCTION

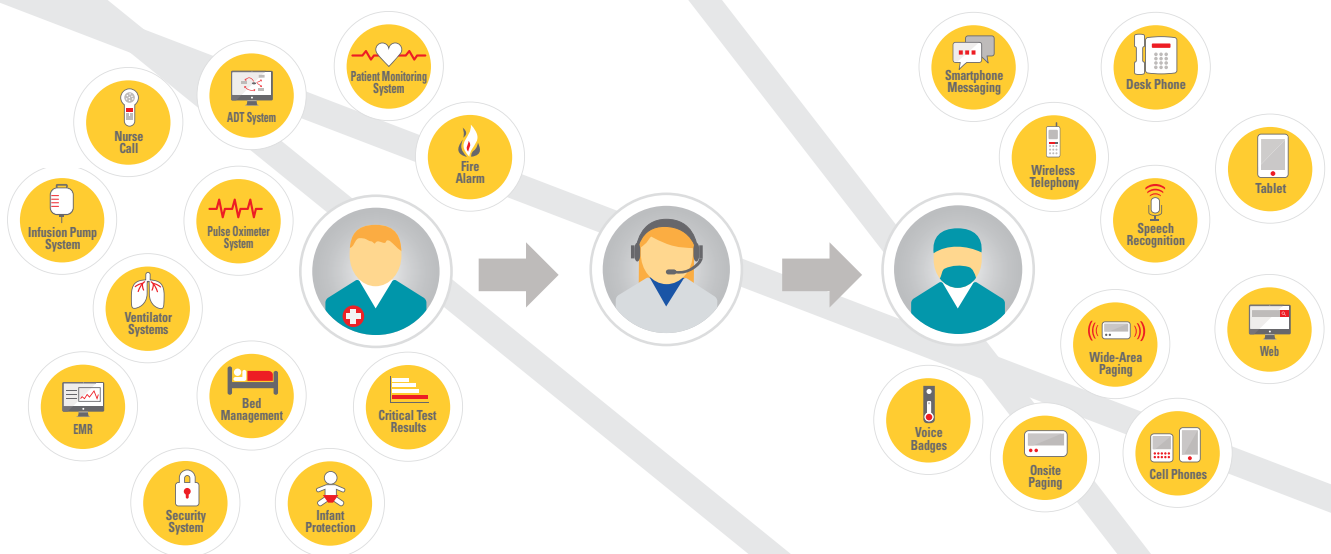
Hospital communications used to be a lot simpler. If you needed to find a doctor, you could dial 0 and the operators would connect you or send a page on your behalf. People communicated through paper charts, wrote key phone numbers on grease boards, and kept on-call schedules in binders. Some of this still happens today, but communications across healthcare have become progressively more convoluted. The use of diverse mobile devices (smartphones, tablets, pagers, Wi-Fi phones, etc.), and the rise in care complexity necessitating care team coordination mean more sophisticated communication technology is required.

## YESTERDAY: LIFE WAS SIMPLE



## TODAY: ISLANDS OF INFORMATION

Hospital communications have become the opposite of simple. The plethora of mobile devices, ever-changing on-call schedules, patient monitoring system alarms, and other hospital technology all contribute to a web of information that is difficult to navigate and manage.



All of these systems and their notifications are designed to give caregivers more details about patients and improve care team coordination. But how do hospitals get control of this deluge of information and make sure the right person is really getting the right updates—and only the right updates? In this eBrief, you'll learn nine tips to cope with this chaos and establish the order your patients and staff so desperately need.

# NINE TIPS TO BRING ORDER TO HOSPITAL COMMUNICATION CHAOS

1

## CONNECT YOUR ISLANDS OF INFORMATION

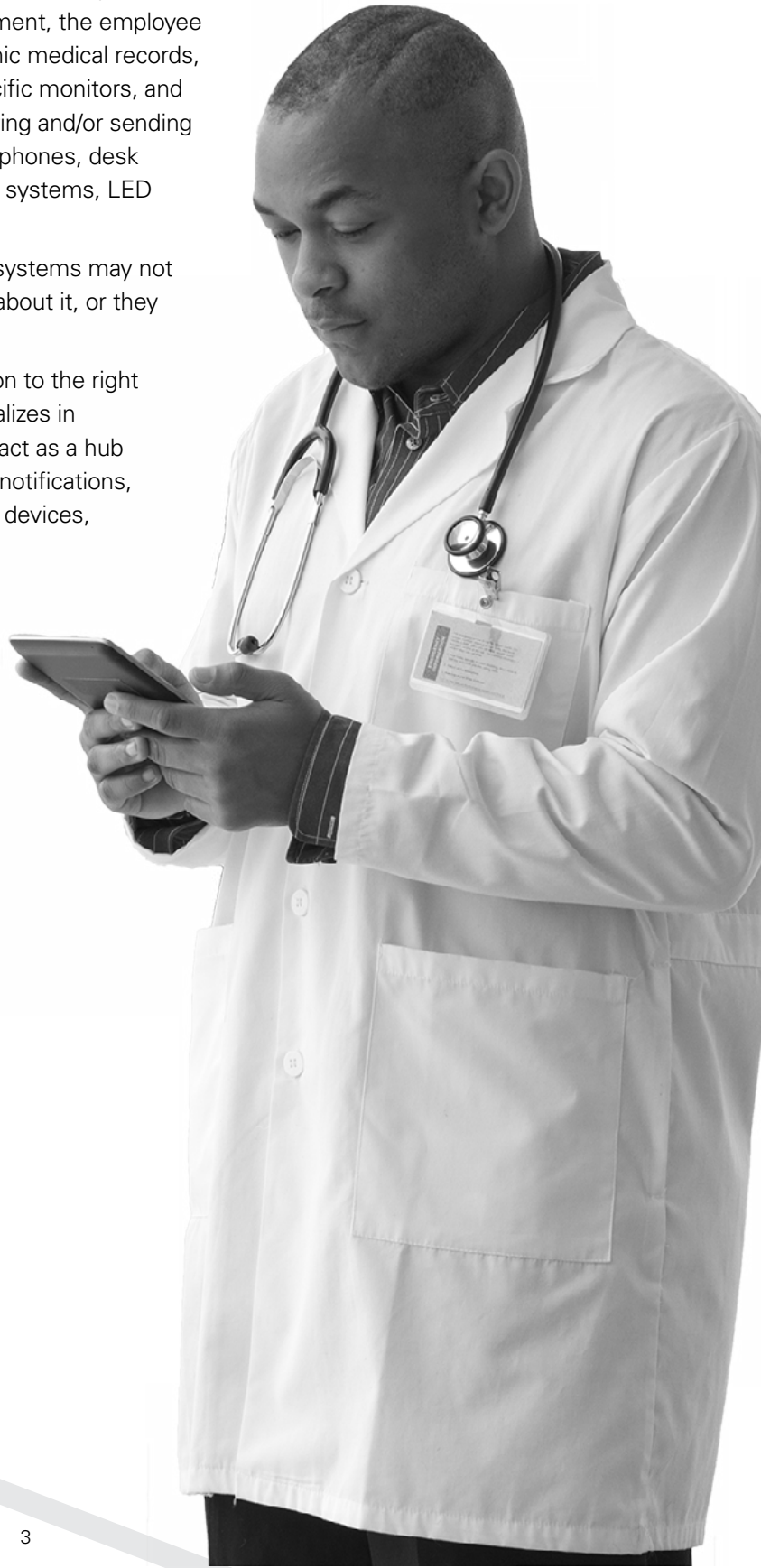
The amount of data created and communicated within a hospital is enormous. There are applications for patient movement, the employee directory, building security and monitoring, electronic medical records, critical lab/radiology results, numerous patient-specific monitors, and nurse call. Those are just some of the systems storing and/or sending information to a multitude of different devices: cell phones, desk phones, pagers, smartphones, voice badges, email systems, LED boards, tablets, Wi-Fi phones, and more.

The main challenge is that information from these systems may not be making it to the people who can do something about it, or they may not be getting it fast enough.

The key is to connect all of the islands of information to the right devices. This can be done with software that specializes in integrating with a wide variety of input systems to act as a hub of information. The system can prioritize alerts and notifications, send them to the appropriate staff on their primary devices, and manage escalations and audit trails. This gives organizations a global view of the systems sending important information, who is receiving it, and when and how they responded.



The use of diverse mobile devices (smartphones, tablets, pagers, Wi-Fi phones, etc.), and the rise in care complexity necessitating care team coordination mean more sophisticated communication technology is required.



## 2

## KEEP YOUR NURSES INFORMED, NOT OVERWHELMED

Nurse call, heart monitors, pulse oximeters, ventilators, and similar systems detect important information about what's happening with a patient. While systems signaling help is requested or needed are vital to patient care, it can be difficult for nurses to log into each one for every patient at the start of a shift. One way to assist with this is a single sign-on capability, built into the staff assignment software. Synchronizing assignments between the nurse call and other monitoring equipment can eliminate a time-consuming effort—and the benefits go far beyond just saving time at the start of a shift.

A study<sup>1</sup> at Johns Hopkins Hospital found an average of 350 alarms per bed. With so much noise, nurses and caregivers can easily become desensitized.

Typically, when there is a change in patient status, or a patient pushes the nurse call button, a beep in the room or at a main nurse's station indicates the need for follow-up. Then the appropriate nurse is tracked down so she or he can walk to the patient's room and assess or assist. The previously mentioned software that helps support single sign-on can also filter, prioritize, and route all of the alarms and alerts associated with each patient directly to a nurse's mobile device. This allows nurses to "talk then walk," meaning they can talk with a patient using that device (perhaps a smartphone or Wi-Fi phone) and the patient's pillow speaker. Communicating this way before going to the room can cut down on distances walked and save time. If the request is an informational one, the nurse may be able to answer the question remotely and avoid a trip altogether.

And lastly, alarms and monitors produce a lot of information, and not all of it is actionable. A study<sup>1</sup> at Johns Hopkins Hospital found an average of 350 alarms per bed. With so much noise, nurses and caregivers can easily become desensitized. This is referred to as "alarm fatigue," and the risk is that valid alarms may be missed or disabled, leading to unnecessary complications and even patient death.<sup>2</sup> Alarm fatigue was the topic of a Joint Commission sentinel event alert<sup>3</sup> in 2013 and is the driving force behind the 2014 national patient safety goal (NPSG): NPSG.06.01.01: Improve the safety of clinical alarm systems.<sup>4</sup>

One way to address this is by sending notifications directly to providers' mobile devices. Using a clinical alerting solution to integrate a variety of patient care and monitoring systems with staff's Wi-Fi phones, smartphones, pagers, and/or voice badges speeds notification and response times to promote better patient care. Intelligent software can also act as the first stage of triage by incorporating the facility's pre-set priority levels and using built-in logic to pass along the highest level of alerts first.

### National Patient Safety Goal (NPSG) 6

Reduce the harm associated with clinical alarm systems.

#### NPSG.06.01.01

Improve the safety of clinical alarm systems.





### 3

## DIRECT THE FLOW OF INFORMATION

There are many standard communication processes in your hospital that involve handoffs and specific actions. For example, a patient is discharged and the room needs to be turned over. A physician places STAT orders and needs the pathology results as soon as possible. A patient is waiting in his or her room for transport to radiology for a scan. These and other workflows happen continually in hospitals. Your goal is to make the handoff points seamless using the right technology and mobile capabilities.

Blood panel ordered on patient



07/01/2014 09:24		COMMUNITY HOSPITAL	
JOSEPH SMITH M.D.		DEPARTMENT OF LABORATORY	
NAME :	JONES, TERRI	LOC :	ER
MR :	91755	DR :	ORNG, J
ACCT :	122456		
T24	COLL: 07/01/2014 08:00	RBC:	07/01/2014
ELECTROLYTE			
SODIUM	140	{13	
POTASSIUM	3.1	{3.5	
CHLORIDE	PEND	RUN STAT AT PHYSICIAN	
CO2	PEND		
PROLACTIN (REF LAB RESULTS AVAILABLE)			
T4 BY RIA (RESULTS AVAILABLE 3 PM TUE & FR)			



Critically low potassium triggers alert to physician for immediate action

These types of information transfers often involve HL7 data. (Health Level 7 (HL7), the standard format for exchanging patient health information between medical applications, was created by the not-for-profit organization of the same name). Directing HL7 feeds being generated by clinical and information systems can make processes smoother by getting valuable data to the right people quickly. In particular, these feeds can be generated, sent, and recorded by clinical applications for electronic medical records (EMR), patient movement, health information systems, and critical test results. With a strong communication infrastructure in place, you can capture this information and deliver new levels of efficiency in your hospital.

The effective use of HL7 data to strengthen care is a potential area of improvement for hospitals. Doing so can not only improve clinical workflows and patient support, but also works toward The Joint Commission's second national patient safety goal, to improve the effectiveness of communication among caregivers.

### Example: Notification Without Missing a Beat



Actionable alert for room 203 sounds in the telemetry room



With one button, telemetry tech forwards alarm to patient's nurse



Nurse receives alarm on mobile device, accepts alert, immediately triages patient, and launches a Code Blue

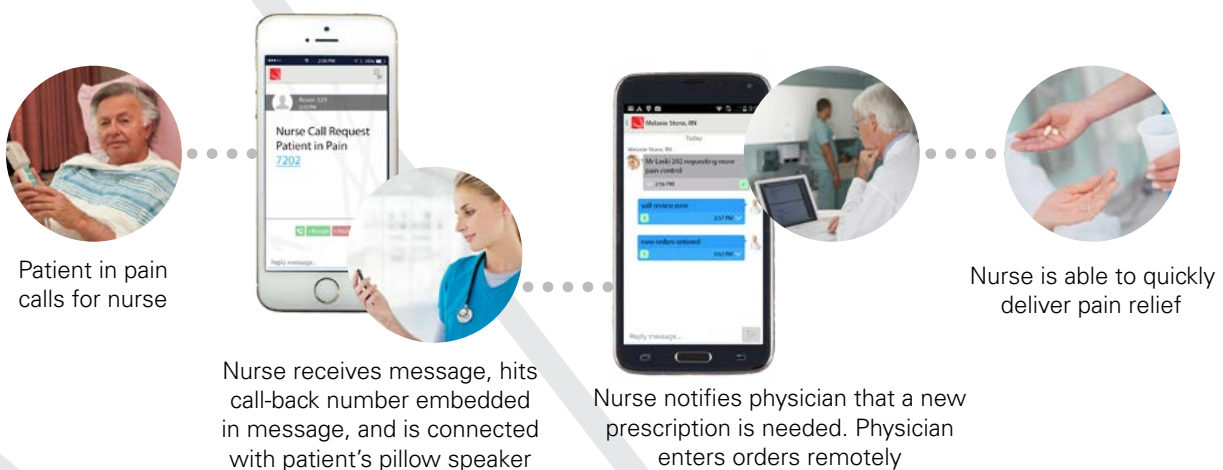


Coordinated, life-saving treatment is delivered to the patient quickly

## 4 FIND THE RIGHT PEOPLE

While we're on the topic of receiving information, making sure the right alerts are routed to the right people is key. Getting ahold of all the clinical information systems and data streams is the first step; the next step is routing them. A thorough understanding of staffing and roles comes into play at this point. Lab results go to physicians, room turnover requests to housekeeping, pain management inquiries to nurses, and supply refill needs to supply management. Messages and alerts need to go to the people who can actually act on them.

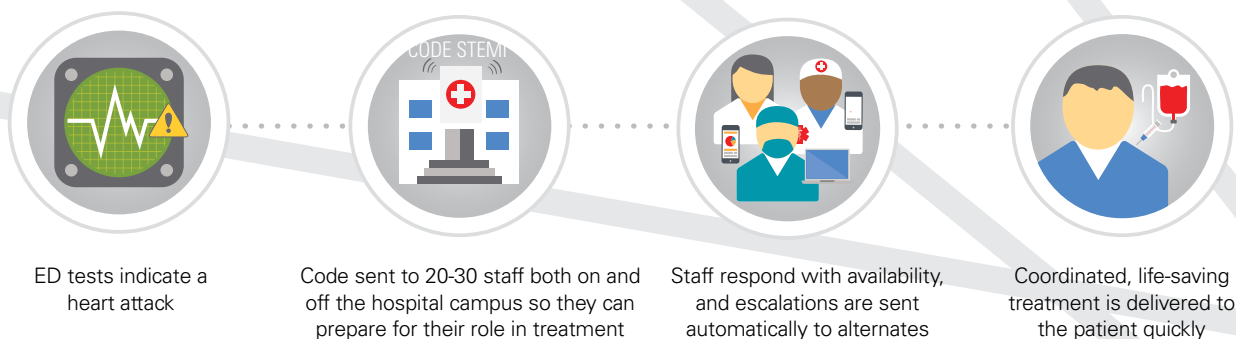
Interoperability is again important here because alerts may need to be sent to various staff members using different mobile devices. Sending a notification to a Wi-Fi phone, smartphone, or pager should all be possible. In fact, the device type shouldn't matter at all to the system you're using to send the message. The Information Technology and BioMed teams will need to join forces to make sure the communications between systems and people are flowing correctly. The focus should be on improved workflow and simplified processes for the good of patient care.



## 5 EMBRACE DEVICE DIVERSITY

Within a hospital, there is no one-size-fits-all communication device. Smartphones, tablets, desk phones, voice badges, pagers, Wi-Fi phones, and email systems are all a part of the mix used by nurses, doctors, housekeeping, lab technicians, security, and others. You need to be able to message to all of these from a single communication system. As discussed, mobile devices can receive machine-generated alerts. They can also help coordinate critical codes that require multiple people to respond, such as coordinating care for a heart attack patient. Smartphones can be used for more than just messages and access to medical apps – they can help you redefine how you manage care and improve work processes.

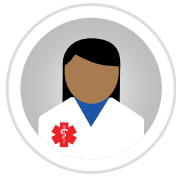
### Reach code teams quickly to prepare for urgent situations



## 6

## MAKE CLINICAL CONNECTIONS EASY

There's plenty of research that indicates caregivers are frustrated with how hard it is to reach doctors. Good patient care depends on physicians' ability to collaborate with nurses and other physicians. This includes communication about consult requests, critical test results, patient updates, code calls, medication inquiries, and more. Slow answers to questions can impact patient safety, as well as satisfaction scores.



**61%** Physicians concerned about access to colleagues<sup>5</sup>



**53%** Nurses who have trouble determining which physician is available<sup>6</sup>



**62%** Hospital informatics staff rank on-call schedules a top pain point<sup>7</sup>



**14%** Pages sent to a doctor not on duty or on call<sup>8</sup>

Finding the right doctor when a question arises can be tricky because there are regular and on-call schedules, and perhaps questions about whether to use an office phone, smartphone, or pager for a particular doctor. If the doctor is unavailable, it's important to know who is next in line to assist.

The answer is an integrated communication solution that brings together the staff directory, web-based on-call schedules, secure texting apps, and physician-specific information such as availability and device preference. The benefits of faster and more efficient communications will make care coordination easier for providers and safer for patients.

### Example: Reaching the On-Call Cardiologist

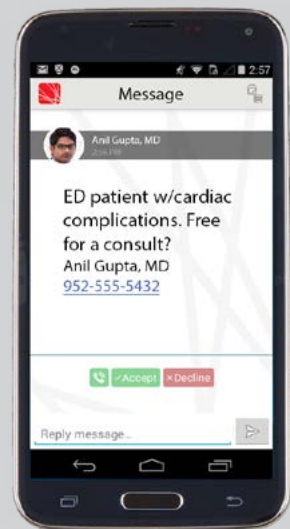
A secure texting app designed specifically for healthcare can pull information directly from the hospital's on-call schedule by name or position. A search for "cardiologist" displays staff members, as well as identifies who is on call. Further, the app allows providers to message one another quickly, right from their mobile devices.



Dr. Gupta needs to consult with the on-call cardiologist about a new patient—he searches the directory from his smartphone



Dr. Gupta sends a message to the correct provider, Dr. Cleaver, directly from the app



Dr. Cleaver receives the secure message on his smartphone—he is able to accept the request and call Dr. Gupta right away

## 7 PROTECT PERSONAL HEALTH INFORMATION (PHI)

The amount of sensitive information floating around hospitals is staggering. Social Security numbers, insurance details, and of course highly personal records about patient conditions are some of the many examples. All of this is considered protected health information that hospitals are on the hook for watching over at all times. The HITECH Act and HIPAA promote guidelines regarding how this data should be handled as well.

One of the challenges currently facing IT leadership is the security of mobile devices. Simple SMS texting that comes standard on smartphones is not a secure form of communication when it comes to PHI, yet this method is often used in hospitals despite warnings against it. Instead, hospitals are offering staff an alternative in the form of an app that maintains the security of information sent and received. However, the value of a stand-alone secure texting app is limited by the contacts in any individual's contact list. Supporting staff in their clinical workflows means allowing integrated access to the full directory, on-call schedules, and device preferences to reach the right people. Beyond these integrations and message encryption, also look for an application that offers application lock, automated message removal, and a password-protected inbox. Administrators should also be able to complete a remote device wipe to remove messages from a smartphone that has been lost or stolen.



**\$1.2 million per organization: average cost of a healthcare data breach<sup>9</sup>**

**60%**

Healthcare leaders expressed HIPAA, HITECH concerns for devices lost, stolen or hacked<sup>10</sup>

## 8 MIND THE AUDIT TRAIL

Whether to protect against litigation, retrace steps to evaluate efficiency, or meet Joint Commission requirements, audit trails are essential in hospitals when it comes to communications. Particularly during time-critical situations, when a message is sent and who received it can become crucial. Having a proper audit trail with a date and time stamp for all messages sent and received can eliminate a lot of hassle and protect both individuals and your organization if the details of a particular message or situation come into question.

Having a single audit trail for reporting purposes is also important as you establish your communication infrastructure. That way you don't have to log into multiple systems depending on whether you need to determine who received a Code Blue message or how an operator contacted a doctor for a consult request. Remember, you don't need any more islands of information that become difficult to access. The integrated suite remains key whether you're messaging to smartphones, sending emergency notifications, or retracing on-call schedules.



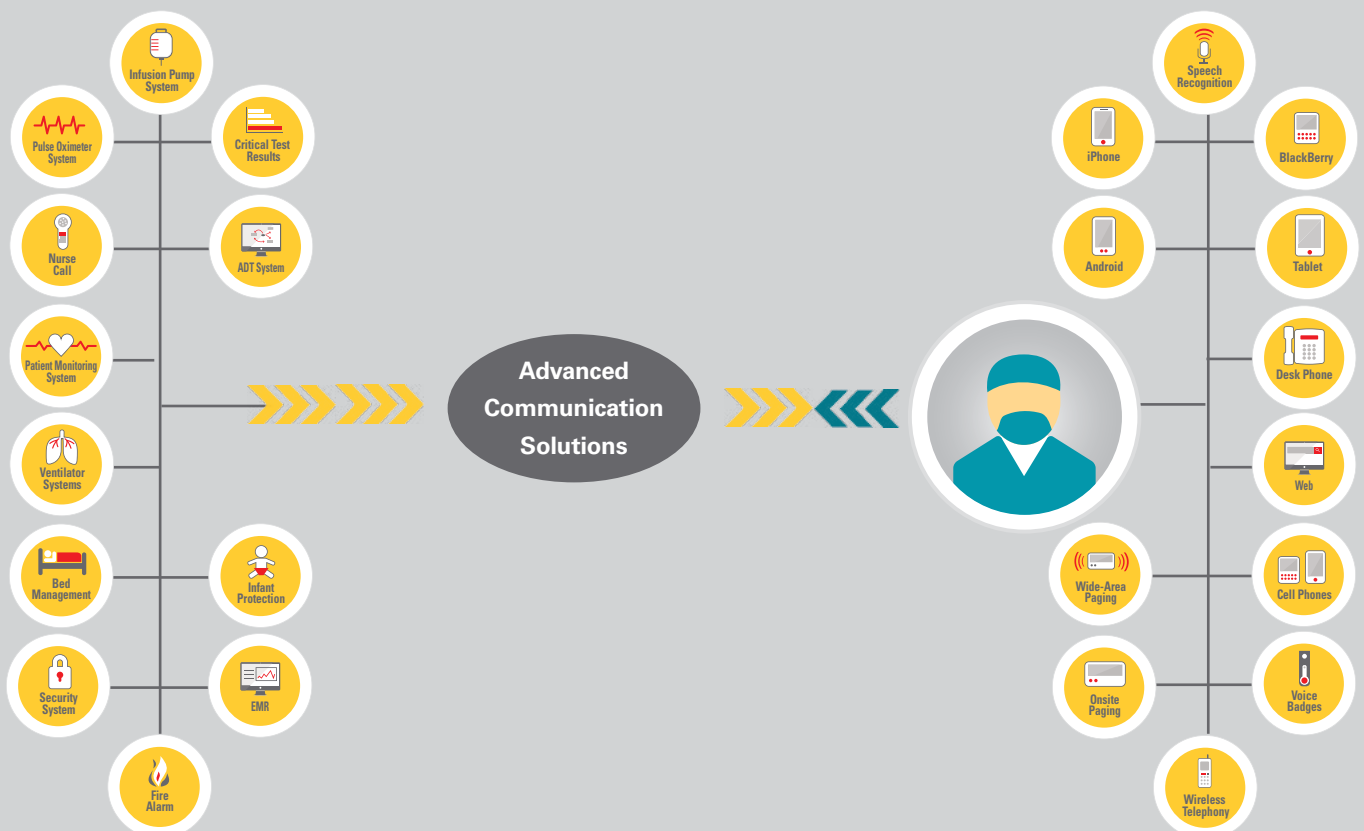
## KEEP OPERATORS FULLY OPERATIONAL

As you look at your communication infrastructure and processes for improvements, ensure that your operator group remains involved in critical communications just as they are today. This team needs to be equipped with the tools to effectively manage beyond incoming calls and internal transfers. For most hospitals, an escalated message or alert goes to the operator group. Even if you implement some of the ideas in this paper about having machines send alerts right to your clinical staff, having the operator group trained to provide backup assistance is a smart idea. They are typically the ones who know the on-call schedules and the ins and outs of your hospital's directory. This is also important when it comes to contacting physicians and other staff when time is short.

## CONCLUSION

With the complexity of communications in hospitals, the time has come to look at ways technology can help you manage information in more systematic, automated ways that make life easier for clinicians and safer for patients. Now that systems such as nurse call, EMR, patient monitoring, and many more can be brought into the interactive communication picture with your staff, the possibilities for speed and accuracy of information sharing have expanded. It's time to let systems and technology do more of the work so caregivers can get back to spending time with patients.

## Connecting Islands of Information: Improved Staff Efficiency and Patient Care



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## ABOUT SPOK, INC.

Spok, Inc., a wholly owned subsidiary of Spok Holdings, Inc. (NASDAQ: SPOK), headquartered in Springfield, Va., is proud to be a leader in critical communications for healthcare, government, public safety, and other industries. We deliver smart, reliable solutions to help protect the health, well-being, and safety of people around the globe. Organizations worldwide rely on Spok for workflow improvement, secure texting, paging services, contact center optimization, and public safety response. When communications matter, Spok delivers.



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