

# BUSINESS CASE



PROJECT NAME	PROJECT MANAGER	DATE
Secure Text Messaging		April 14, 2016

## OVERVIEW

The use of consumer text messaging (SMS) has become prevalent within clinical workflows inside the hospital, introducing risk to patient privacy and patient care, due to unsecure transmission of PHI and fractured communication workflows. The purpose of this project is to implement a secure text messaging solution in order to secure transition of PHI and improve communication – mitigating the risk associated with the use of SMS within clinical workflows. The project’s scope includes integrations with existing enterprise web, operator consoles, and on call calendars, and new integrations with Rauland-Borg nurse call system, and Epic Electronic Medical Records to streamline clinical workflows and improve patient care.

## JUSTIFICATION

Current State	Proposed State
<p>The use of SMS within clinical workflows is presenting the following risks:</p> <ul style="list-style-type: none"><li>- <b>Security:</b> <i>45 CFR 164.312 of HIPAA technical safeguard requires encryption for all transmitted PHI. SMS lacks security and encryption and is not considered HIPAA compliant.</i></li><li>- <b>Traceability:</b> <i>NPSG.02.03.01 of Joint Commission National Patient Safety Goals requires reporting of lab results. SMS messaging does not offer audit trails or reporting of message history for regulatory or compliance purposes.</i></li><li>- <b>Continuity:</b> SMS from the hospital is not prioritized in carrier networks and</li></ul>	<p>The proposed (secure text messaging) solution will help mitigate these risks by offering the following:</p> <ul style="list-style-type: none"><li>- <b>Security:</b> Secure texting is HIPAA compliant and offers advanced security features such as encryption, remote message wipe and passcode enforcement.</li><li>- <b>Traceability:</b> Secure text messaging offers closed-loop traceability and reporting, with features such as message delivery and read receipts with audit trails.</li><li>- <b>Continuity:</b> Secure text messaging supports message retry and redundant transmission channels (Wi-Fi and mobile) for improved continuity of service.</li></ul>

- availability cannot be ensured on public networks during BC/DR scenarios.
- **Integration:** SMS cannot be integrated with hospital directories, on-call schedules or clinical systems.
- **Prioritization:** SMS does not provide the ability to separate critical hospital notifications from those sent by friends and family.
- **Cost:** SMS messaging requires unnecessary cost per message to be incurred.
- **Communication:** SMS requires that all users discover and store contacts in their mobile device contact list for messaging, which is very inefficient and prone to issues with outdated data.
- **Integration:** Secure text messaging solutions can integrate with existing systems, such as enterprise web, operator consoles, nurse call and Electronic Medical Records.
- **Prioritization:** Secure text messaging solutions offer unique ringtones, notifications and inbox for important, patient-related messages.
- **Cost:** Secure text messages are transmitted over data networks without users incurring per message charges.
- **Consolidated Communication:** Secure text messaging solutions offer hospital directory integration and lookup, to ensure users can accurately send messages to one another without having to maintain local contacts.

## GOALS AND OBJECTIVES

- Secure/encrypt sensitive content in messages transmitted to and from smartphone and tablet devices.
- Reduce physician response time for general consults
- Reduce nurse response to nurse call requests
- Reduce care team response to rapid response events
- Ensure all care providers that are responsible for patient care activities are reachable on a single platform.
- Provide reporting for critical lab results notifications.

## BENEFITS

- Mitigate risk and maintain regulatory compliance by securing sensitive content in messages and ensuring an audit trail for messages.
- Improve patient outcomes by making clinical workflows more efficient and reducing physician response times.
- Improve patient outcomes during critical events by reducing care team response time to code events.
- Improve patient satisfaction by reducing nurse call response times.
- Ensure consistent communication within the hospital during BC/DR scenarios.

## PERFORMANCE MEASURES

Business Outcome Measures	Technology Outcome Measures
<ul style="list-style-type: none"><li>- Reduce physician response time for general consults from <b>18 minutes*</b> to 3 minutes (15-minute improvement)</li><li>- Reduce nurse response to nurse call requests from <b>8 minutes*</b> to 3 minutes (5-minute improvement)</li><li>- Reduce care team response to rapid response events from <b>6 minutes*</b> to 2 minutes (4-minute improvement)</li></ul>	<ul style="list-style-type: none"><li>- Four nines (99.99%) of availability experienced for the first year.</li><li>- Ability to send at least 3,000 messages in less than or equal to 2 minutes.</li><li>- 95% of individual messages must be delivered in less than or equal to 25 seconds, as measured through audit logs.</li><li>- Message <i>delivery</i> throughput must never be greater than 45 seconds per message.</li></ul>
Progress Measures	Process Measures
<ul style="list-style-type: none"><li>- Increase volume of secure text messages sent to to physicians to over 3,000 messages a month.</li><li>- Register 500 users for secure texting within the first 3 months, 3,000 within the first 6 months, 6,000 within first year.</li></ul>	<ul style="list-style-type: none"><li>- Complete all requests and incidents within the SLA 95% of the time.</li><li>- Manage ticket queue so that less than 2% of tickets are open for 14 days or more.</li><li>- Complete all change requests with the SLA and without issues 95% of the time.</li></ul>

## DELIVERABLES

- A HIPAA compliant secure text messaging platform for PHI messaging purposes.
- Integration with nurse call system and EMR via middleware and HL7.
- A consolidate database of accurate contact information.
- Security policy addendums for acceptable use of PHI in messages.
- Communications and marketing plan and materials.
- Escalation procedures for the service desk.
- Service portfolio and service catalog updates.
- Service-level and operating level agreements.
- Monitoring and reporting dashboards.
- Availability, capacity and it continuity metrics.
- Underpinning contracts.
- Change management reviews.
- System Visio documentation.
- Release and deployment plans.
- Service validation and testing plans.
- Knowledge articles and documentation.
- Event management configurations.
- Request fulfillment and incident process documentation.

## ASSUMPTIONS AND CONSTRAINTS

- All requests and incidents will be handled via normal request fulfillment and incident management processes within SLAs that are established during the implementation project.
- The secure text messaging application will only be supported on iOS, Android, and BlackBerry platforms. There are currently no plans to support other platforms, such as Windows Phone devices, etc.
- A backup SMS gateway will be provisioned as part of this project, for business continuity and disaster recovery purposes. This will allow messages to be sent via SMS if the secure text messaging service becomes unavailable.
- The application is critically dependent on wireless data connectivity. Improvements to the hospital Wi-Fi network may be required before the service can go live.
- Device related issues, such as physical damage to a device, hardware failure, battery life issues, etc, will not be addressed as part of this project and will be the responsibility of the individual department or user to manage.
- Secure text messaging will be supported on any device that is requested by a user with an eligible account, including personally owned, employee liable devices. It will be the responsibility of the department and the end-user to manage device inventories, device and plan related charges, and status of mobile device. Users with personally owned devices must first opt in to the hospital BYOD program and accept the terms of the BYOD policy.
- All users must accept the terms of the Acceptable Use Policy that will be created during this project before using the secure texting service.
- Secure text messaging is subject to limitations of wireless networks and mobile platforms. The application will only be able to accommodate functionality that networks and the operating system allow. This may affect service availability and some functionality of the application on the smart device. For example, if notifications are turned off in the Apple notification Center for the application, alert tones will not be audible. As another example, if a user is on an active phone call on a device that does not support Simultaneous Voice and Data, he or she will not receive messages until the call is dropped. These limitations will be handled with education and risk acceptance.
- Some aspects of the service are fully dependent upon hosted systems, including a hosted registration system, Apple Push Notification Service, Google Cloud Messaging service, and BlackBerry BIS. The vendor will be responsible for fully maintaining these aspects of the service.
- Secure text messaging will be considered a business critical service and all aspects of the solution should be designed for high availability.
- All aspects of the solution will be subject to HIPAA audits and; therefore, must be architected to be HIPAA compliant.

## RISKS

Risk	Probability	Impact	Strategy
The hospital Wi-Fi and local mobile carrier data networks do not provide adequate coverage for a business critical service.	HIGH	HIGH	<i>Mitigate:</i> Conduct wireless surveys, identify gaps and resolve them
Some users may reject the service, preferring alternatives like pagers and SMS.	MED	MED	<i>Mitigate:</i> Create marketing materials and/or make the service mandatory via policy

## STRATEGIC ALIGNMENT

Hospital Goal	Alignment
<ul style="list-style-type: none"> <li>- <b>Goal #1: Maintain government and regulatory compliance standards.*</b></li> <li>- <b>Goal #2: Leverage care team coordination to ensure comprehensive and specialized care is provided to all patients*</b></li> <li>- <b>Goal #3: Improve healthcare for our patients by providing quality care, compassion, exceptional medical resources, timely access to care.*</b></li> </ul>	<ul style="list-style-type: none"> <li>- Goal #1: Secure texting provides security and logging features for compliance.</li> <li>- Goal #2: Secure text messaging can help care teams communicate patient-related information securely and efficiently.</li> <li>- Goal #3: Secure text messaging will help reduce response times to ensure timely access to quality care.</li> </ul>

## ALTERNATIVE SOLUTIONS

Alternative	Reason To Not Select
<ul style="list-style-type: none"> <li>- Continue to allow the use consumer messaging applications without providing messaging alternative solutions.</li> <li>- Consider supporting pagers as opposed to allowing messaging on smartphones.</li> <li>- Allow users to use SMS, but capture an audit trail with logging/auditing tools (MobileGuard, TruPhone).</li> <li>- Leverage existing business tools / extensions from workstation (Skype for Business)</li> </ul>	<ul style="list-style-type: none"> <li>- Not compliant with regulatory requirements, not an efficient communication platform.</li> <li>- Presents limitations with integrations and closed loop monitoring.</li> <li>- These solutions still do not offer important security features to ensure HIPAA regulatory compliance.</li> <li>- This option will not provide a good user experience and will ultimately not ensure adoption.</li> </ul>

## COST

Item	One-time	On-going / Annual
Software		
Integrations		
Hardware		
Servers		
Middleware		
Vendor Services and Support		
<b>Totals =</b>	<b>\$XXX,XXX</b>	<b>\$XXX,XXX</b>

## DURATION

The project will take approximately 9 months. The project will be divided out into three phases, which will take approximately 3 months each to complete.

Phase 1: Installation	Phase 2: Implementation	Phase 3: Transformation
<ul style="list-style-type: none"> <li>- Server installation and provisioning</li> <li>- Integration setup and provisioning</li> <li>- Database setup and configuration</li> <li>- Initial system testing</li> <li>- Baseline measurement</li> </ul>	<ul style="list-style-type: none"> <li>- Testing and validation</li> <li>- Communication and marketing</li> <li>- Training and education</li> <li>- IT process and policy creation</li> <li>- Pilots</li> <li>- Rollout of basic secure texting</li> </ul>	<ul style="list-style-type: none"> <li>- Stakeholder validation</li> <li>- Rollout of integrations</li> <li>- Success measures</li> </ul>

## RESOURCE REQUIREMENTS

Project Phase	Role	Estimated Hours
Implementation project	Project Manager	80
Implementation project	Application Owner / Technical Lead	110
Implementation project	Database Administrator	30
Implementation project	Systems Administrator	50
Implementation project	Communications and Marketing	20

Implementation project	IT Security	15
Implementation project	Service Desk	60
Ongoing	Application Owner / Technical	6 hours per month
Ongoing	Service Desk	8 hours per month

**By signing this Business Case you are agreeing that the project is a justifiable investment, considering the benefits, estimated costs, duration, and resources required.**

PROJECT ROLE	NAME	SIGNATURE	DATE
Project Manager			
Tech Lead			
Service Owner			
Project Sponsor			

*\*Work with stakeholders to obtain variable measurable values and goals for baselines (note: measurable value baselines must be measured at the beginning of the project, before the solution is implemented).*