



SPOK'S FIFTH ANNUAL MOBILITY STRATEGIES IN HEALTHCARE SURVEY: RESULTS REVEALED

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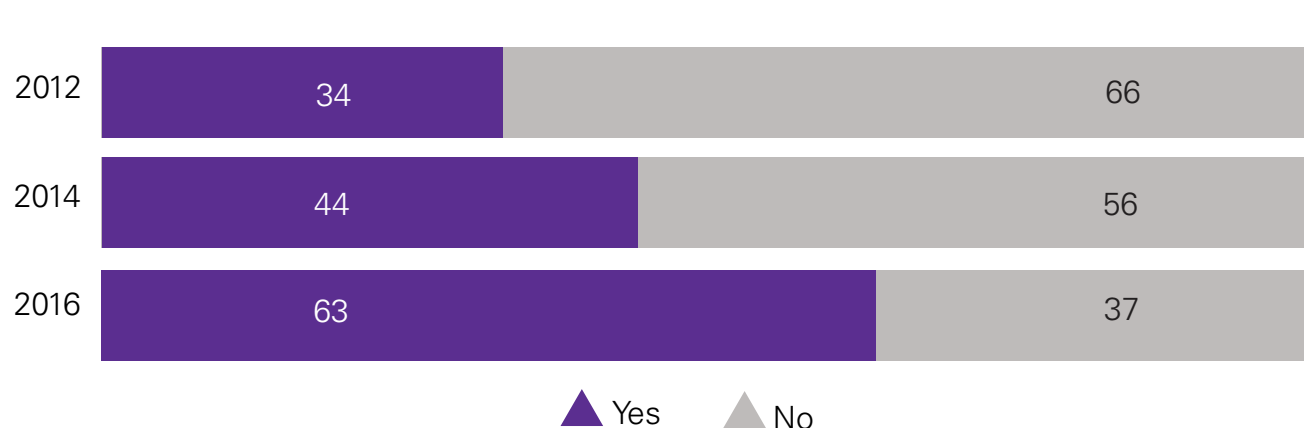
Now in its fifth year, Spok's annual Mobility in Healthcare Survey is starting to reveal some longer-term trends in addition to annual snapshots. For example, organizations that report having a documented mobility strategy have nearly doubled, and the use of pagers has not changed significantly (in fact, in-house pager use has increased slightly over the past two years). While these results are not shocking to us at Spok—they mirror what we learn through our ongoing conversations with customers—this survey does provide documented evidence to quantify and validate our observations that hospitals with documented mobility strategies, secure texting, and enterprise mobility management systems are tipping toward the majority. This data, collected in July 2016, represents more than 550* responses from around the U.S. We hope you find this survey's analysis interesting and informative as you continue your own path toward integrated clinical communications.

**This number—and the overall analysis in this document—includes only respondents who answered more than 75 percent of survey questions.*

ON HAVING A MOBILITY STRATEGY

We ask every two years whether organizations have a documented mobility strategy, and the trend could not be clearer. This year the Yes responses have not only exceeded the No's for the first time, but also the prevalence of a documented strategy has nearly doubled since 2012. More and more, hospitals are recognizing the need for and value in completing this important step toward organizing and supervising mobile clinical communications. And while the end result is a singular plan for coordinating the use and integrations of mobile devices in hospitals, the reasons for having one are multifaceted.

DO YOU HAVE A DOCUMENTED MOBILITY STRATEGY IN PLACE?



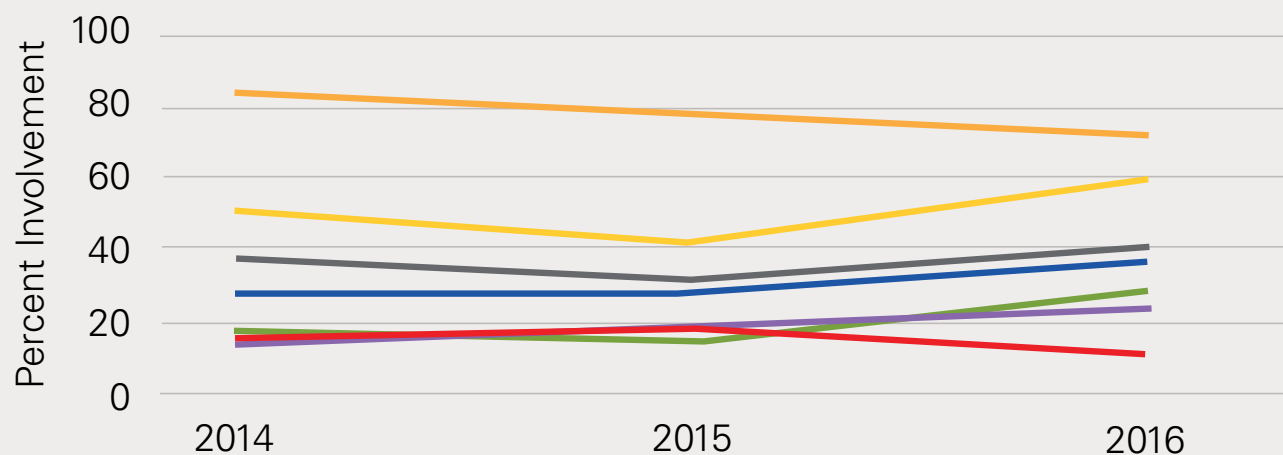
LOOKING DEEPER

Why do hospitals need a mobility strategy? Mobility strategies help define organizational goals and feed the framework for all mobile-related projects: What amount of time, money, and staff resources will be devoted to a particular mobile-enablement related project? What are the measures of success? What integrations are necessary to meet the larger goals of the hospital?¹ Organizations need a strategy to establish policies on how mobile communications are carried out.

But the drivers for mobility can depend on who you are. Doctors want to save time by using their smartphones or other preferred devices to access information and coordinate tasks. Nurses want to serve their patients in the best way possible and be able to reach doctors for faster care planning. Administrators want staff to be efficient and improve key performance indicators such as length of stay and quality measures. IT wants a way to track and coordinate the multitude of devices. Contact center agents want to launch codes quickly and be able to tell when people are responding about availability. And it is in everyone's interest to secure protected health information (PHI) and reduce the risks of ransomware attacks and breaches that can lead to significant penalties for an organization, both financial and reputational. So while mobility is still largely an IT project, there are many stakeholders with a vested interest in the successful use of mobile devices, and this is slowly being reflected in the mix of people involved in the planning process.



WHO WAS OR WILL BE INVOLVED IN DEVELOPING YOUR MOBILITY STRATEGY?



From 2014 to 2016, the changes are:

- ▲ IT -12 pts (-14%)
- ▲ Telecom +3 pts (+8%)
- ▲ Clinical leadership +8 pts (+16%)
- ▲ Doctors +9 pts (+31%)
- ▲ Nurses +12 pts (+69%)
- ▲ Consultants +9 pts (+64%)
- ▲ Parent organization -3 pts (-20%)

Legend key:

(pts) are the actual change in each role's involvement

(%) indicates the relative increase or decline of each role's involvement

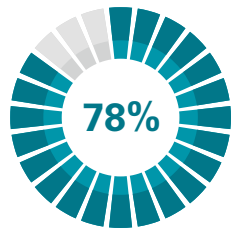
¹<http://www.healthcareitnews.com/news/5-crucial-aspects-successful-mobile-strategy>

DOES YOUR ORGANIZATION HAVE STATED GOALS TO IMPROVE THE FOLLOWING AREAS?

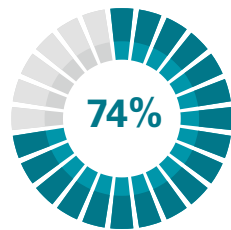
▲ Yes ▲ No



Physician-to-physician communications



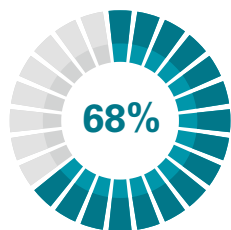
Nurse-to-physician communications



Critical test results management



ER/Bed turnover



Nurse call and patient monitoring alerts to mobile devices



Alarm fatigue

It is evident that the topics of mobility and mobile communications are shifting away from being strictly IT projects toward becoming enterprise projects. Clinical leadership and front-line care team members are increasingly involved in the planning stages, suggesting an appreciation for the enormity of the scope and how such rollouts can affect both staff and ultimately patients. Planning an effective rollout campaign, for example, is essential. It doesn't matter how robust a solution is if staff won't use it. Involving clinicians in the planning phases not only helps ensure end user concerns and specific workflow requirements are being met, but also creates a base of clinical support to help drive the cultural shifts necessary for this kind of project to succeed. Part of this increase in clinical involvement may also be tied to organizational goals for improving physician-to-physician and nurse-to-physician communications, which were both stated as goals at 78 percent of our surveyed facilities.

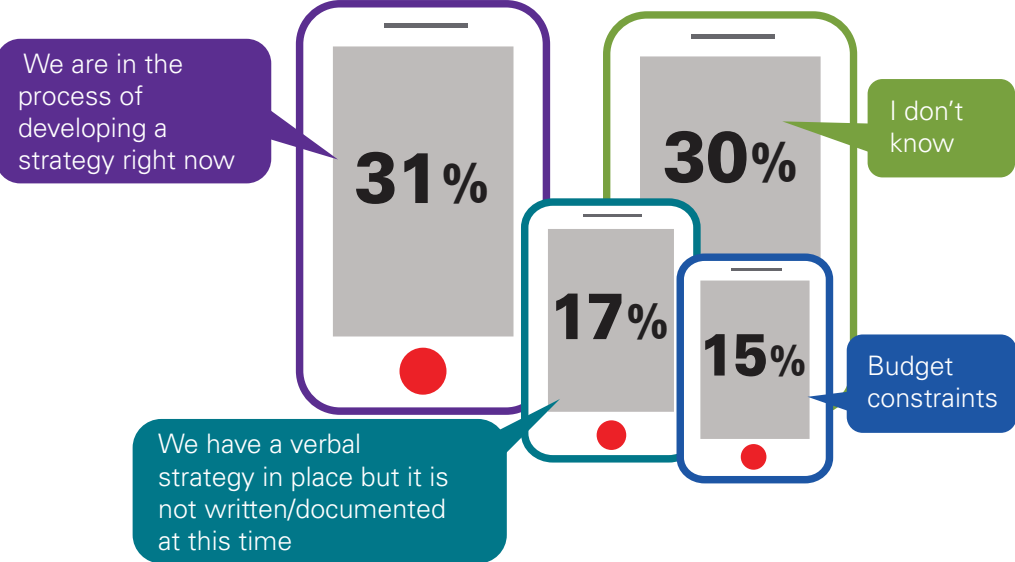
The other notable change is a large increase in assistance from consultants. Planning for and implementing a mobility strategy is a extensive project with a lot of details to consider, and with internal staff resources either taxed from other initiatives or lacking in specific expertise, more of the industry is starting to hire experts for help. We expect both of these trends—more clinical involvement in technology planning and an increase in hiring outside mobile expertise—to continue.

Why hire consultants to assist with mobility strategy planning?

1. They are industry experts in:
 - Mobile technology usage
 - Infrastructure for mobility
 - Implementation methods
 - Success measurements
2. They can help augment IT staffing levels and skills
3. They have best practice knowledge specific to healthcare



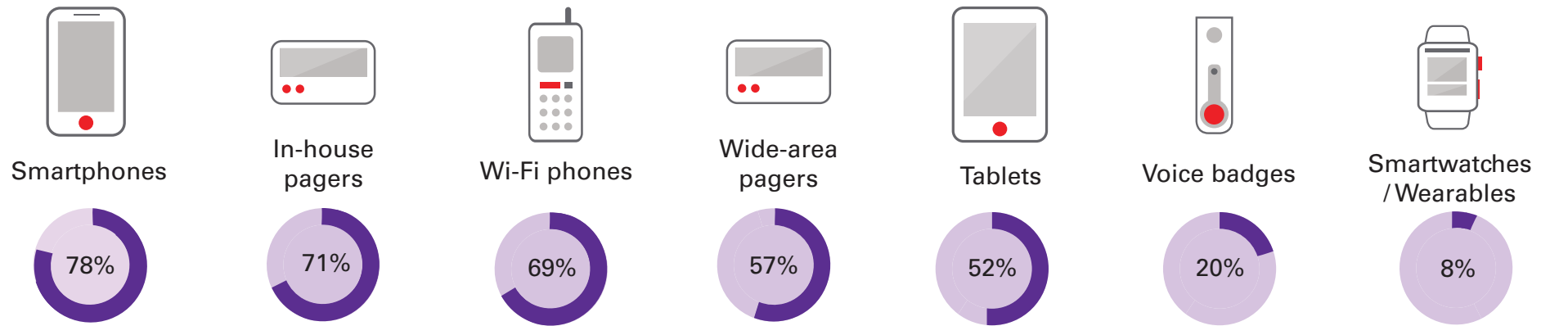
WHY IS THERE NO MOBILITY STRATEGY IN PLACE AT YOUR HOSPITAL? (CHECK ALL THAT APPLY)



For the 37 percent of hospitals that do not currently have a documented mobility strategy, about a third are currently working on it, and nearly one fifth have a verbal strategy. Altogether the Yes, In Process, and Verbal Strategy respondents comprise 81 percent of those surveyed, showing that most healthcare organizations are well on their way toward getting their arms around this effort. The next logical focus for hospitals on the mobility strategy continuum will become maintenance and maximization—keeping up with continually changing technology and improving existing plans and programs.

DEVICES AND INFRASTRUCTURE

WHICH TYPES OF MOBILE DEVICES DOES YOUR ORGANIZATION SUPPORT?

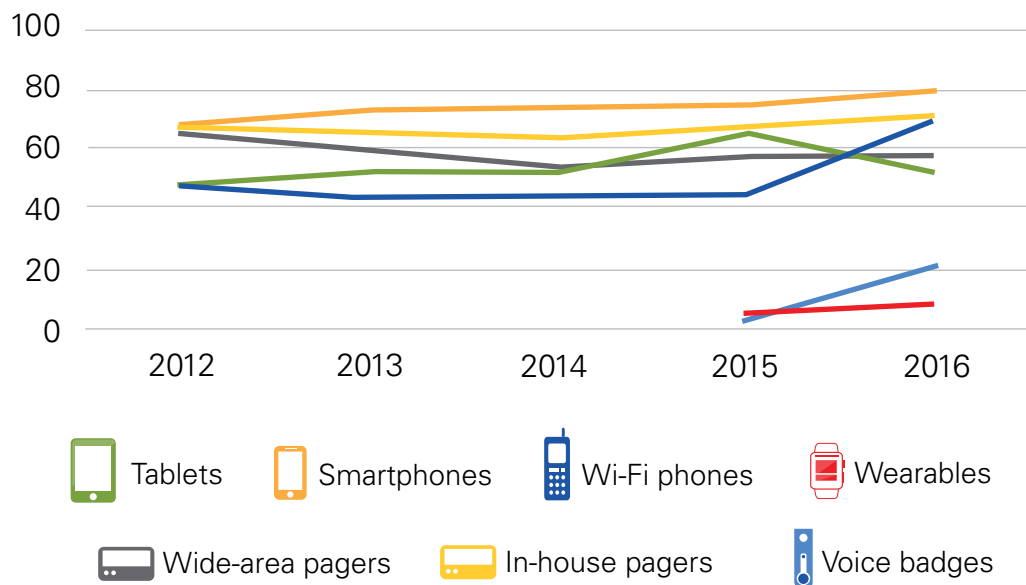


THE MESSAGING MIX

The mix of mobile devices used throughout hospitals remains diverse with smartphones maintaining the top spot (this year measuring 78 percent) and pagers holding steady. After showing a bump in 2015, tablet usage has declined back to 2014 levels. This could reflect a new shift in user preferences for alternative devices that better fit clinician preferences. For example, smartphones are available with bigger screens for easier visibility, but they still fit in a coat pocket and support phone calls.

The biggest findings, however, are in reported support for Wi-Fi phones and voice badges, which are up 24 and 18 percent, respectively. These devices are used heavily by nursing staff and are turned in at the end of each shift. The change suggests hospitals are investing in mobile technology for these vital members of the care team, likely to help improve nurse-call workflows, address patient satisfaction initiatives, and reduce alarm fatigue.

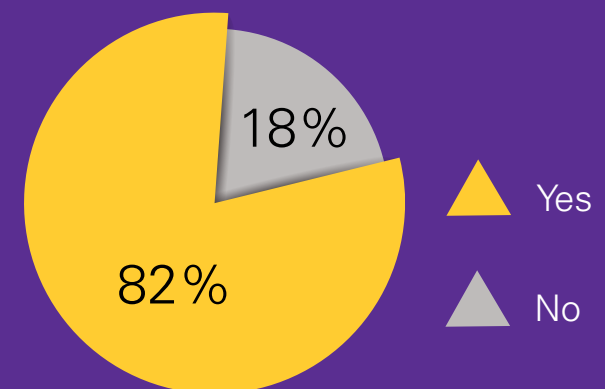
DEVICE MIX SUPPORTED OVER TIME



THE MIXED MESSAGE

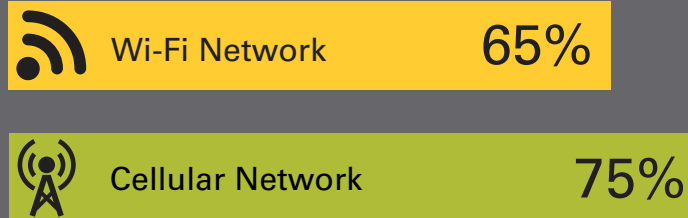
This year we added more questions around Wi-Fi and cellular coverage to take a closer look at the infrastructure behind the strategy. We found that it has some catching up to do. While 83 percent of respondents said their Wi-Fi network is considered business critical, 54 percent cited Wi-Fi coverage as a challenge, and 65 percent believe there are areas of poor coverage within their hospital. It appears that a lot of hospitals are still working out the logistics of effective coverage. This physical element of a communications infrastructure is important to get right because if you don't build it, they won't come: Staff won't care about the features or security benefits from using approved apps if the network in the hospital does not support fast and efficient communications. And if providers avoid using the approved technology, they can find their own workarounds that put the hospital at risk, especially when it comes to sharing protected health information via unsecure texting.

IS YOUR WI-FI NETWORK CONSIDERED BUSINESS CRITICAL?

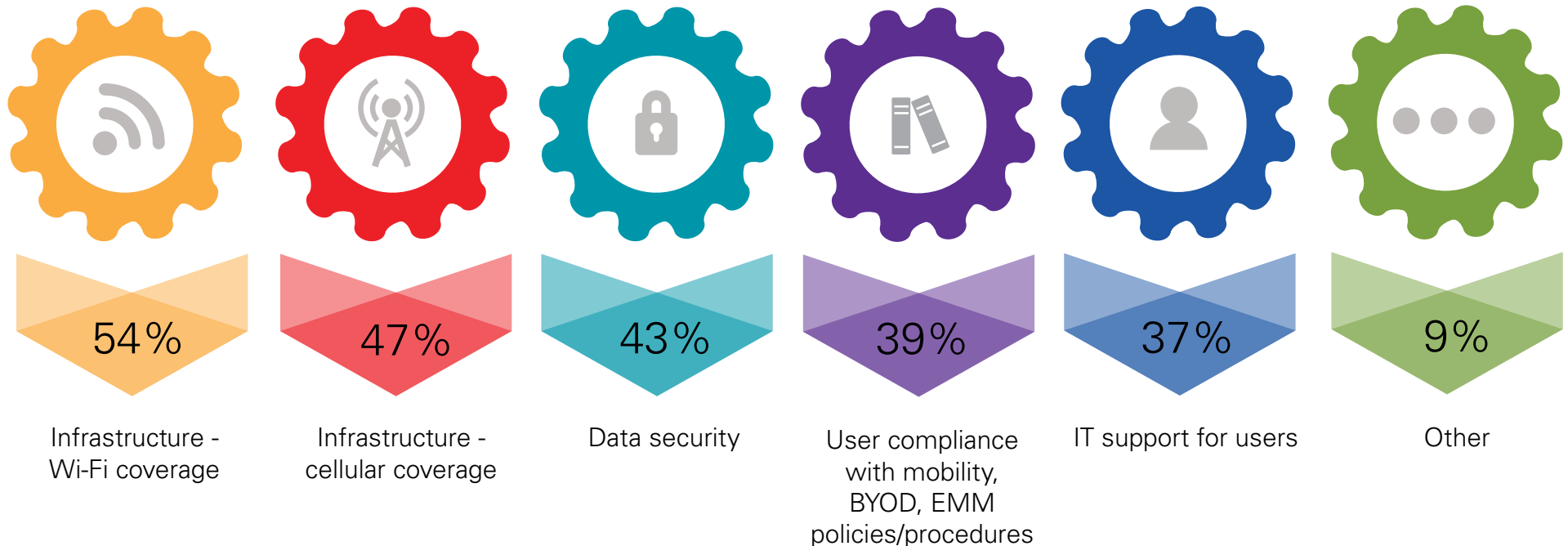


ARE THERE AREAS OF POOR NETWORK COVERAGE IN YOUR HOSPITAL?

Even cellular coverage was cited as a mobile device challenge by 47 percent of those surveyed, and 75 percent believe there are areas of poor cellular network coverage within their hospital. Clearly mobile device usage is limited by the restrictions of physical infrastructure, and more work needs to be done to address dead zones for both Wi-Fi and cellular availability.



WHAT CHALLENGES ARE YOU EXPERIENCING AT YOUR FACILITY WITH MOBILE DEVICE USAGE? (CHECK ALL THAT APPLY)



MOBILE ACCESS

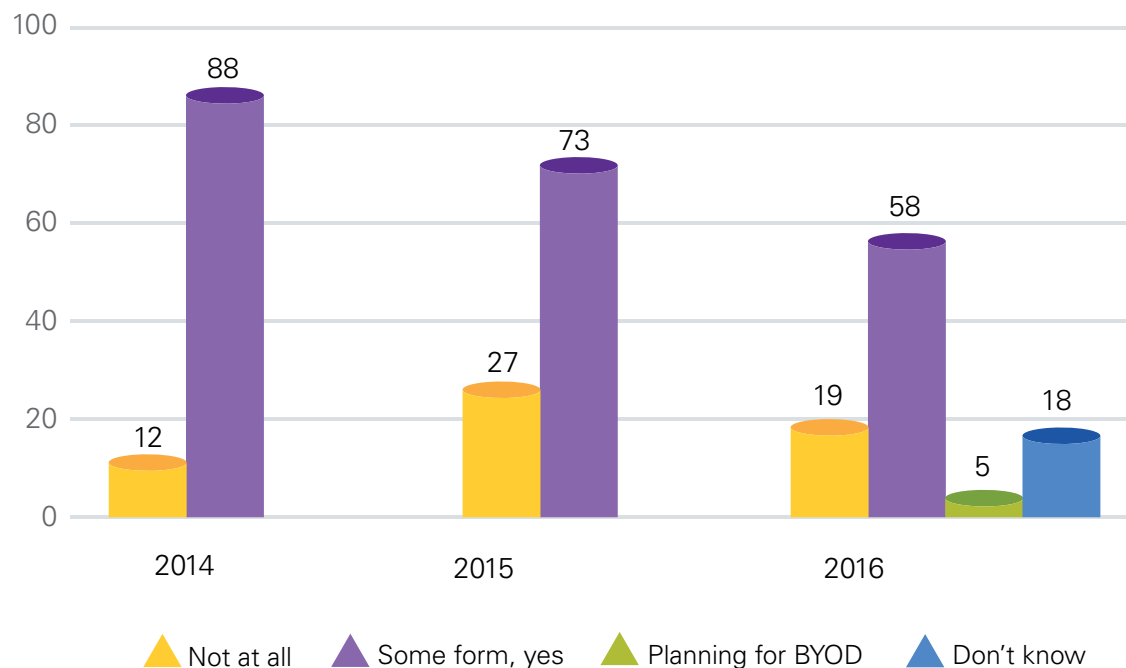
BRINGING YOUR OWN DEVICES?

Bring your own device, or BYOD, continues to be a hot topic for hospitals. Though the concept of letting employees use personal mobile devices at work is simple, the execution can be tricky because BYOD raises so many questions related to an organization's costs, data security risks, IT availability, and the diverse needs of different groups of staff.

In last year's survey, data security was cited as the primary challenge for 62 percent of the hospitals that supported BYOD environments; it was also cited by 81 percent of respondents as the primary reason for not allowing BYOD. With the rise in fines for data breaches, increasing frequency of ransomware hacks, and stepped up efforts to investigate data breaches by the Office of Civil Rights at the Department of Health and Human Services, it is not surprising that hospitals are reluctant to participate in the BYOD movement.

Nearly 20 percent of survey respondents reported that their organizations don't allow any sort of BYOD program, an eight-point decrease from 2015. The proportion of locations allowing some form of a BYOD program also decreased from 2015, continuing a downward trend observed since 2014. However, it is unclear if these 2016 numbers are true reflections of a decline in BYOD support, or an artifact of the question which in the past has permitted only a Yes or No response. This year the participants had two additional options: 'We in the planning stages for a BYOD environment' and 'I don't know.' Together these two new answer options totaled 23 percent. Eighteen percent of respondents selected 'I don't know,' which is not entirely surprising because the majority of staff members allowed to participate remains heavily slanted toward physicians, administrators, and IT—BYOD programs continue to exclude many other roles.

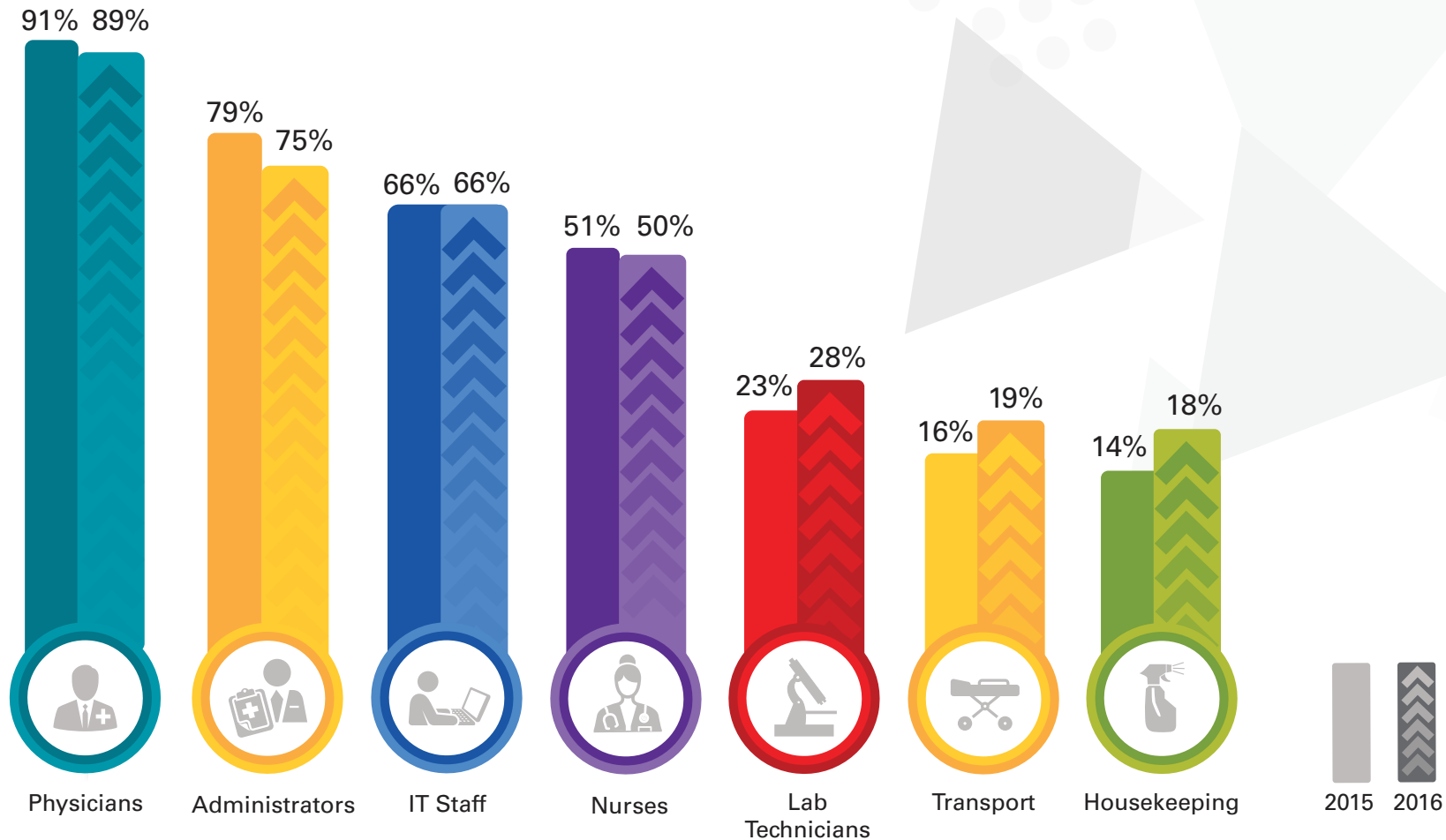
DOES YOUR HOSPITAL ALLOW BYOD?



WHO GETS TO USE THEIR OWN DEVICES?

Between 2015 and 2016 there was little difference in BYOD participation by role. Support staff participation (lab technicians, housekeeping and transport) remains low relative to doctors, administration, IT, and nurses. This is likely related to the varying specific needs of each position. Nurses generally have the highest communication needs during their shift, while physicians answer patient-specific questions when on call, during non-rounding hours, and when traveling between locations. Most hospital nurses are mobile within their units or patient towers, but rarely across campuses during a single shift. The geographical variations physicians and administrators may experience, however, can span buildings and even separate campuses.

WHICH STAFF ARE ALLOWED TO PARTICIPATE IN THE BYOD PROGRAM?



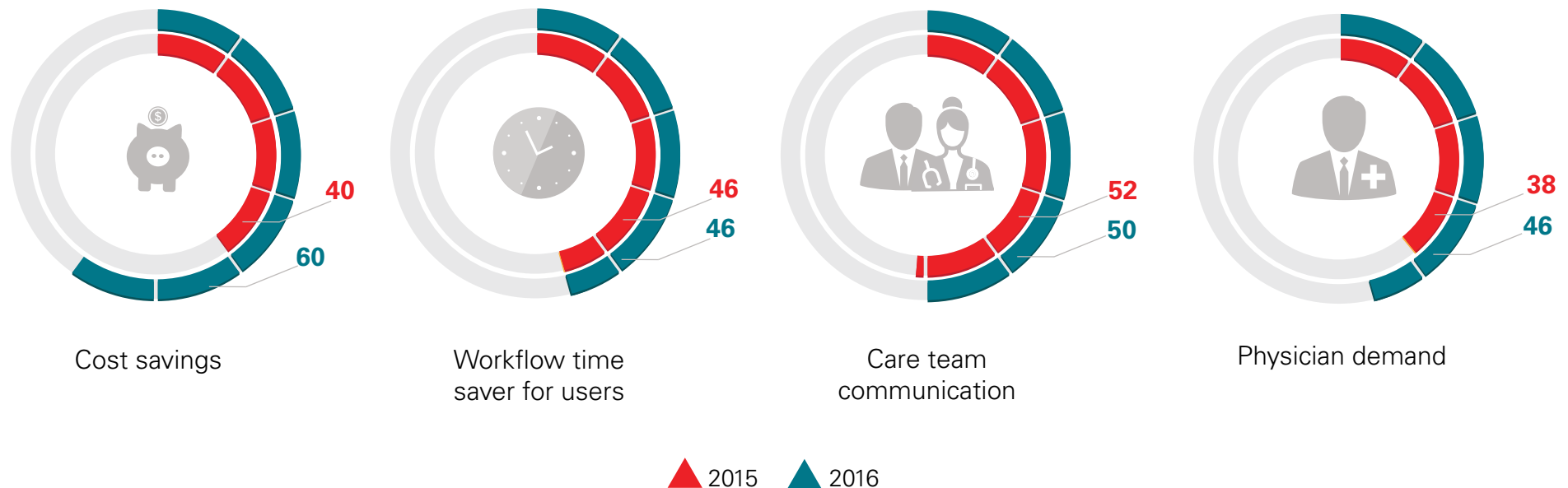
WHY SUPPORT BYOD?

The top four drivers for allowing some form of BYOD remain the same as in 2015. However, their ranking has shifted. Cost savings jumped from third place to first (cited by 60 percent of those surveyed). This is an interesting change to note. In our experience, some hospitals have great success with saving money through BYOD programs, while others see losses. This disparity appears to be largely driven by the amount of planning and attention to detail—well executed plans with clearly defined parameters produce better results than poorly planned and managed implementations. Another source of cost savings can be the use of apps. With more applications and use cases being applied, the value of the BYOD investment and cost savings increases.

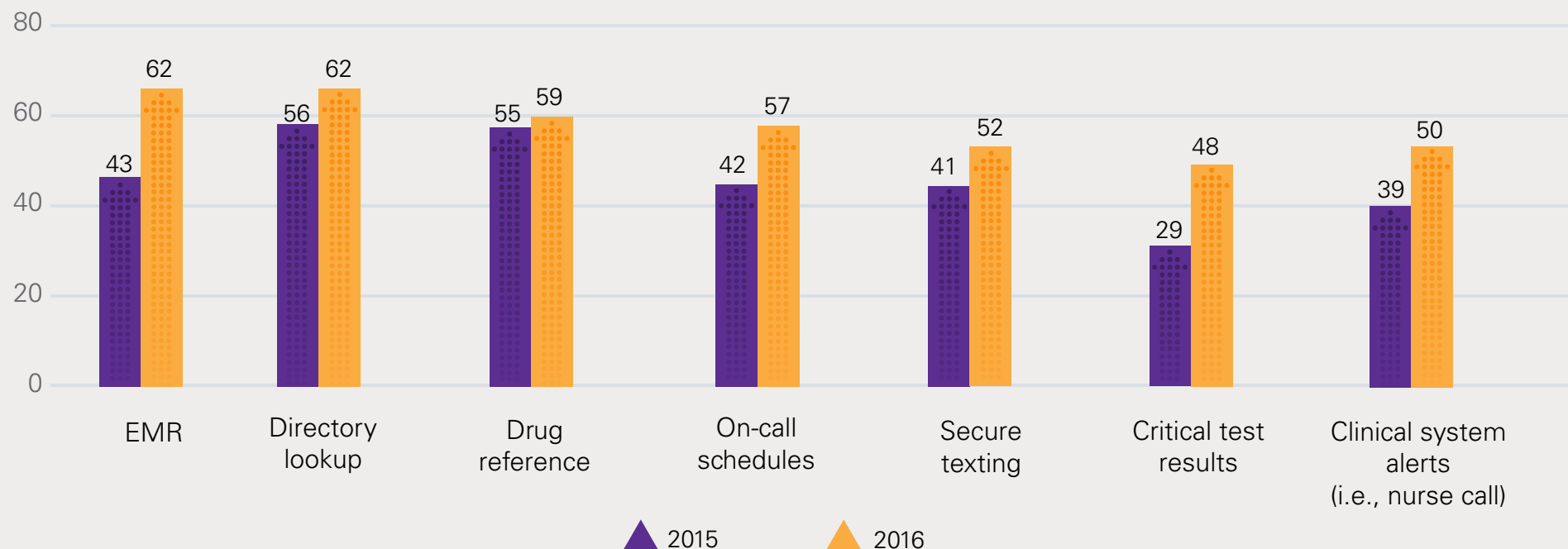
Response to physician demand also increased, up 8 points to 46 percent. As mobile devices evolve and the advancement is accompanied by larger price tags, more institutions may be looking at BYOD as a potential cost saver for both the devices themselves and the accompanying data plans.



DRIVERS FOR ALLOWING BYOD



WHAT HOSPITAL-APPROVED SYSTEMS AND APPLICATIONS DO SMARTPHONE AND TABLET USERS HAVE ACCESS TO?



WHAT ARE MOBILE USERS ACCESSING?

Stepping back from BYOD programs and looking at all mobile device usage, user access to approved systems and applications increased across the board. The top two most common systems approved for mobile access in 2016 were directory lookup and the electronic medical record (EMR) system, and the largest increases over 2015 are for critical test results and the EMR system. These findings align with respondents' stated hospital goals to improve care team coordination and critical test result communications (see figure 1 on page 4).

DO YOU USE SECURE TEXTING? ENTERPRISE MOBILITY MANAGEMENT (EMM)?

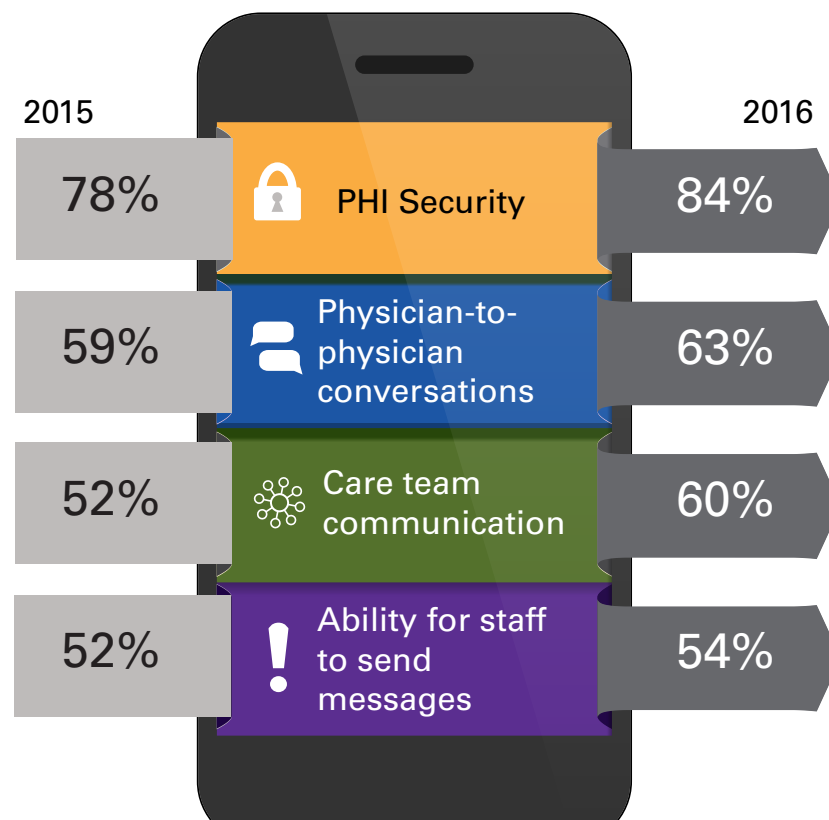
Hospital-approved use of secure text messaging remains almost evenly split, with the balance shifting slightly in favor of Yes in 2016. Use of specific EMM solutions has remained almost flat since a year ago, but the percentage of institutions evaluating them has changed by a large margin, moving up 15 points from 26 percent to 41 percent². The number one driver for the use of secure texting and EMM solutions is security for hospital and patient data. The logical question based on this primary driver for use is why aren't more hospitals implementing these tools as a means to reduce the risk of costly data breaches and HIPAA violations? Findings in a recent study by the Healthcare Information and Management Systems Society (HIMSS)³ points to limited personnel and financial resources as the largest barriers to these types of risk mitigation projects. Securing devices and mobile communications may continue to trail the use of smartphones and other convenient mobile tools for several more years until budget cycles and project expertise catch up to the need, and users accept the necessity of such protections.

Lastly, only 50 percent of hospitals using an EMM solution are taking advantage of it to deploy apps. App usage is continuing to grow (see the graph on page 14), and not using the EMM for deployments and app management is akin to offering secure texting without a solid Wi-Fi network in place to enable usage. It is an opportunity for improvement in coming years.

DOES YOUR HOSPITAL USE A SECURE TEXTING SOLUTION?



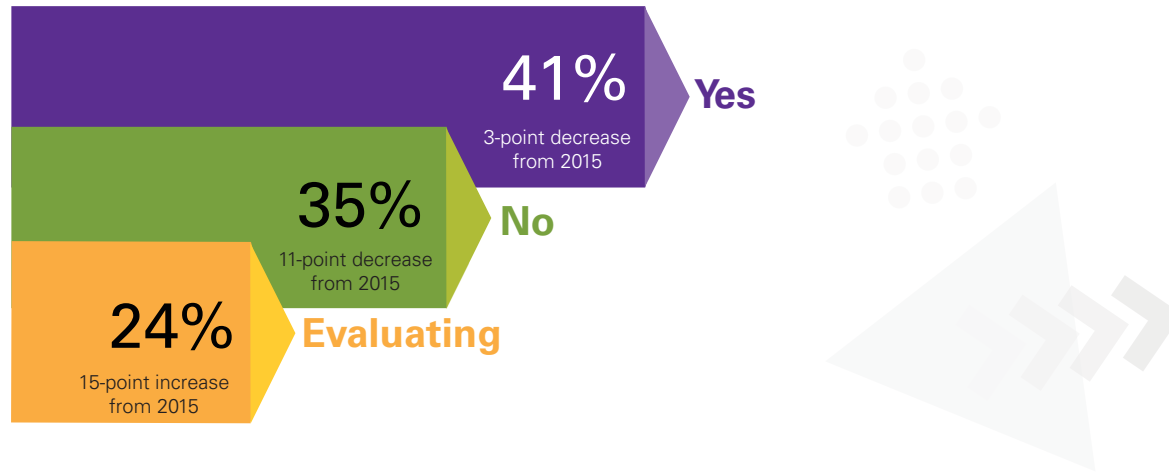
TOP FOUR DRIVERS FOR DEPLOYING SECURE TEXT MESSAGING



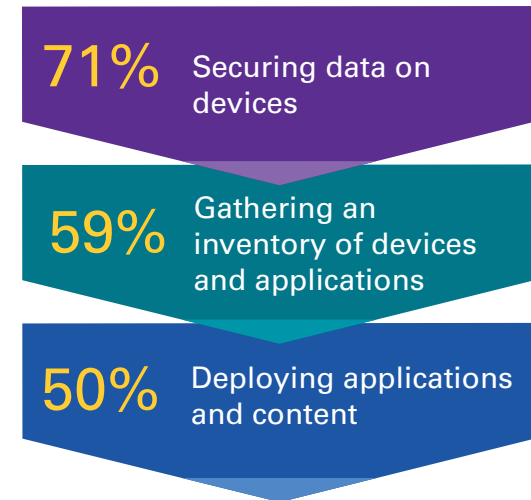
² The 2015 survey asked about Mobile Device Management (MDM), while this year we asked about enterprise mobility management (EMM) solutions. While these two terms are not identical, for the purposes of this survey they are being compared on an equal basis.

³ <http://www.himss.org/news/himss-2016-cybersecurity-survey-finds-providers-are-enhancing-cybersecurity-programs-improvements>; <http://www.himss.org/hitsecurity>

DOES YOUR HOSPITAL USE AN ENTERPRISE MOBILITY MANAGEMENT (EMM) SOLUTION?



WHAT IS YOUR EMM SOLUTION USED FOR?



CONCLUSION

Mobility is the future of healthcare communications, though the particulars of that future remain in flux. Device diversity is actually increasing as new types of mobile devices are added to the mix and existing tools remain firmly entrenched in the workflows of clinicians. This diversity brings an even greater need for a communications infrastructure that can support clinical mobility and make care team coordination easier and faster.

Mobile strategy plans and use cases continue to grow, with an emphasis on smartphones and apps. However, there is a large gap in infrastructure to support the strategy and devices, including wireless network coverage and EMM solutions. This gap will be critical for hospitals to address in an effort to mitigate security risks and enhance communications. Many of the goals stated on page 4 are critically dependent upon these infrastructure components.

Hospitals and health systems continue looking for ways to bring systems and applications together in an integrated framework and are beginning to turn more often to outside experts for help. Consultants are an appealing solution to solve two challenges: They can offer guidance and knowledge of industry best practices when designing mobility projects, as well as help supplement team resources and complete much of the groundwork during implementations.

Hospitals allowing some form of BYOD program are in a steadily shrinking majority, possibly as a result of the additional risks involved with data security. The number of organizations using EMM to coordinate end-user mobile devices remains relatively steady, though the proportion that are evaluating this solution jumped, suggesting more interest in enterprise-wide coordination of all devices and securing information access.

Overall, having a mobility strategy is becoming more important to help project managers, tasked with handling the organization's mobile programs, get their arms around this diversity and begin to manage the mix with integrations, access, and security as their drivers.



ABOUT SPOK, INC.

Spok, Inc., a wholly owned subsidiary of Spok Holdings, Inc. (NASDAQ: SPOK), headquartered in Springfield, Va., is proud to be the global leader in critical communications for healthcare, government, public safety, and other industries. We deliver smart, reliable solutions to help protect the health, well-being, and safety of people around the globe. Our customers send over 100 million messages each month through their Spok® solutions, and they rely on Spok for workflow improvement, secure texting, paging services, contact center optimization, and public safety response. When communications matter, Spok delivers.

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