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# Six Lessons Hospitals Have Learned About Smartphone Messaging

## Introduction

There is a communications revolution occurring in hospitals today. With highly mobile staff members and the increasing use of smartphones, new ways to share and act on information abound. Yet despite these technology changes, the need for fast, accurate messaging remains crucial to maintain patient safety at all times.

Hospitals that have replaced pagers with smartphones have learned important lessons. As more hospitals incorporate smartphones and they become the standard, it's important to consider these realizations to ensure a smooth transition over the long run. Because at the end of the day, the goal is to get the right message to the right person on the right device at the right time.

## An Overview of the Six Lessons

1. While the idea of completely replacing all pagers with smartphones gets people talking, it's not a realistic goal in the short term
2. The diverse array of devices in today's hospitals needs to be supported because it isn't going away quite yet
3. Integration with the existing enterprise communications backbone is crucial for accuracy and the effective use of smartphones and any other device
4. Smartphones are enabling a paradigm shift in the way hospital staff communicate as well as how they work
5. Encryption is essential to protect privacy for everyone and meet industry compliance requirements
6. Opportunities for clinical collaboration are improved by integrating smartphones with nurse call and other point-of-care systems

## The Six Lessons Learned

### 1. WHILE THE IDEA OF COMPLETELY REPLACING ALL PAGERS WITH SMARTPHONES GETS PEOPLE TALKING, IT'S NOT A REALISTIC GOAL IN THE SHORT TERM

Smartphone users are passionate about the capabilities of their technology and want to simplify their lives by consolidating all messaging to a single device. Many physicians and administrators in hospitals request this of their IT or telecommunications team because they're tired of wearing a 'tool belt' of different devices. When smartphone messaging systems (sometimes called 'pager replacement' software) became available, it seemed like a feasible goal to replace 100 percent of pagers with smartphones. But while it's technologically possible to replace all pagers with smartphones, it's probably not the right thing to do from a practicality standpoint at this time.

The fact is, different staff members use different devices due to the requirements of their jobs. What works for physicians may not work for nurses, lab personnel, housekeeping, or the administrative team. A well-planned, long-term strategy is needed to ensure each group has the technology that works best for them, whether that's smartphones, Wi-Fi phones, pagers, or something else. This means 100 percent pager replacement is not likely in the short term.

Additionally, hospitals have already invested a lot of time and money on pagers, terminals, and transmitters—not to mention developing the work processes involved. It doesn't usually make sense to rip out this equipment immediately. Truth be told, these systems work well and are usually pretty reliable (until they get old and manufacturers start discontinuing parts, that is). The downside, of course, is that pagers typically lack functionality today's staff members require, such as smooth two-way communication, delivery confirmation, and audit trails. That said, pagers remain a cost-effective means of reaching a portion of your staff members when it matters most.

## 2. THE DIVERSE ARRAY OF DEVICES IN TODAY'S HOSPITALS NEEDS TO BE SUPPORTED BECAUSE IT ISN'T GOING AWAY QUITE YET

Peaceful coexistence of communication devices is as necessary for the various arms of your clinical staff as it is for your IT team. There is a plethora of communications technology already in place in addition to smartphones. These include pagers, cell phones, Vocera badges, SpectraLink and other Wi-Fi phones, two-way radios, and more.

Diversity of devices has advantages; in fact, redundancy is critical. If a paging system goes down, having a backup contact method and the ability to automatically alert staff on their secondary device (e.g., a smartphone or cell phone) is critical for patient safety and continuous workflow.

One reason why it's critical to support a variety of devices is that many physicians, agency nurses, and other staff work in but not for your hospital. Even if your hospital-employed staff members have been given a standard brand of smartphone, pager, or other device, transient workers may carry something different. Regardless of their formal employment status, these people are still part of medical teams and need to receive messages, especially in the case of physicians in a code group.

In fact, a code team could consist of 10 members with 10 different devices. Anyone sending a message to this group should just be able to send a single message simultaneously to all members from a single system without having to remember which device each person carries.

When it comes to smartphones in particular, there are many popular models and platforms to support. There's no true standard. Because of this, BlackBerry®, iPhone®, Android™, and other smartphone types all need to be included. IT needs an easy way to allow staff to message to everyone, regardless of the smartphone carried or the type of cellular service contract involved (Verizon, AT&T, Sprint, T-Mobile, Rogers, Bell Canada, etc.). In the end, sending a message to a smartphone, should require only a phone number—nothing else should matter. They also need to add/remove users easily and also install a simple application on the smartphone that is intuitive to all.

## 3. INTEGRATION WITH THE EXISTING ENTERPRISE COMMUNICATIONS BACKBONE IS CRUCIAL FOR ACCURACY AND THE EFFECTIVE USE OF SMARTPHONES AND ANY OTHER DEVICE

Paging terminals and transmitters can be used to simply fire messages effectively to staff. Likewise, you can find smartphone messaging systems that only require a Web portal to send communications and even provide full audit trails of all transmissions. But this is a short-sighted way to handle the critical communications going on every minute in your hospital because these types of applications may not work with other systems you have in place. These may include mission-critical applications such as operator consoles, mass notification, on-call scheduling, mobile event notification, and others. Not integrating means multiple databases for storing and updating contact information. And this means trouble.

Your high-level goal then should be simple: being able to send a message to one or many people and have it be received simultaneously, regardless of the device each person is using. This means there could be any number of different smartphones, cell phones, Wi-Fi phones, and pagers at play. Sending the message should require a single system that pulls relevant contact information from a single database which supplies information to operator consoles, on-call schedules, and other related applications. The sender shouldn't have to go from system to system to message to different types of devices. That wastes times and introduces errors and inefficiency, especially when tracking responses and monitoring escalation rules.

The good news is that with the right system, you can integrate smartphone messaging as a piece of your existing infrastructure. This greatly simplifies the administration for everyone because you'll draw all relevant contact information from the same place, eliminating errors and time wasted switching from a stand-alone Web portal to your operator console or other application. This makes everyone happy, including the IT team administering things on the back end. Integration also improves patient safety with the ability to reach staff quickly using the right contact information the first time around.

## 4. SMARTPHONES ARE ENABLING A PARADIGM SHIFT IN THE WAY HOSPITAL STAFF COMMUNICATE AS WELL AS HOW THEY WORK

Let's face it, smartphones are amazing in what they can do. They offer a real opportunity to reevaluate and streamline how the daily operations of a hospital run as we move toward sending the right message to the right person at the right time on the right device. There's a lot of efficiency to be had in this.

In fact, those in charge of hospital communications have wanted features for years that are now available with smartphones and systems that can message to them. Risk officers seek the audit trails smartphone messaging solutions now offer to track when messages are sent, received, and answered—as well as the actual replies. Audit trails are key for Joint Commission regulations, staff accountability for messages sent/received, and to detect process issues and unacceptable lag times between communications.

Additionally, caregivers want to know when an answer comes in regarding a question sent to another staff member. Capabilities for two-way messaging to send responses back and free-form text shorten the communications cycle and allow busy clinicians to respond in detail when they're able. As far as urgent messages go, those receiving a code call or other time-sensitive request can let the sender know how long before he or she will arrive at the right location.

Likewise, on a basic level, there is certainly a time savings element for those able to consolidate several devices to a single smartphone. There's no more going back and forth among various pagers and other devices to respond to messages and keep track of requests. But there are fundamentally new ways for enabling different workflows and processes though adoption of smartphones as well. Access to the Web provides infinite information resources. As just one example, the Epocrates site provides fast access to drug interaction information. Critical lab or test results can also be sent to a physician directly for review or instruction. And integration with EMR systems provides new ways for caregivers to incorporate notes directly into a patient's file. The list goes on.

## 5. ENCRYPTION IS ESSENTIAL TO PROTECT PRIVACY FOR EVERYONE AND MEET INDUSTRY COMPLIANCE REQUIREMENTS

Hospitals are filled with sensitive information about patients and staff members, from health records to billing information to social security numbers, and more. Much of this data can be accessed by communication devices such as smartphones, and information can also be stored in the technology itself. Likewise, messages can contain sensitive patient details and should not be viewed by anyone other than the intended recipient.

This information must be protected at all times. This is equally important within the facility and outside of it as staff move around going about their daily jobs and lives. Even someone going out for lunch carries highly sensitive information with them on their smartphone. Some hospitals lock down devices after a short period of time and require a password or PIN for identification. Others rely on encrypted communications. Both are essential elements to ensure patient, staff, and other hospital data remains highly guarded. The public perception of your facility is at stake.

Sensitive information sent via SMS needs to be encrypted from the time it leaves the host system—your hospital's Web directory or operator console, for example—until it is received by the smartphone. Government initiatives such as HIPAA and HITECH are dictating the requirements when it comes to the exchange of electronic protected health information (ePHI). It's important to make sure your communications infrastructure, especially your smartphone messaging system, can handle this.

One of the many advantages of leading smartphone messaging applications is that they reside on the smartphone and can handle decryption, helping to ensure the integrity of data. While some smartphones like Blackberry can support encryption via the BlackBerry® Enterprise Server (BES), encryption should be standard in your messaging system no matter which smartphone is used.

### 6. OPPORTUNITIES FOR CLINICAL COLLABORATION ARE IMPROVED BY INTEGRATING SMARTPHONES WITH NURSE CALL AND OTHER POINT-OF-CARE SYSTEMS

Mobile event notification middleware has been around for many years. This allows alert systems such as nurse call, patient monitoring, pulse oximeters, and many others to be centralized in a hub and sent directly to the mobile device of the appropriate staff member. The idea is that staff members can respond more quickly to these alerts, improving patient safety as well as their own efficiency.

Looking forward, it would be possible to have a patient setting off a nurse call system and having the nurse receive notification on his or her smartphone. By streamlining the communication process between the patient and nurse, your organization could reduce falls and increase patient satisfaction.

Clinical collaboration can also be improved through the integration of EMR systems and smartphones as mentioned in lesson four with the ability to access a patient's record to make updates. This allows other staff involved in the patient's care to have the latest information at all times.

## Conclusion and Practical Tips for Hospitals Looking to Incorporate Smartphones

As we all know, technology will continue to change, but the need for fast, accurate staff messaging remains constant. At the end of the day, hospitals need to message to the right recipient without worrying about which device is being carried.

While on the journey to smartphone utopia (if indeed you even need to reach it), look for a vendor that has you covered every step of the way by supporting all of the devices in your hospital. Take advantage of all that smartphones have to offer today, including more efficient work patterns and new ways to communicate among your staff. Smartphones certainly have a role alongside other devices, especially when a single system can be used to message to everyone, regardless of what they carry. Smartphone messaging is part of a larger ecosystem of communications. Integration with existing systems is not only a time saver, but it may be a life saver too.

Take stock of all the communication devices in use at your facility and who uses them. Is it even possible that everyone would one day have a smartphone? Or would other devices remain in the mix for years to come?

Finally, consider all of the efficiencies and new workflows that improved communications make possible. The entrance of smartphones offers an opportunity to reevaluate everyday interactions and find ways to make your organization a safer place for patients, staff, and visitors.

## About Amcom Software

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