

THE ADOPTION STUDY: SECURE MESSAGING FOR HEALTHCARE

100 HEALTHCARE ORGANIZATIONS (FIRST ADOPTION STUDY IN THE INDUSTRY)

Purpose

A mobile health platform is only effective at coordinating care if it's fully utilized. The successful implementation and adoption of secure messaging mobile applications by healthcare organizations is impacted by many factors: the vendor's implementation strategy, the organization's goals for the project (HIPAA compliance vs improving communication workflow), the provisioning technology used, smartphone penetration, supported mobile operating systems, user friendliness, and the perceived value of the product.

The following study was conducted to identify the main factors associated with high adoption (defined as >5 messages sent per day, per user) and to determine best practices for implementing a secure messaging system for care coordination within a healthcare organization.

Method

The study was based on a review of 100 healthcare organization implementations from Jan 2014 to Jan 2015. Organizations ranged in size from 30 to 3,000 professional users and included single-specialty practices, multispecialty clinics, large medical centers, hospitals and multihospital systems.

Messaging rates were calculated per type of organization, per user, per title, per device, per mobile operating system and per specialty. All information and analytics were taken from the internal dashboard and reporting system, which monitors implementation performance and adoption at individual organizations.

All organizations included in this report consented to have their information collected and analyzed. No organizational identifiers, protected health information or personal identifiers (such as NPI numbers) were reviewed or released for analysis.

Results

The most important factor in promoting adoption was integrating the product in the existing communication workflow of healthcare professionals. Adding ambulatory nurses to the secure messaging platform was the biggest overall contributor to adoption, along with several other factors outlined in the report.

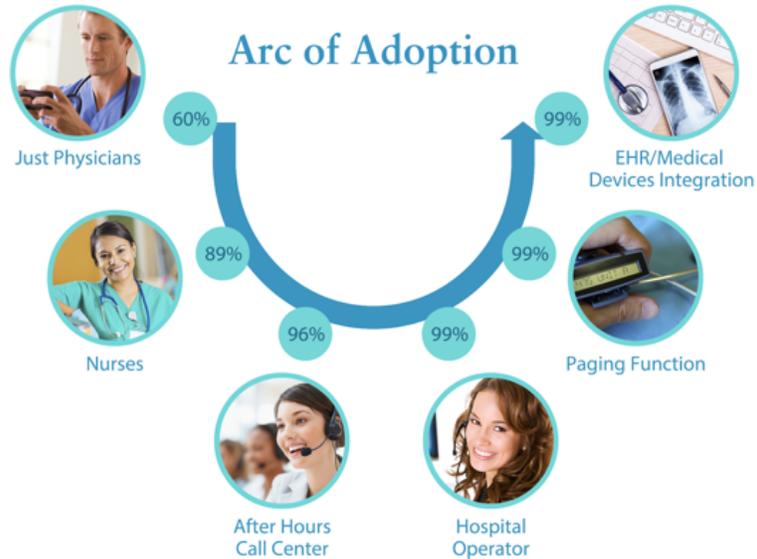
*Many users in this study were provisioned through Active Directory with LDAP allowing for them to use the same username and password as their organizations

“ TO ACHIEVE >60% ADOPTION IN MOST ORGANIZATIONS, THE ABILITY TO COMMUNICATE WITH STAFF HAD TO BE AVAILABLE. OTHERWISE 40% OF PHYSICIANS FELL BACK ON PREVIOUS SMS TEXTING TO COMMUNICATE WITH STAFF AND OTHER PHYSICIANS. ”

Physician to Physician

Before implementation of the mobile health platform, physicians communicated with each other sporadically and inconsistently. Secure messaging improved physician-to-physician communication, but to achieve >60% adoption in most organizations, the ability to communicate with staff had to be available. Otherwise 40% of physicians fell back on previous SMS texting to communicate with staff and other physicians.

A wide variation also existed between usage and specialties, with some of the most prolific secure messaging users being cardiologists, nephrologists and orthopedic surgeons. This is likely due to their propensity to have both hospital and ambulatory schedules, which results in a need to communicate in both settings frequently.



“ WHEN AMBULATORY PHYSICIANS AND THEIR STAFF WERE ABLE TO COMMUNICATE THROUGH A SECURE MESSAGING PLATFORM, ADOPTION ACROSS THE ORGANIZATION INCREASED TO ALMOST 90% ”

Physician to Nurse

Physicians, nurses and staff communicated on a regular and consistent basis. Before the secure messaging platform was available this was frequently done through normal SMS messaging. When ambulatory physicians and their staff were able to communicate through a secure messaging platform, adoption across the organization increased to almost 90%. This established the secure messaging platform as an important part of a physician’s daily workflow, which improved efficiency and secured a dedicated communication channel. Including ambulatory nurses on the platform had the largest impact on adoption, although hospitalist adoption increased once inpatient nurses were provisioned into the secure messaging system.

“ **WHEN PHYSICIANS WERE ABLE TO RECEIVE THEIR AFTER-HOURS MESSAGES ON THE SECURE MESSAGING PLATFORM, ADOPTION INCREASED TO >95%** ”

“ **WHEN THIS COMMUNICATION CHANNEL WAS ADDED, ADOPTION INCREASED TO >98%** ”

After-Hours Call Center to Physician

More than 100 call centers* had been integrated to the secure messaging platform and were reviewed as part of the study. Most ambulatory environments included several call centers servicing many different outpatient offices with many specialties. When physicians were able to receive their after-hours messages on the secure messaging platform, adoption increased to >95%. This was not only an important workflow improvement but it also secured the messages from after-hours call centers that contained ePHI. Before the implementation of secure messaging, most physicians in these organizations were receiving standard SMS messages from their call centers.

**This assumes an easily adopted integration point that works with most call center software systems. It allows a call center to maintain its current workflow and send messages into the secure messaging system. If the integration technology changes the call center workflow, this may lower adoption.*

Hospital Operator to Physician

Hospital operator consoles offer another potential point of integration. When this communication channel was added, adoption increased to >98%. This was one of the final pieces to close the unsecured communication loop in most organizations. Messages from this source were received primarily by hospitalists or in-hospital specialty physicians.

Paging Physicians

In many organizations a small group of physicians still carried physical pagers. They were usually physicians who work inside the hospital, as most ambulatory physicians in this study no longer carried pagers. If paging function was added to the secure messaging platform it had a small impact on adoption.

The paging function on the secure messaging platform, which relied on cellular connection or hospital Wi-Fi, generally resulted in improved speed and reliability over traditional paging networks, although there was not enough information collected from paging users to make an accurate reliability comparison.

EHR/Medical Devices Integration

Once an organization is using a secure messaging platform and adoption is already high, several other integration points with EMR and medical alarms can be implemented. Although the sample was small, these additional integration points appeared to offer only a small adoption benefit.

Summary

High adoption rates were obtained when the secure messaging solution was incorporated into everyday workflow, and that required including nurses and staff onto the system. Additionally, when the secure messaging initiative was characterized by the organization as intended to coordinate care versus just meet a HIPAA requirement the adoption was also significantly higher.

Physician-to-physician communication was sporadic, and it was difficult to identify a consistent pattern among individuals. However, physicians communicated frequently and consistently with nurses and other staff, especially in the ambulatory setting, and this resulted in the most significant driver of adoption. Other important adoption accelerators included integrating the call center, connecting the hospital operator and offering pager function.

In conclusion, simultaneously provisioning both physicians and ambulatory nurses to the secure messaging platform should be strongly considered when implementing a secure messaging system for care coordination. This can then be followed by call centers and operator consoles.

“ **HIGH ADOPTION RATES WERE OBTAINED WHEN THE SECURE MESSAGING SOLUTION WAS INCORPORATED INTO EVERYDAY WORKFLOW, AND THAT REQUIRED INCLUDING NURSES AND STAFF ONTO THE SYSTEM** ”

[Additional information available about the Secure Messaging Report](#)

Industry Best Practices Guidelines

Results by Specialty

Results by Operating System (IOS, DROID, Blackberry, Windows)

Results by Location: Ambulatory vs Inpatient

Results by Device type: smartphone, tablet, web client

Results by Provisioning system Active directory, LDAP, SAML

Acknowledgements

We would like to thank the thousands of users around the country who contributed to this report and who have helped us refine our implementation strategies and improve adoption rates. Additionally, we thank our physician and nurse advisory board for their invaluable input on healthcare workflow and the features that enhance care coordination and improve patient care.

About Doc Halo

Doc Halo's clinical communication platform, Halo Spectrum, is transforming patient care by streamlining real-time communication and coordinating care among physicians, nurses and staff. The mobile app and online console provide secure, HIPAA-compliant texting for the safe transmission of protected patient information. Robust care coordination tools—including the Teams on-call management system, Voice options, and Alerts notifications—integrate with all hospital systems to allow instant access to systemwide schedules, critical and clinical teams, EHRs, call center messages, labs and directories. Exclusively designed for healthcare, the Halo Spectrum clinical communication platform is used by several of the most prestigious organizations in the country.



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