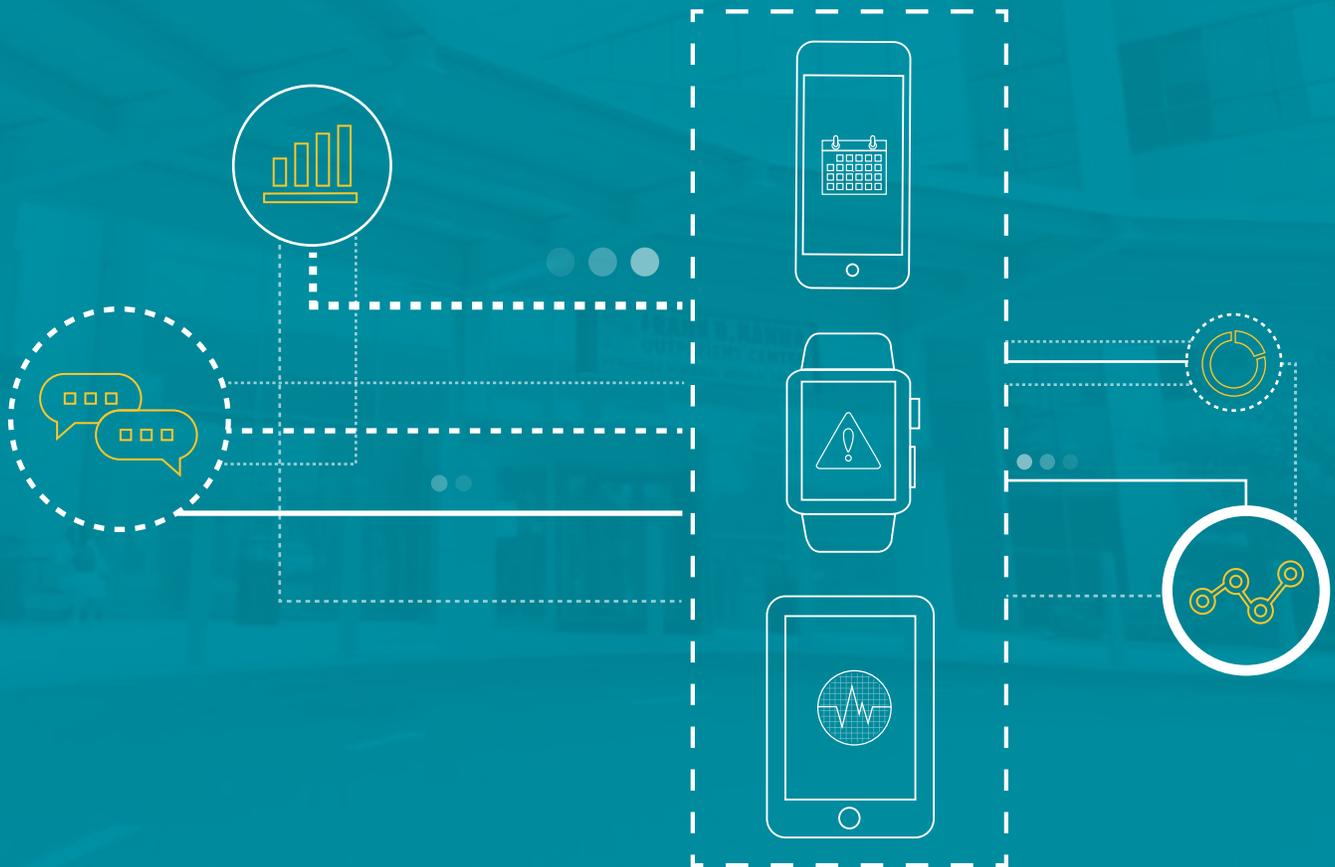




8TH ANNUAL SPOK SURVEY

MOBILE STRATEGIES IN HEALTHCARE

RESULTS REVEALED



MOBILE COMMUNICATIONS IN HEALTHCARE: THE BIG PICTURE FOR 2018

As a leader in healthcare communications, Spok seeks to understand industry trends affecting the health systems, care teams, and administrators we serve. Since 2011, we have surveyed these professionals annually to learn about their challenges and opportunities relating to mobile communication solutions and their evolving applications.

Now in its eighth year, this survey reveals several long-term trends and sheds light on emerging facets of healthcare delivery when it comes to how hospitals support their care teams with communication technology. This year, we asked new questions about how mobile policies are adopted and enforced, and the plans organizations are developing to extend mobile technology to patients. We also dug deeper into network hurdles with Wi-Fi and cellular infrastructure. You'll find one other noteworthy change for the 2018 survey: a reduced focus on 'Bring Your Own Device' (BYOD) programs. In 2017 we surveyed the industry separately on this specific topic, so we didn't include any direct questions on BYOD in this survey.

We collected data for this report in February and March 2018. More than 300 healthcare professionals from organizations of all sizes around the U.S. participated. Forty-four percent of respondents were physicians, nurses, or other clinicians; 10 percent were IT and telecommunications staff; and 6 percent were executive leaders. The remaining 40 percent spanned many roles, including pharmacists, medical technicians, business analysts, social workers, and lab managers, as well as those in jobs related to patient services and risk management.

We would like to thank everyone who took the time to share their insights. Your feedback enabled us to develop this robust industry snapshot.



We saw record numbers of clinicians participating in the survey this year at 44 percent of respondents. By contrast, 35 percent indicated being a physician or nurse in the 2017 survey.

WHAT'S INSIDE



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Advancing patient care with mobile
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Communication devices: a diverse mix to
support diverse roles (page 9)



Bringing patients and families into
the technology fold (page 22)



Deep-dive on smartphone usage in hospitals:
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Looking ahead: disruptive technology
(page 23)



WHAT ARE MOBILE STRATEGIES AND POLICIES—AND WHY ARE THEY IMPORTANT?

Generally speaking, mobile strategies formalize policies related to security, communications, and technology. As you'll find in the following survey results, every healthcare organization has a slightly different approach to the development of strategies and policies and what each encompasses. Although **policies focus largely on mobile devices** and how clinicians and others can use them, they ultimately represent the underpinnings of larger strategies to deliver more efficient, high-quality care and increase satisfaction for both patients and caregivers. It's our observation that mobile strategies that reflect overall clinical goals for the health system or hospital are most successful. For example, we've seen that arming nurses with Wi-Fi phones that receive alerts from patient monitoring systems speeds response and can improve patient satisfaction.

The controls mobile strategies establish also protect patients, employees, and the overall organization from security threats and unauthorized information access. This is especially important today as the billions of devices connecting to global networks in the Internet of Things (IoT) are making unapproved and malicious access increasingly common, disruptive, and expensive to rectify. **HealthIT.gov¹ suggests mobile policies be written to safeguard health information** with attention to specific concerns about mobile device management, restrictions on device use, security settings, and mobile device training (among other facets). You'll hear about several of these areas in this report.

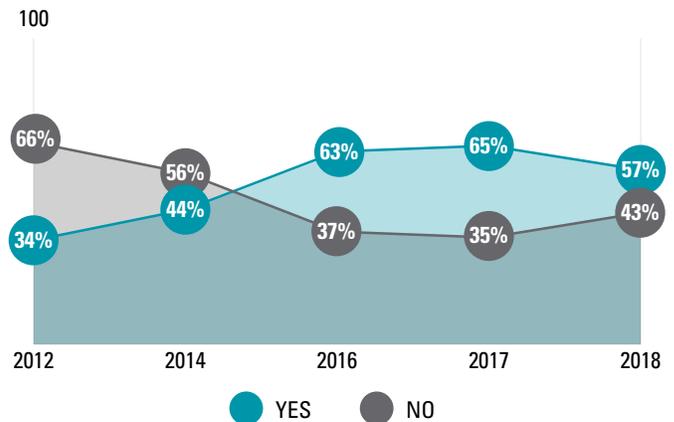


For the first time since 2012, we saw a decline in the prevalence of mobile strategies: 57 percent report they are in use today versus 65 percent last year.

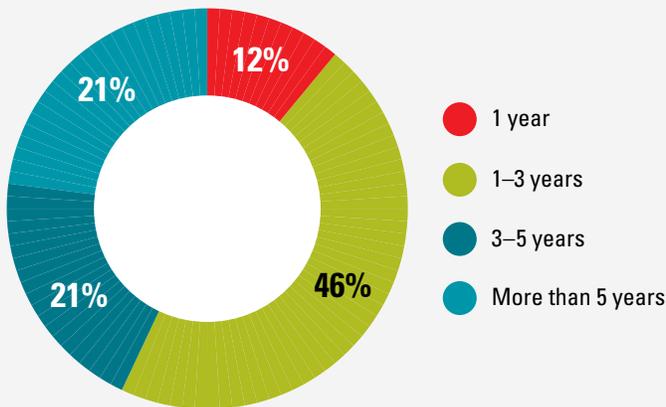
THE PREVALENCE OF MOBILE STRATEGIES

We first asked survey participants about their mobile strategies in 2012. At that time, only a third indicated their organization had a formalized strategy. Since then, these strategies have become increasingly prevalent in concert with device usage. That said, between 2017 and 2018, we saw the **first decrease in the reported usage** of documented mobile strategies. We think this could indicate that organizations have become more comfortable with communication devices and are less likely to formalize and document strategies to guide their use. It's also possible that survey participants weren't aware of policies in place, representing a potential education issue for the organizations participating.

Does your hospital have a documented mobile strategy in place?



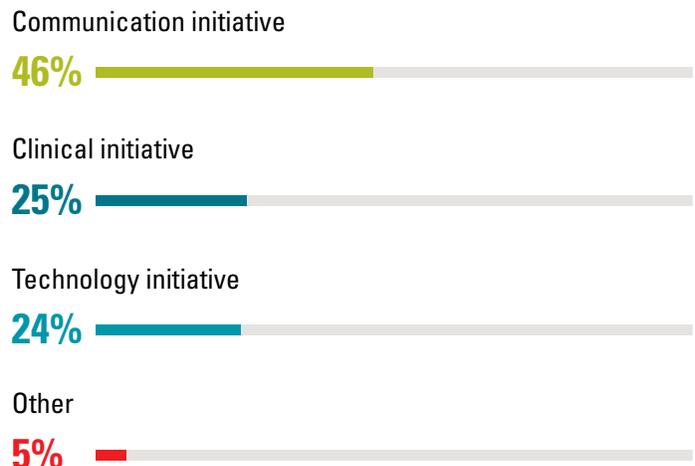
How long has your mobile strategy been in place?



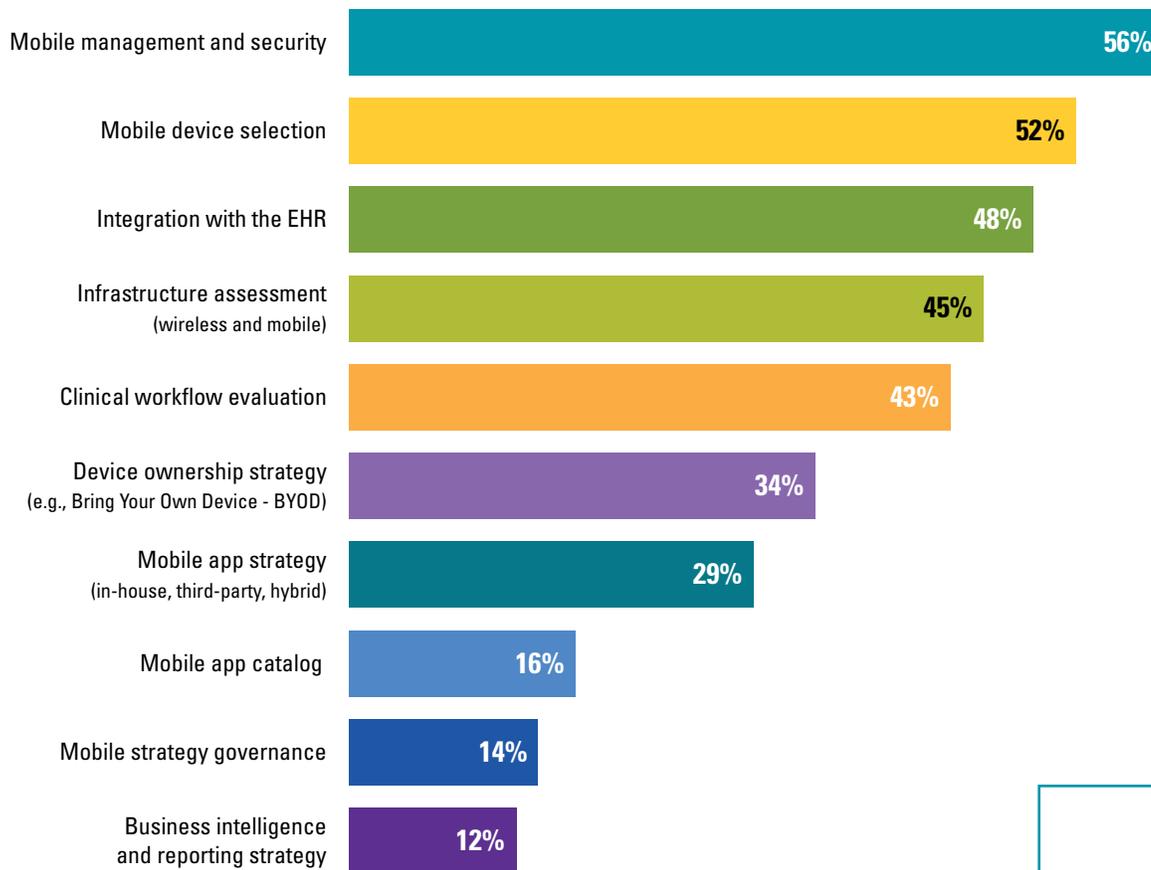
For those with a strategy in place, most have **had a strategy for one to three years**. Twenty-one percent of organizations also noted their strategies have been in place for more than five years, which could indicate a maturity and comfort level with integrating mobile devices in everyday patient care coordination.

As we've seen in years past, mobile strategies are still considered **primarily a communication initiative** at most organizations. Our experience supports this trend as hospitals see their relevance in patient satisfaction surveys, which affect reimbursements from the Centers for Medicare & Medicaid Services (CMS) as well as the hospital's overall reputation. For example, the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey features several questions directly related to communications, such as interaction with nurses and responsiveness of hospital staff.

Is your mobile strategy considered primarily a:



What's included in your mobile strategy?



'Mobile management and security' is the most common element of mobile strategies, appearing in 56 percent of policies.

When it comes to the types of information included in these mobile strategies, they span many areas. Mobile management and security lead the list for 56 percent of respondents, followed by mobile device selection. We relate these areas to risks to the entire health system network and IT infrastructure related to BYOD, having a mix of devices, and different levels of operating system security patches. Next up was **integration with the EHR**. This is in line with a recent survey of hospital CIOs in which integrating with the EHR was the No. 1 priority for respondents.² Mobile and wireless infrastructure assessment, which you'll learn more about later in this report, was also high on the list of things included in mobile strategies.

Nearly half of participants include **clinical workflow evaluation** in their mobile strategies, which we see as an indication that physicians, nurses, and others in direct patient care roles are using mobile policies to define the types of workflows that are safely, efficiently, and effectively managed on mobile devices.

CASE STUDY:

A healthcare communication platform can take an EHR's sepsis alert or a critical test result and automatically deliver it to the right clinicians, often a sepsis rapid response team, on their mobile devices. Learn how University of Utah Health reduced its sepsis mortality rate by 20 percent for patients with MEWS scores between 7-11.

[Read the story »](#)



UPDATING MOBILE STRATEGIES OVER TIME

Just as business strategies and goals change from one year to the next, mobile strategies must follow suit to ensure support for key initiatives as well as consideration for new technology choices. We asked participants with mobile strategies in place for more than a year why they changed their strategies (if applicable). The top reasons for updating included **better meeting end-user needs**, and addressing changes in clinical workflows.

The pace of change for devices, operating systems, and software far exceeds that of virtually all other technologies in the hospital. In our experience, mobile strategies and related policies **should be reviewed at least annually** to ensure they reflect the latest state-of-the-art options in mobile solutions.

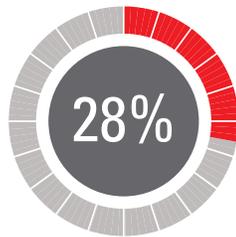


There is a strong continuous improvement feedback loop between policy owners and clinical teams when it comes to keeping mobile strategies updated. The most popular reason was to better meet the needs of end users (39 percent), followed by addressing changes in clinical workflows (28 percent).

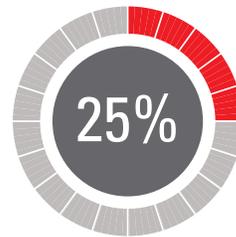
If you've updated your mobile strategy since it was first developed, why?



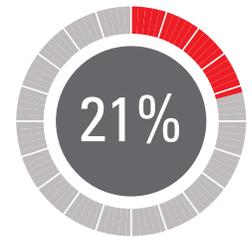
Better meet the needs of end users



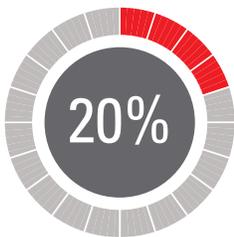
Changes in clinical workflows



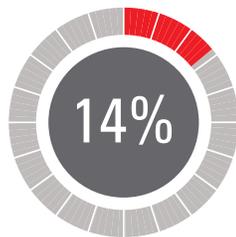
Needed to address changes in security and compliance



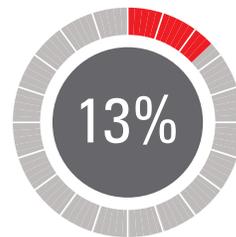
New mobile devices available on the market



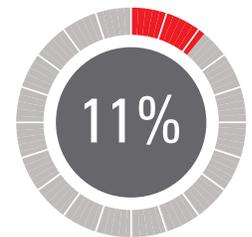
Changes needed to support organizational business goals



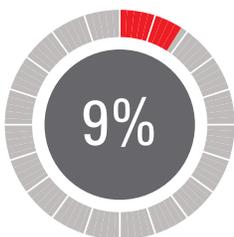
New capabilities from EHR vendor



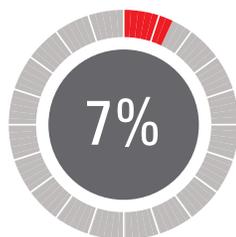
New capabilities from consumer apps



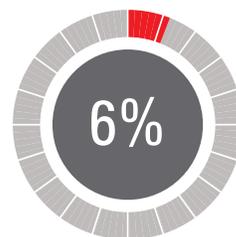
Replaced original system with new technology/vendor



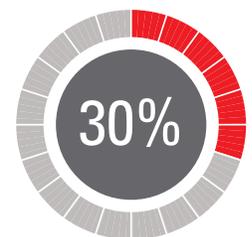
Change in hospital leadership



Challenges with mobile adoption



Our mobile strategy has not been revised since inception



Not sure

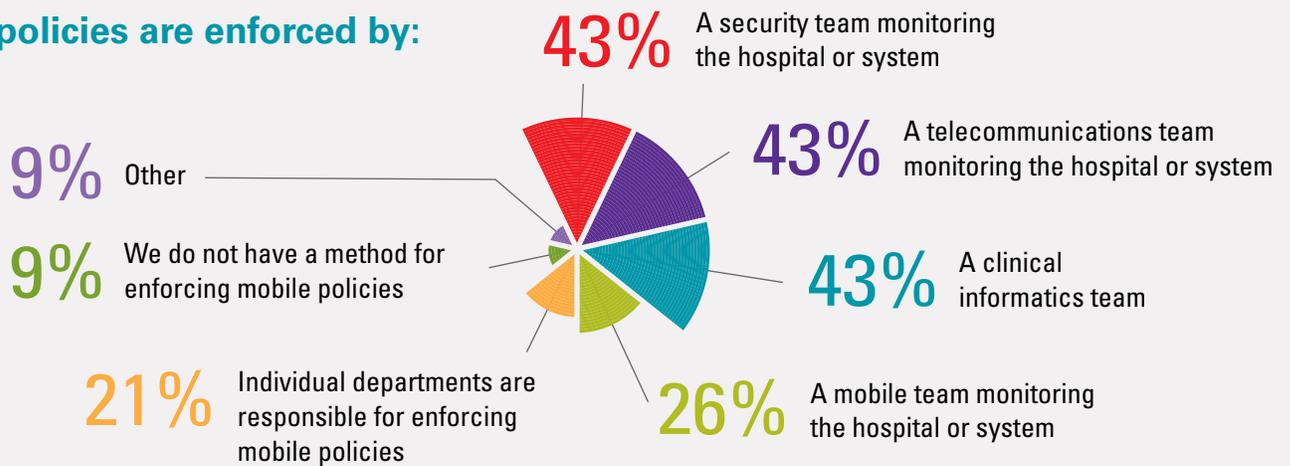
WHO IS INVOLVED IN ENFORCING MOBILE POLICIES?

The true success of any documented rule lies in its ability to be enforced consistently over time. Based on the data, teams overseeing security, telecommunications, and clinical informatics were equally in charge of enforcement. It's interesting to note that in the 2017 survey only 25 percent of respondents indicated security team involvement, which we think underscores an increased realization that **these policies have a role in preventing security incidents.**



Teams overseeing security, telecommunications, and clinical informatics are equally in charge of enforcing mobile policies, with each at 43 percent.

Mobile policies are enforced by:

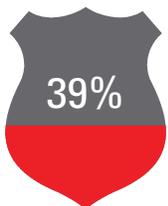


We added a new question this year to assess how well mobile policies are enforced by the various groups charged with this task. Only 39 percent indicated policies are enforced extremely well and consistently, while a third said they were enforced well most of the time. Four percent are in a **potential danger zone** with policies being enforced poorly and inconsistently. Taken together, these results show room for improvement for most as a single incident can wreak havoc on a health system's reputation (and finances) and erode patient trust.



There is room for improvement in mobile policy enforcement, which indicates healthcare organizations may be vulnerable to security issues.

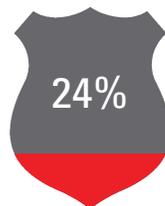
How well are mobile policies enforced?



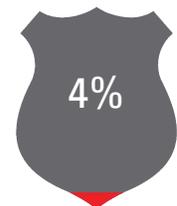
They are enforced extremely well on a consistent basis



They are enforced well most of the time

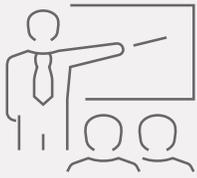


Not sure



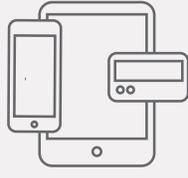
They are enforced poorly and inconsistently

How are you measuring or validating whether users are adhering to mobile policies?



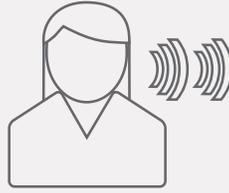
48%

Education or other programs



42%

Using technology or data gathered from devices



37%

Direct feedback from end users



23%

Surveys



21%

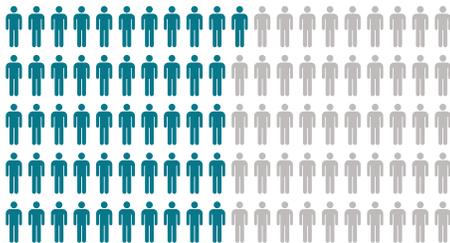
We don't have a way to validate compliance

The good news is that organizations are taking actions to **measure adherence to mobile policies**. Participants said their organizations use a variety of measurement methods, including education or other programs, technology or data gathered from devices, direct feedback, and surveys. However, 21 percent of respondents lack a method of validating compliance altogether, which could represent a significant gap.

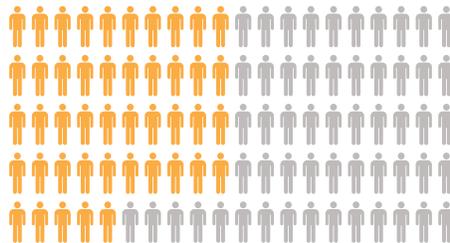
From 2014 to 2017 we tracked which teams across the hospital were involved in developing mobile policies, with the IT team typically leading the pack by a wide margin (82 percent for 2017). However, we had begun to see a **rise in clinician leadership involvement** over that period, which showed participation moving from 51 percent in 2014 to 60 percent in 2017.

For this year's survey, we dug a little deeper by asking exactly how clinicians are involved in both the development and adoption of mobile policies. It appears their **biggest role is to provide input on new mobile technology**. This level of clinical involvement is consistent with our experience that hospitals are treating mobile solutions the same as any other clinical technology to drive adoption and use. It requires the same change management processes, end user support, and ongoing optimization as other clinical tools.

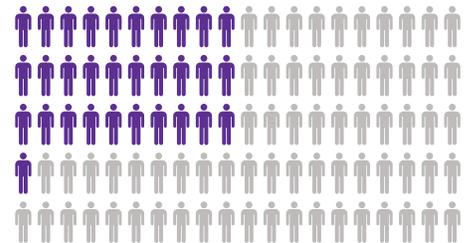
How are clinicians involved in mobile policies and adoption?



51% Provide input on new mobile technology



45% Evaluate and work to improve adoption rates for new devices and solutions



31% Define/revise mobile policies

COMMUNICATION DEVICES: A DIVERSE MIX TO SUPPORT DIVERSE ROLES

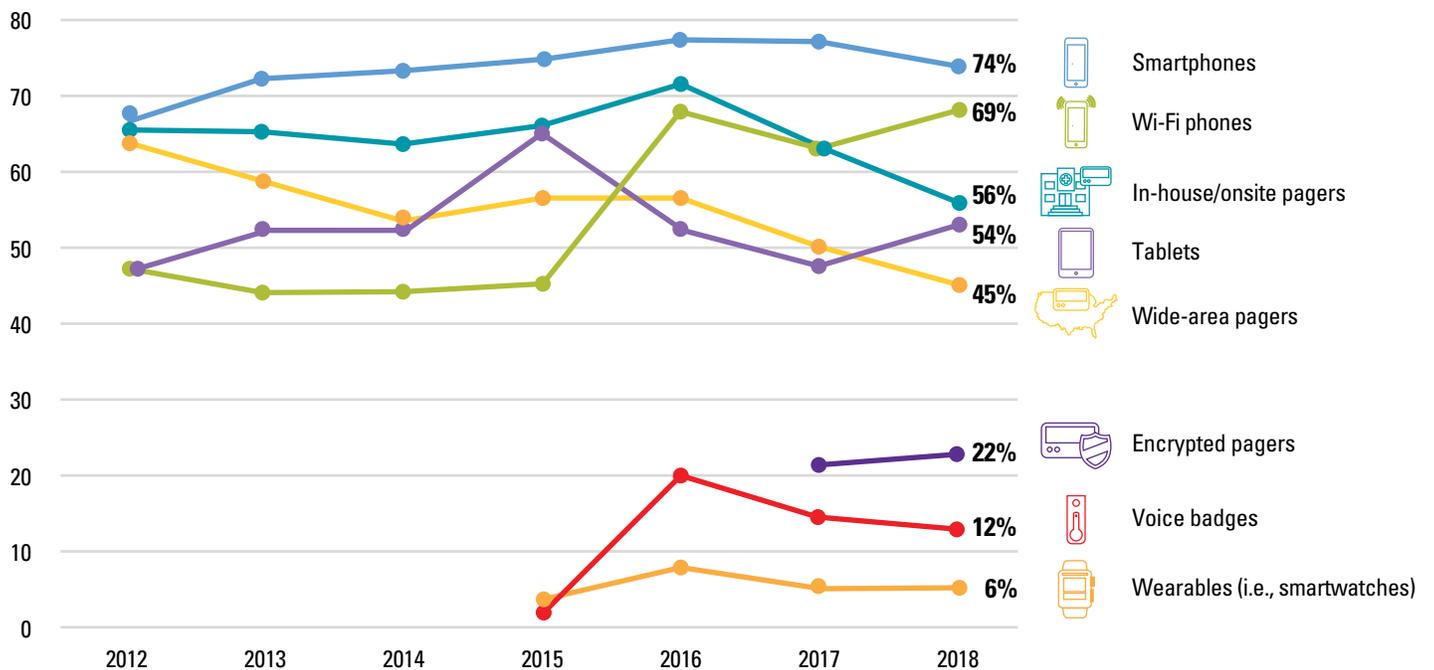
Back in 2011, our survey asked participants whether their facility sent job-related alerts (pages, codes, or other critical messages) to personnel on their smartphones, and 50 percent said yes. Today, we see **smartphones are far more mainstream**, with 74 percent of organizations supporting them. This represents a slight decline from a high over the past seven years in 2016. We think this could be due to the jump we see in 2018 for Wi-Fi phone usage. It will be interesting to watch this trend in the future given the slew of new healthcare-grade Wi-Fi devices coming into the market, particularly those geared toward nurses.



Organizations continue to support a variety of devices, underscoring the importance of having a healthcare communication platform that can message to all of them effectively.

Voice badges declined among respondents, while tablet use rose. Encrypted paging rose slightly year over year. **Pagers are still a mainstay in healthcare.** Despite the growth of other communication tools, they remain at a relatively high level of use as other mobile devices complement them (without necessarily replacing them altogether). In fact, onsite pagers are the most popular communication option for non-clinical care team members such as housekeepers, transport techs, and phlebotomists (see next page).

Which types of mobile devices does your organization support?





What is the primary communication device non-clinical staff such as housekeepers, transport technicians, and phlebotomists carry for work at your hospital?



40%

In-house/
onsite pagers



15%

Wi-Fi phones



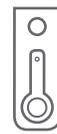
14%

Smartphones



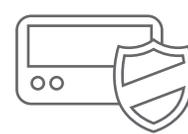
10%

Wide-area
pagers



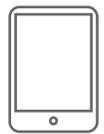
7%

Voice
badges



4%

Encrypted
pagers



1%

Tablets



When it comes to the primary communication device for non-clinical staff (transport, phlebotomists, etc.), in-house/onsite pagers are the most common device used, at 40 percent.

CHALLENGES AND SOLUTIONS WITH DEVICES AND INFRASTRUCTURE

The most technologically advanced and secure devices mean nothing if they cannot connect to the network, and in turn, communicate with other team members or access critical systems and data. In comparing the responses from 2016 to 2018, there are improvements across the board in how hospitals are addressing challenges with mobile device usage. Although down slightly from 2016, **Wi-Fi coverage remains the most common challenge**. Cellular coverage is next up, and in a tie for third place we see data security and compliance policies. Although hospitals are making headway in these areas, these results indicate to us that there is still a long way to go in addressing these pressing issues.

For 2018, we also added an option about **adoption rates/user acceptance** as these are trouble spots we hear about frequently from hospitals. Twenty-eight percent noted this as a challenge, which could affect their ability to enforce mobile policies effectively.



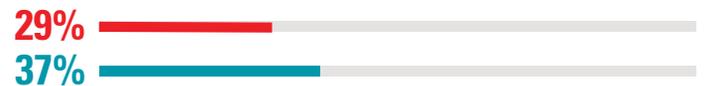
Hospitals are making progress in dealing with their mobile device challenges across the board. From 2016 to 2018, respondents noted that areas such as compliance, coverage, and data security have improved, but these results indicate there is still work to be done.

What challenges are you experiencing with mobile device usage at your hospital?

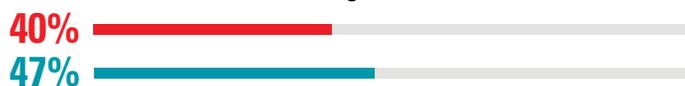
Infrastructure: Wi-Fi coverage



IT support for users



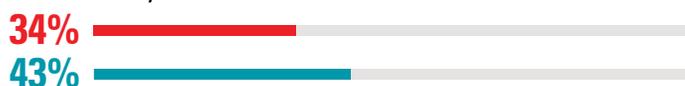
Infrastructure: Cellular coverage



Mobile adoption rates/user acceptance



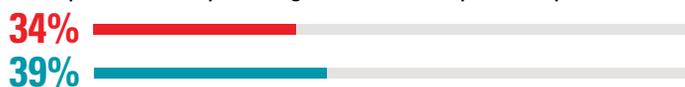
Data security



Other



Compliance with mobile, Bring Your Own Device (BYOD), or Enterprise Mobility Management (EMM) policies/procedures



2018

2016

In the free-form comments section for this question, we saw some interesting but concerning feedback. Some respondents indicated that when their Wi-Fi phones don't work, they rely on a personal cell phone for messages. This **introduces security issues** if that device is outside the network, as well as inefficiency in reaching other care team members whose contact information and availability wouldn't be accessible. Others noted disapproval from patients and families who didn't understand the role of smartphones in delivering care, as well as the feeling that they couldn't care for patients effectively because they are "always on the phone."

POOR NETWORK COVERAGE

In our 2016 and 2017 surveys, we asked whether participants thought their **Wi-Fi was business critical**—83 percent said yes in 2016, and 87 percent said yes in 2017.

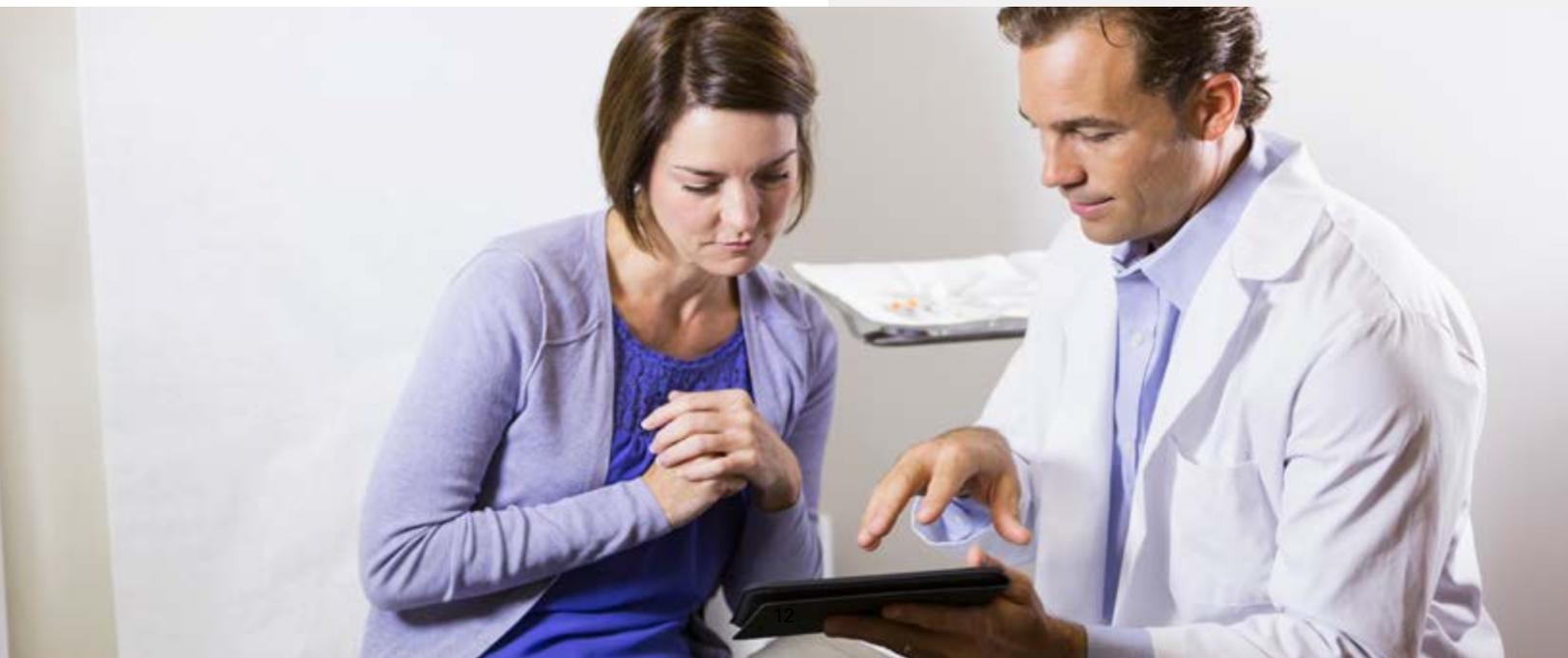
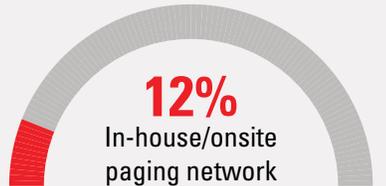
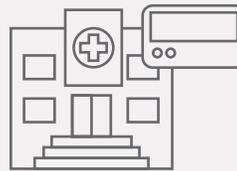
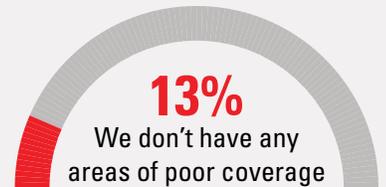
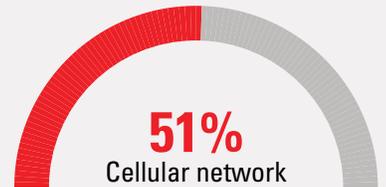
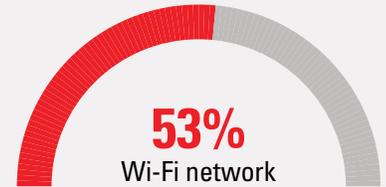
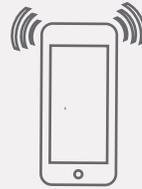
To learn more, we changed the question for 2018 to dig deeper into coverage issues across a variety of communication networks. Not surprising, **in-house/onsite paging networks showed the best coverage**. However, more than half noticed areas of poor Wi-Fi coverage, and half still experience areas of poor cellular coverage. Only 13 percent didn't see any issues with any of their communication networks.



More than half of respondents indicated areas of poor coverage for cellular and Wi-Fi networks.

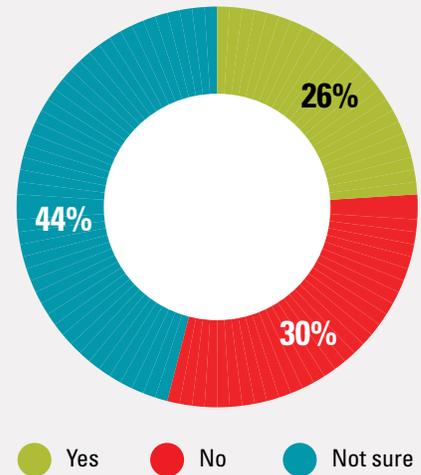
Poor connectivity can lead to patient safety issues when a caregiver doesn't receive critical information in a timely manner. It also **contributes to staff frustration and increased burnout levels** if clinicians must find time-consuming workarounds to complete essential workflows with patients. For example, we heard from one participant that charge nurses were given the codes to all rooms and physician lounges to track down people who weren't receiving pages due to coverage issues. This is a stop-gap measure at best and speaks to the need for a stronger long-term solution.

Does your hospital have any areas of poor coverage for the following networks?



Have you conducted a wireless assessment or mediation in the past year?

In a new follow-on question, we asked how many of those with poor coverage had conducted a wireless assessment or mediation in the past year. Only a quarter of respondents indicated they've conducted such assessments. We think this shows that for some organizations there is an **opportunity to find meaningful ways to improve** these fundamental communication avenues.



Twenty-six percent conducted a wireless assessment or mediation in the past year, and many gave examples of projects underfoot for infrastructure improvements.

How are you working to improve your coverage?

In a final effort to learn more, we asked respondents how they are working to improve their cellular, Wi-Fi, and/or paging network coverage. Many organizations appear to have **active measures afoot to improve coverage**, and you'll find a summary of some of the common responses below.

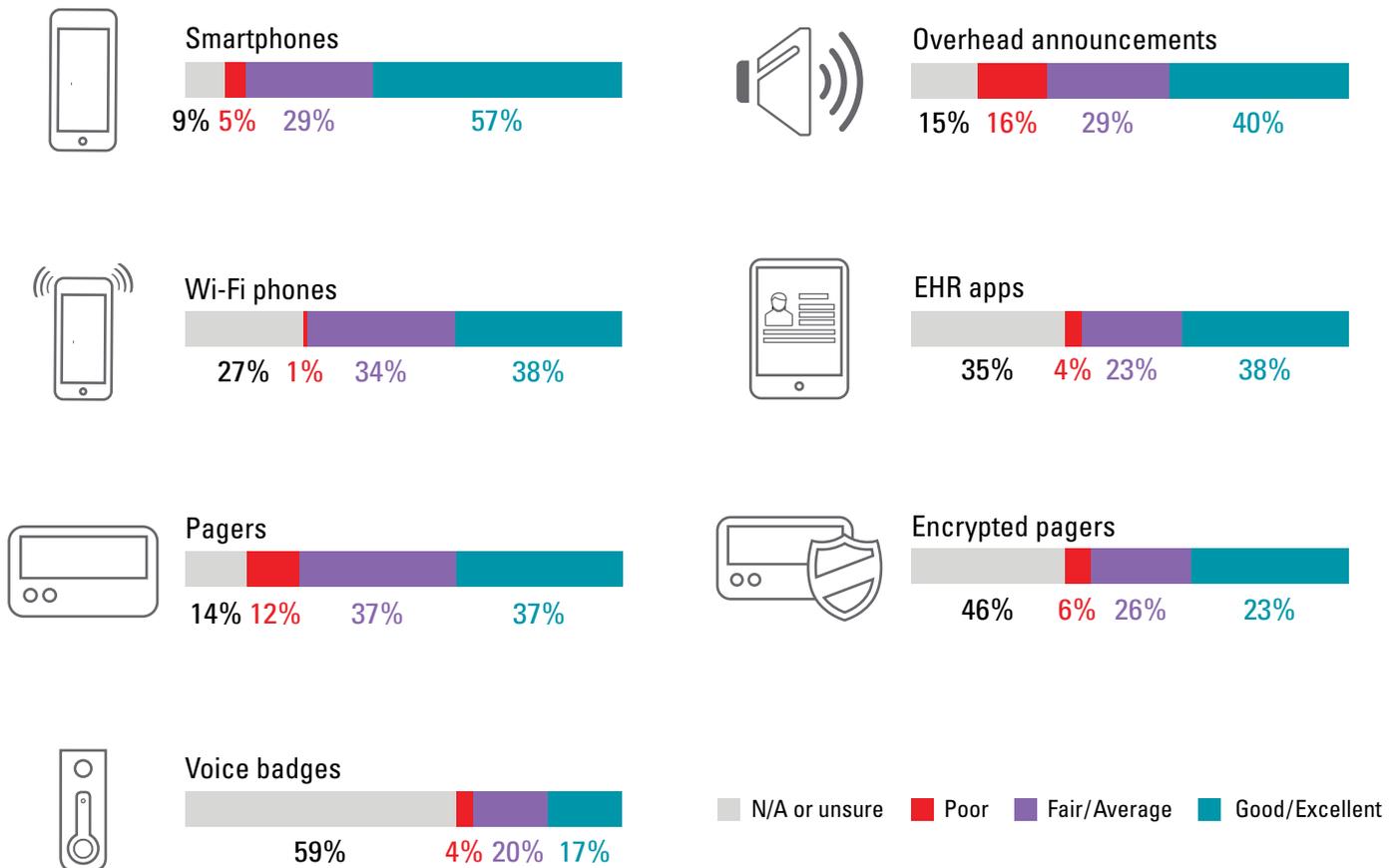
- Extending distributed antenna systems (DAS)
- Increasing Wi-Fi coverage/boosting connections
- Mapping and upgrading routers
- Adding cell towers in the hospital for all major carriers
- Installing additional access points for Wi-Fi and various repeaters, and amplification of RF signal for paging
- Working with providers to map weak spots and determine the best options for increased coverage with additional antennas, repeaters, etc.



RELIABILITY AND BUSINESS CONTINUITY

The ability to trust that messages get through to intended recipients is essential not only for everyday care, but also to communicate when the unexpected occurs. Just as we saw in 2017, **smartphones lead the pack in perceived reliability**, with 57 percent of 2018 respondents giving them a Good or Excellent rating in this category. Many of the other methods were very close together when looking at combined Good or Excellent rankings.

How would you rank the reliability of the following communication channels for sharing clinical information?



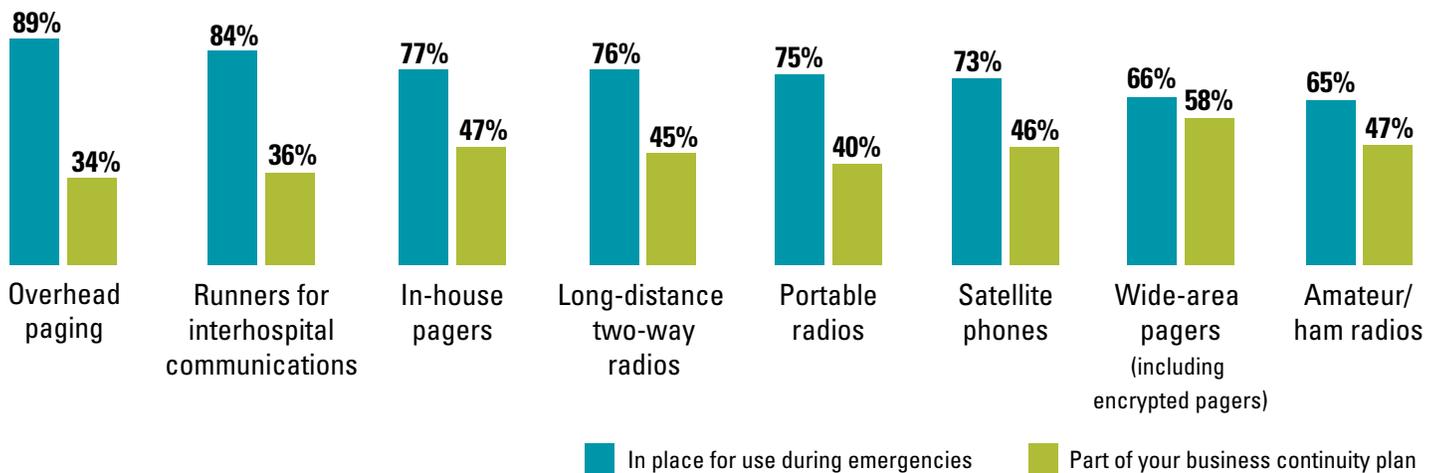
Despite areas of poor coverage noted for both Wi-Fi and cellular networks, smartphones are the frontrunners again for 2018 when it comes to perceived reliability.

When it comes to **planning for disaster scenarios**, when standard communication channels may not be available, hospitals need to look at their communication devices through a different lens. We asked about the backup plans organizations have in place to continue communicating when networks are down. Overhead paging is the most commonly cited channel at 89 percent. In a separate survey (see below), hospital CIOs indicated that the many hurricanes and other incidents that occurred in 2017 changed the approaches teams plan to take based on these experiences.



When it comes to documenting preferred communication methods within formal business continuity plans, wide-area pagers take the top spot at 58 percent, followed by in-house pagers and amateur/ham radios.

What backup plans or alternative sources of communication are in place for use during emergencies when cellular networks are down or overloaded? Which are part of your business continuity plan?

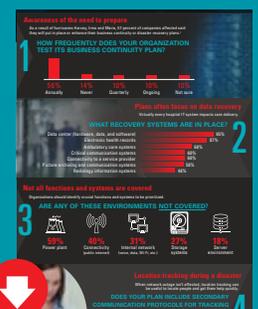


The zero-tech nature of using runners came in at second place this year, and in-house/onsite pagers are in third place. However, when it comes to **documenting preferred communication methods within formal business continuity plans**, the picture changes: Wide-area pagers lead the list at 58 percent, followed by in-house pagers and amateur/ham radios. The reliance on wide-area pagers is likely due to their ability to work using a simple battery to connect to an extensive, highly reliable external network unrelated to any hospital infrastructure.

HOW TO PROVE THE VALUE OF BUSINESS CONTINUITY

Business continuity has moved beyond the tried-and-true disaster recovery methods developed during the 1960s and 1970s. Today the total cost of a single, unplanned outage for healthcare organizations is \$918,000. This eBrief gathers industry insights to help you answer the tough (but necessary) business continuity questions.

[Get the eBrief »](#) [View the infographic »](#)



DEEP-DIVE ON SMARTPHONE USAGE IN HOSPITALS: ACCESS, SECURE MESSAGING, AND OVERALL SECURITY

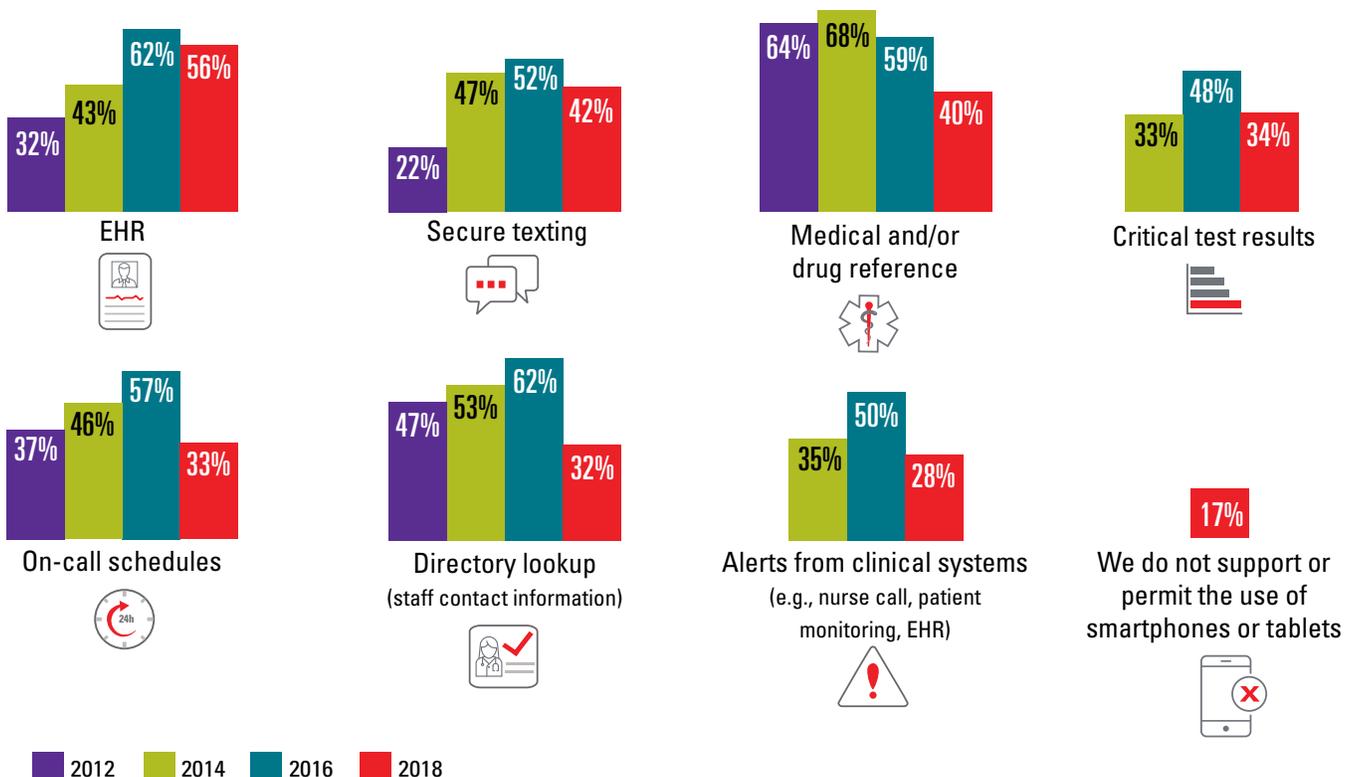
In our experience, the value of a smart device is directly linked to how it **improves workflows and addresses caregiver needs**. We continue to ask survey participants about the systems and applications smartphone and tablet users have approved access to as they carry out their work. The results indicate a mix of applications that have value on a mobile device. Some, like EHR applications, are mobile extensions of an enterprise solution. Others, like on-call schedules and secure texting, are usually independent of the EHR and are part of a global communication strategy. Mobile devices are often the ideal choice to **deliver and manage time-sensitive events that occur in the EHR** and biomedical devices.



The EHR is the most commonly approved system for smartphone and tablet users to access, followed by secure texting. However, secure texting is at a four-year low, with 42 percent of respondents indicating its use at their facilities.

There has been a lot of discussion lately about a “killer app” for healthcare. Healthcare Dive summarized former Google executive chairman Eric Schmidt’s take on this during HIMSS18 by writing “the transition to a better digitally connected health future isn’t just one killer app, but a system of them working together.”³ Given that, each of the systems and applications included in our options is important on its own, but the true value resides in having a **readily available set of interactive solutions** that together provide higher value through timeliness, efficiency, and/or user experience than could be achieved with desktop applications.

What types of hospital-approved systems and applications can smartphone and tablet users access?

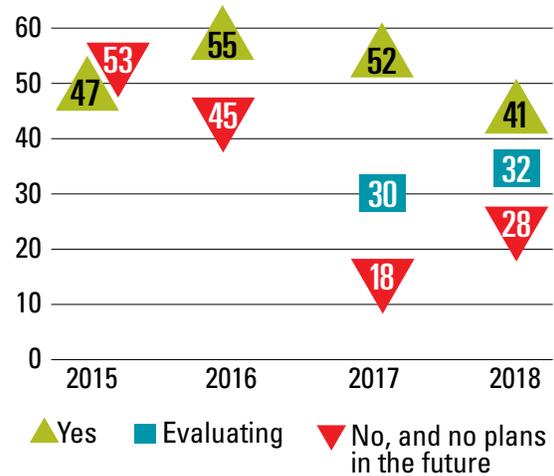


SECURE TEXTING

For 2018 we saw a **decrease in the number of organizations using secure texting**—only 41 percent indicate they have a solution in place (Note: This is one point lower than the 42 percent who stated using secure texting in our previous question about access to hospital-approved systems). In 2017 we added the option of ‘Evaluating’ to this question, and nearly one third are currently in this phase, up slightly from last year.

Secure texting remains an important part of care team collaboration, and it becomes immeasurably more valuable when integrated with online staff directories, on-call schedules, critical test result systems, and clinical alerting that delivers patient monitoring updates. Secure texting also facilitates the swift receipt of automated EHR Clinical Decision Support alerts generated during time-sensitive situations such as sepsis. For these reasons and many more, we believe that hospitals without secure texting in place, or which are only evaluating this option, are likely missing an important opportunity to **shave seconds and minutes off time-sensitive critical events**.

Does your hospital use a healthcare collaboration solution such as secure texting?



The Joint Commission⁴ and CMS⁵ have both recently clarified their positions on acceptable uses for secure texting in patient care situations. They have stated that while patient care orders cannot be sent via secure text messaging, other patient information can be shared via this method provided particular technical safeguards such as secure sign-on (SSO), encrypted messaging, and other capabilities are in place.

10 THINGS YOU SHOULD KNOW ABOUT BYOD

Healthcare organizations around the U.S. continue to wrestle with whether staff should be allowed to use their personal mobile devices for work. Spok wanted to understand more about Bring Your Own Device (BYOD) policies in 2017 to further our understanding of the current trends in hospitals. We designed a short survey focused on BYOD, and more than 350 healthcare leaders responded.

[See the results »](#)





THE PREVALENCE OF MULTIPLE SECURE TEXTING APPS

In the past few months, Spok has noticed a rise in the incidence of healthcare organizations using more than one secure texting app. This can result during mergers and acquisitions as well as siloed decision-making for a single department or unit. **The downside of this approach** can be that there's no centralized directory of contact information and schedules to enable fluent communications among staff, particularly if they are in different departments or facilities. We were curious to learn how prevalent it was to have more than one solution in place.

How many different secure texting apps is your organization using for communications?



THE HEALTHCARE LEADER'S GUIDE: PREVENTING PATIENT HARM THROUGH BETTER COMMUNICATIONS

Mobile communication continues to be an important part of hospital communications. But what happens when care teams don't communicate? Communication failures, delays, and breakdowns can result in greater medical errors, malpractice costs, and mortality rates. Dive into the real-life story of an academic medical center that experienced challenges with their communication infrastructure. Explore the five leading points of failure and discover how you can correct or prevent issues in your organization.

[Get the eBrief »](#)



THE IMPORTANCE OF SECURITY

Security is an ongoing area of concern for all health systems in light of costly, disruptive data breaches and ransom attacks. In fact, cybersecurity was front and center at HIMSS18, where the tenor of conversations had shifted notably from that of years past, moving from preventative measures to active planning for cyberattacks and managing risk (a move from 'if' to 'when').



Axel Wirth, a Distinguished Healthcare Architect for the HIMSS Privacy and Security Committee and a healthcare solutions architect for Symantec, described this shift by noting, "If a healthcare provider doesn't see itself as a target, that would indicate that it doesn't have a full understanding of what cybersecurity means in 2018."⁶

Managing device security is a large part of **securing protected health information (PHI)**. With this in mind, for 2018 we added a new question about how device security is handled. Half of respondents rely on policy and education, followed by having a secure wireless corporate network and application management/app containerization. For organizations relying solely on policy and education, these passive device security measures may introduce fissures in overall security efforts.

How does your organization handle device security?



50%

Policy and education



44%

Wireless corporate network
(secure network)



28%

Application management/
app containerization



16%

Enterprise mobility management
(EMM) solution

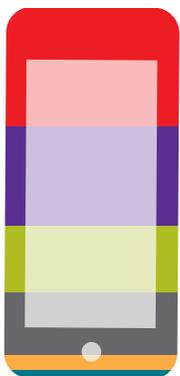




OPPORTUNITIES FOR MOBILE COMMUNICATION IMPROVEMENTS

Given that only 41 percent of survey respondents reported having secure text messaging in place today, it's not surprising that 32 percent said it represents their **biggest opportunity for improving mobile communications** in the next three to five years. The second most popular response was to improve communication between devices and the EHR. While EHRs can enable caregivers to make well-informed treatment decisions, they do not solve the challenge of clinical communication and collaboration.

What do you see as your biggest opportunity for mobile communication improvements over the next 3-5 years?



32% Implementing secure text messaging

17% Having a healthcare communication platform for all faculty and staff

27% Improving communication between devices and the EHR

4% Improving business continuity planning

18% Improving Wi-Fi coverage

2% Other

The answer of 'having a healthcare communication platform for all faculty and staff' showed 17 percent responding. We see this ability as directly related to the EHR because a healthcare communication platform is effective in filling communication gaps; EHRs weren't designed as all-encompassing communication systems. For example, healthcare communication platforms can **connect all members of the broader care team** (clinicians, transport personnel, lab personnel, etc.), with secure communications across multiple devices. By contrast, an EHR typically only covers clinicians.



Thirty-two percent said the implementation of secure texting is their biggest opportunity for mobile communication improvements in the next three to five years.

ADVANCING PATIENT CARE WITH MOBILE TECHNOLOGY

The prevalence of a variety of mobile devices in use for care team members underscores that they are an important part of care coordination and delivery today. We asked participants to describe in their own words the value of these tools.

How does having mobile technology in the hands of your care team advance patient care?

- Faster collaboration between clinicians
- Improved efficiency for nurses
- Faster results and access to critical information
- Faster response to alerts
- Better safety
- Access to EHR and reference materials
- Speed, accuracy, and reliability leads to better outcomes
- Enhances patient care by providing information on demand with 24/7 availability
- Increased efficiency when dealing with patients
- Brings the care teams closer with information available to everyone at the same time
- More time at the bedside
- Improved collaboration resulting in better decisions and actions
- Status/information updates for patients and families
- Increases documentation, which reduces liability and errors
- Ability to consult with others



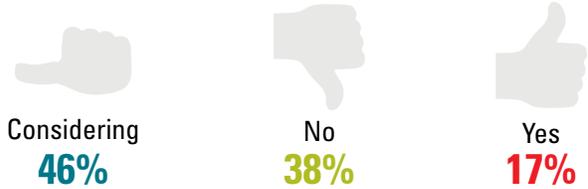
BRINGING PATIENTS AND FAMILIES INTO THE TECHNOLOGY FOLD

As patients become increasingly involved in managing and accessing information about their care, we asked for the first time about plans to **include patients and family members** in official mobile strategies.

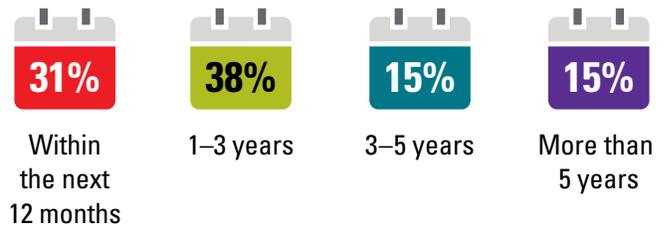
Patient access to data is an important topic for healthcare, as evidenced by CMS Administrator Seema Verma’s announcement of the launch of MyHealthEData during HIMSS18⁷. The goal of this patient engagement initiative is to **enable patients to have access to their health data** and be able to send that information to any provider of their choosing.

When asked whether they planned to extend their mobile strategy to include patients and families, only 17 percent of participants gave a definitive yes, while **nearly half are considering it**. Of those who said yes, a third plan to do so in the next 12 months.

Do you plan to extend your mobile strategy to include patients and families?



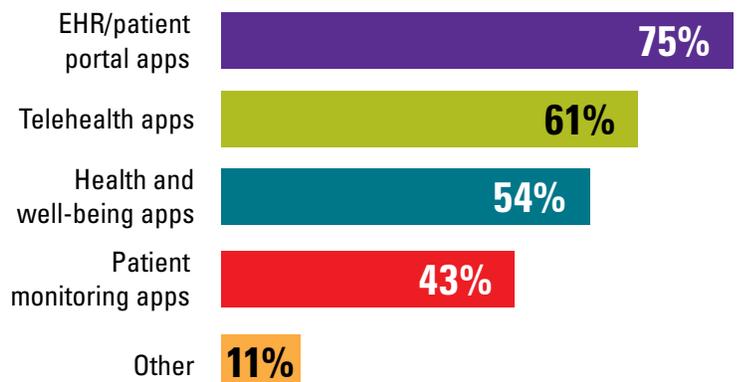
When do you plan to extend your mobile strategy to include patients and family?



When asked about plans to include patients and families in mobile strategies, 17 percent said yes, with 69 percent planning to do so within the next three years. Including these external groups may include access to applications such as EHR/patient portals, patient monitoring, and telehealth/well-being.

Which of the following could be part of your mobile strategy for patients and families?

Seventy-five percent of those who are planning to involve patients and families indicated they will accomplish this via an **EHR/patient portal app**, followed by telehealth apps and health and well-being apps. Clearly, the way health networks approach communications with patients and families is evolving, and we’ll see changes coming in the next several years.



LOOKING AHEAD: DISRUPTIVE TECHNOLOGY

Although technologists love to opine about the next big advance in healthcare, many health systems are still working to incorporate proven technology in an effective way. Case in point, some of the responses to this open-ended question included implementing secure texting and mobile communications support. Some in the industry are calling this the **'post-EHR' era** as organizations have largely completed their implementations and are turning their attention toward new methods of achieving efficiency or integration with EHR technology.

What disruptive new technologies do you see changing the landscape of communications in healthcare over the next three years?

- Security issues, hacking, viruses, ransomware
- Tablets and smartphones, secure texting
- Google Glass™
- Alert communications
- Patient access to charts in real time, portals
- More patient involvement in their own care
- Telemonitoring
- Video communications/telehealth/Skype®/ FaceTime® visits and the HIPAA compliance issues they bring
- Increased ties to devices; no way to remove yourself from the phone
- Social media, especially by patients during visits
- A move away from the reliance on cellular to a more widely accepted voice over Wi-Fi
- Virtual reality/virtual health
- Robotics
- EHR consolidation
- Voice notes transcription and voice-activated search
- Privacy laws
- Artificial intelligence
- Voice-based virtual assistants (Echo®/Alexa®)
- 5G: better cellular coverage and lower latency
- Internet of Things (IoT)

Which healthcare roles do you think will be most improved or disrupted by mobile technology in the next 3-5 years?



Physicians
40%



Patients
28%



Nurses
25%



Other
7%

References

¹ <https://spok.cc/HITMobileGuidelines>

² <https://www.spok.com/infographic-chime-survey-2017>

³ <https://www.healthcarediver.com/news/himss18-eric-schmidt-keynote/518406/>

⁴ https://www.jointcommission.org/standards_information/jcfaqdetails.aspx?StandardsFaqlD=1615&ProgramId=46

⁵ <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/Survey-and-Cert-Letter-18-10.pdf>

⁶ <http://www.healthcareitnews.com/news/cybersecurity-must-be-hands-boardroom-concern-expert-says>

⁷ <https://patientengagementhit.com/news/recapping-himss18-patient-engagement-technology-breakthroughs>

ONWARD AND UPWARD IN A FAST-CHANGING INDUSTRY

From sepsis response and PHI security to responding quickly to patient requests and the overall coordination of care, health systems today have many opportunities to use mobile communication technology to improve efficiency and outcomes. While many have made strides in addressing their mobile device challenges, slow progress in areas such as Wi-Fi and cellular connectivity likely frustrates staff and can lead to patient safety issues and lack of adoption and acceptance of mobile strategies. The role of devices in everyone's lives has increased, and care team members feel this acutely. It's up to hospitals not only to define appropriate device usage, but also to monitor when technology use becomes a barrier to care and human interaction.

Likewise, the benefits of the latest communication devices and their ability to pull in directory details, on-call schedules, critical test results, clinical alerts, and more are drastically diminished when network connectivity is unreliable. This, in addition to the need to keep security tight across all devices and communications, underscores the ongoing importance of having documented mobile policies. The fact that our survey shows a decline in their overall usage as well as inconsistency in their enforcement is cause for concern. Health systems must make the very real connection between achieving their overarching corporate goals and the way staff communicate every second of every day to treat patients. This spans everything from enforcing security protocols to identifying appropriate clinical workflows for mobile solutions to establishing the communication channels that will support disaster response.

We'll continue to monitor emerging areas such as the involvement of patients and families in mobile strategies, as well as the disruptive technologies that introduce new challenges and opportunities for all care team members. It's key to remember that all these technology underpinnings are important support tools that aid the millions of care team members who spend their lives helping others and making decisions that affect the well-being of their patients.



Help us shape our future surveys. What other questions should we ask about mobile strategies in healthcare? [Submit responses»](#)



ABOUT SPOK, INC.

Spok, Inc., a wholly owned subsidiary of Spok Holdings, Inc. (NASDAQ: SPOK), headquartered in Springfield, Virginia, is proud to be the global leader in healthcare communications. We deliver clinical information to care teams when and where it matters most to improve patient outcomes. Top hospitals rely on the Spok Care Connect® platform to enhance workflows for clinicians, support administrative compliance, and provide a better experience for patients. Our customers send over 100 million messages each month through their Spok® solutions. When seconds count, count on Spok.