WHITE PAPER

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Eight Reasons SMS Is Unacceptable for Critical Hospital Communications

Is SMS Good 4 Hospitals? R U Sure?

Introduction

The messages sent every second of the day in today's hospitals are unlike communications in other industries. The vast majority are related to the care and safety of patients. They contain instructions, questions, and test results that affect people's lives. Often they are urgent and require staff to act quickly. A heart attack has occurred. A newborn is in distress. Someone is in terrible pain.

Despite the important nature of these interactions, critical staff messages can be sent in ways that impede care and put extra burden on staff to get the confirmations they need. This is because messages are sent using SMS or email. So the same 'short message service' way of communicating embraced by teenagers everywhere is also employed in hospitals for critical code calls and consult requests. But do we really want critical healthcare messages winding up in the same inbox as a reminder to pick up milk?

Many hospitals are using SMS or email for critical messaging today. But the fact is, this is a risky proposition for several reasons. Critical messages are special and different. They're high priority and demand a recipient's attention and acknowledgement. They also need to be traceable as far as when they're opened, when they're responded to, and what the response was. Fire and forget isn't good practice when it comes to patient-related communications.

In short, SMS or email and critical hospital communications don't mix. In this paper, you'll learn the eight reasons why this is the case, especially when compared to smartphone application messaging options available today.

1. Messages sent via SMS lack security and encryption

The bottom line is that patient data, often called electronic protected health information - ePHI, is highly sensitive. Hospitals need to take every precaution to protect it. This includes evaluating the messaging systems and protocols in place. In short, messages sent using SMS are not encrypted. They are sent over insecure Web sites using SMTP (which is the same protocol used for email). There is also no ability to lock SMS applications with a PIN number to access messages. Likewise, there is also no method to automatically remove critical messages while leaving personal ones in the inbox. This is important because security best practices dictate that sensitive messages be removed as soon as they're no longer needed. Finally, it's impossible for your IT team to wipe SMS messages from your device without wiping the entire device.

On the flip side, the best smartphone application messaging systems encrypt communications from the time the system sends the message until the device receives and decrypts it. Whether these messages are sent using the application's standalone Web portal or an integrated application such as an operator console, Web directory, or emergency notification solution, security is in the forefront. Sending encrypted messages enables compliance with initiatives set forth by HIPAA and the HITECH Act, which include regulations for how organizations must protect patients' electronic health information.

In addition, smartphone applications that can be locked and require a pin number to access messages are also keeping sensitive information protected far better than SMS. These systems can also remove messages automatically after a pre-determined period of time or after the number of messages in the inbox reaches a particular threshold. Finally, the right smartphone messaging application will provide the ability for your IT team to remove all messages from the device remotely if the device is lost or stolen.

2. SMS cannot integrate with your hospital's staff directory or on-call schedules

The last thing staff need to worry about when sending a critical communication is looking up who's on call or hoping they have the right phone number scribbled on their sticky note. Because SMS plans largely exist outside the hospital's IT structure, commonly used phone numbers may be in one person's roster but not another's. And what happens if a physician changes his or her phone number? That information will likely be given to the operator group, but is the ER nurse aware of the change when going to send a text message for a consult request? What happens to the patient when the nurse sends the request and doesn't realize it won't go through for quite some time?

Smartphone application messaging systems can integrate with your hospital's directory database, including its on-call schedules. This means sending someone a message is as easy as selecting their name from the contact list, typing the note, and hitting 'send.' This works similarly for a function such as the on-call radiologist. In this case, knowing the person's name is even irrelevant. It's possible to just send a message to the person on call and the on-call scheduling system knows who should receive it.

SMS is unable to maintain this level of updated contact information in a way that simplifies the process for the person sending the message. There's a lot more room for error. Staff efficiency and patient safety can suffer as a consequence.

3. SMS cannot show full traceability or escalations

Achieving two-way communications in hospitals can be a terribly time-consuming task. For example, ensuring that all 20 people needed to prepare to treat a heart attack patient are available can be a web of phone tag, overhead pages, and guessing games if key staff cannot be located quickly. Likewise, many hospitals run into a 'he said, she said' situation when recreating what happened during a sentinel event or other critical patient situations where liability is involved. Did Dr. Smith get the SMS message? Did she respond? What did she say? Oftentimes, it's just one person's word against another's when there's no message audit trail. Even for routine communications such as a consult request or lab results notification, there's often no way to track that the recipient of a message actually received it, or what further action may have been taken without a staff member spending extra time digging around.

While some forms of SMS can track messages sent and delivered, SMS cannot determine whether the recipient acknowledged the notification, or whether he or she chose to ignore it altogether. There is also no way to build in automatic escalations of a message in case the primary recipient – perhaps the on-call cardiologist in the case of a heart attack patient – is unable to respond to the situation in time.

By contrast, leading smartphone application messaging systems track when a message is sent, delivered, and opened, as well as how the user responded. This response can be a simple yes/no acknowledgement or a free-form message. Some smartphone messaging systems in tandem with emergency notification or middleware can even take communications to another level and automatically escalate an undelivered message if the user does not respond within a specified period of time. All of this adds up to a nice trail of information that is easy to access should your legal team ask you to reconstruct the communications around a particular incident.

4. SMS cannot ensure priority delivery of messages

Messages sent via SMTP, as is often the case for SMS, can be held up due to the volume of competing messages in the cellular provider's wider network. This means an important message about critical lab results being ready or a need for the cardiologist gets stuck in the queue behind a random person's "LOL." SMS messages can also be blocked or blacklisted by the provider. This will prevent any message from reaching the recipient, often without warning the sender that the message is being blocked. With a smartphone messaging application, urgent messages do not compete for priority with messages from friends and family or those flooding the carrier's network because by the nature of these messages, they're all considered high priority.

5. SMS inboxes cannot separate critical hospital notifications from those sent by friends and family

In healthcare, the delineation between important and unimportant communications is black and white. An urgent consult request is critical. A 'happy anniversary' note is not. And yet with an SMS-based messaging approach, these communications appear together in the same inbox. Considering the volume of text messages many people receive today, it's easy to see how notices about life-threatening situations can become buried when mixed in with updates from friends and family.

Smartphone application messaging solutions focus on getting the user's attention for all critical communications. This means these messages are delivered to a separate, secure inbox reserved for work-related notifications of the highest importance. In addition, these messages can be set to completely take over the screen on the recipient's phone to demand their attention and response, something SMS cannot do. For patients, this means clinicians are seeing the right messages more quickly. For physicians, there's peace of mind in knowing that important communications are highlighted and kept separate from non-work activities.

6. SMS only works over cellular networks – without the security net of Wi-Fi delivery in your facility

We all know that our ability to communicate with any type of mobile device is only as good as the underlying infrastructure transmitting the correspondence. Disaster situations like 9/11, Hurricane Katrina, and the Minnesota bridge collapse reminded us that cellular networks can break down or become clogged with too many users. Of course, there are always those cellular network dead spots to contend with, too. Obviously, a drop in coverage can have a detrimental impact on patient care if a message is sent at the very moment the cellular network experiences a hiccup.

The power of leading smartphone application messaging tools is that communications can be delivered not only over cellular networks, but also using Wi-Fi. So if the cellular network drops, your facility's Wi-Fi network jumps in to keep messages flowing. This failover is automatic. SMS offers no such redundancy. This type of messaging only works over cellular networks, with no ability to use Wi-Fi connectivity should the device encounter a dead spot or the cellular provider experience an outage. Smartphone application messaging systems further improve redundancy through support of store and forward technology, which means if coverage lapses, recipients will receive messages as soon as coverage is regained.

7. SMS cannot be set to use priority ring tones or repeat notifications for important messages

While it's always nice to get a text from mom, sometimes physicians really need the ability to know when an incoming message is truly critical. SMS is unable to help in this area because it cannot allow users to establish priority ring tones for particular types of messages. Smartphone application messaging systems, by contrast, can offer priority-based ring tones for incoming messages. The recipient isn't left to wonder if the message is a critical medical event or a simple hello from a friend.

Similarly, there are times when smartphones are put in silent mode, but critical messages still need to come through. SMS can have a different ring tone than phone calls or email, but it cannot have a different tone based upon the priority or source of the message. On some platforms, leading smartphone application messaging systems can override a smartphone's silent mode, allowing the user to be notified audibly of a serious message, even when the ringer is off for everything else.

Finally, for those urgent messages, smartphone application messaging systems can automatically deliver repeat notifications if needed until the user acknowledges the communication in some way. SMS does not offer this capability, which means the person sending the message has to keep monitoring the situation versus letting the technology do the work.

8. SMS incurs unnecessary cost

As with any technology, cost always comes into play. Smartphones today require users to purchase a monthly data plan, but SMS plans are not required. With SMS, there is either a monthly fee or a per-message fee for someone receiving or sending a text in addition to the data plan. This can add up with the high volume of hospital-related communications happening every day. Depending on whether the hospital or the staff member is footing the bill, this could get even more complicated.

When a hospital elects to use a smartphone application messaging system for its staff, there is no per-message cost. Leading smartphone application messaging systems use the device's data connection to deliver messages. These applications can utilize the same data connection used for email, Web browsing, and other network-based applications.

Summary Checklist

	SMS	Smartphone Application Messaging
Security and Encryption		
Encrypted message transport		✓
Ability to lock application and require PIN to get messages		✓
Automatically remove messages after period of time/message threshold		✓
Ability to wipe all messages remotely in case of loss/theft without wiping whole device		✓
Integration with Hospital Directory/On-Call Schedules		
Ability to message people using just their name versus finding exact phone numbers		✓
Ability to message to a function/role such as the on-call specialist		✓
Message Traceability / Escalations		
Track status of message – when sent, delivered	✓	✓
Track when message was opened and how recipient responded		✓
Automatically escalate undelivered message if no response in set amount of time		✓
Priority Delivery		
Messages are free from competition with the millions of SMS communications on the carrier's broader network		✓
Separate Message Inbox		
Critical hospital messages are separated from those sent by friends/family		✓
Messages can be set to take over the phone's screen and demand attention/response		✓
Cellular and Wi-Fi Delivery		
Messages can be delivered over cellular networks	✓	✓
Messages can be delivered over Wi-Fi networks		✓
Priority Ring Tones & Repeat Notifications		
Different ring tones based on message priority		✓
Ability to override device's silent mode for critical messages	Limited	✓
Urgent messages can be set to be delivered repeatedly until the user responds		✓
Cost		
No per-message fee		✓

Conclusion

While the ability to send SMS messages is an effective way to stay in touch with friends and family, it's just not acceptable when it comes to patient care. Software that is specifically designed for encrypted smartphone messaging offers another level of service and security for critical healthcare communications. These smartphone application messaging programs offer traceability to help staff close the communications loop with confidence and accountability in mind. They also keep critical notifications separate from casual conversations to enable busy clinicians to distinguish where they should be spending their time. In addition, redundant message delivery networks mean more messages get through when time is of the essence. Ultimately, better communications mean a more efficient staff and happier patients. Hospitals—and patients—are better off leaving SMS communications by the wayside for critical messaging.

Don't U think?

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