



2017 U.S. Telemedicine Industry Benchmark Survey

April 2017

During December 2016 and January 2017, REACH Health conducted the 2017 U.S. Telemedicine Industry Benchmark Survey among healthcare executives, physicians, nurses and other professionals throughout the United States. Four hundred and thirty-six (436) individuals participated in this survey, a 12% increase from the 2016 survey. Participants provided input related to their priorities, objectives and challenges, telemedicine program models and management structures, clinical specialties, service lines and settings of care, and their telemedicine platforms. This third annual report examines the survey results, including detailed findings such as the telemedicine program attributes that are most highly correlated with success. Customers of REACH Health comprised 4% of total survey participation.

Summary of Findings

- ⊕ Telemedicine continues to evolve from a specialty offering to a mainstream service. Nearly half of hospital and IDN respondents who began their telemedicine programs/initiatives with a departmental approach are transitioning to an enterprise approach.
- ⊕ For the second year in a row, patient-oriented objectives including improving patient outcomes, improving patient convenience and increasing patient engagement and satisfaction occupy the top three positions as the most common objectives for telemedicine programs.
- ⊕ In addition to patient oriented objectives, reducing cost of care ranks consistently high across objectives and ROI contributors.
- ⊕ Similar to 2016 findings, issues stemming from reimbursement and EMR systems pose the top impediments to telemedicine, accounting for six of the top seven challenges.
 - Reimbursement, both government and private, poses the primary obstacle to success. Even when effective mitigation of challenges is taken into account, reimbursement continues to present the most formidable obstacles.
 - Persistent challenges related to EMR systems were also widely noted in the survey. These include the lack of integration between telemedicine and EMR systems and lack of native telemedicine capabilities in EMR systems. Also noted were challenges posed by the use of multiple EMR systems in heterogeneous telemedicine networks.
- ⊕ Maturity of telemedicine programs varies widely among both service lines and settings of care. In general, settings requiring highly specialized treatment continue to be more mature than those requiring generalized treatment.
- ⊕ Regardless of maturity, all settings and specialties studied exhibit strong activity in terms of planning and preparation for telemedicine programs.
- ⊕ A variety of program attributes were tested in the study and correlated with program success. Some, such as the priority of the telemedicine program as ranked among other hospital priorities, exhibit a predictably strong correlation with success. Others, such as executive support, exhibit only a slight correlation to program success.
- ⊕ Telemedicine platform features were rated based on their value to an organization. Three of the top six platform features are related to telemedicine data: clinical documentation, ability to send documentation to/from the EMR, and ability to analyze consult data. All of these were rated as critical or valuable by nearly 80% of respondents.

Supporting metrics for these and other key findings are examined in further detail in the subsequent Results Section.

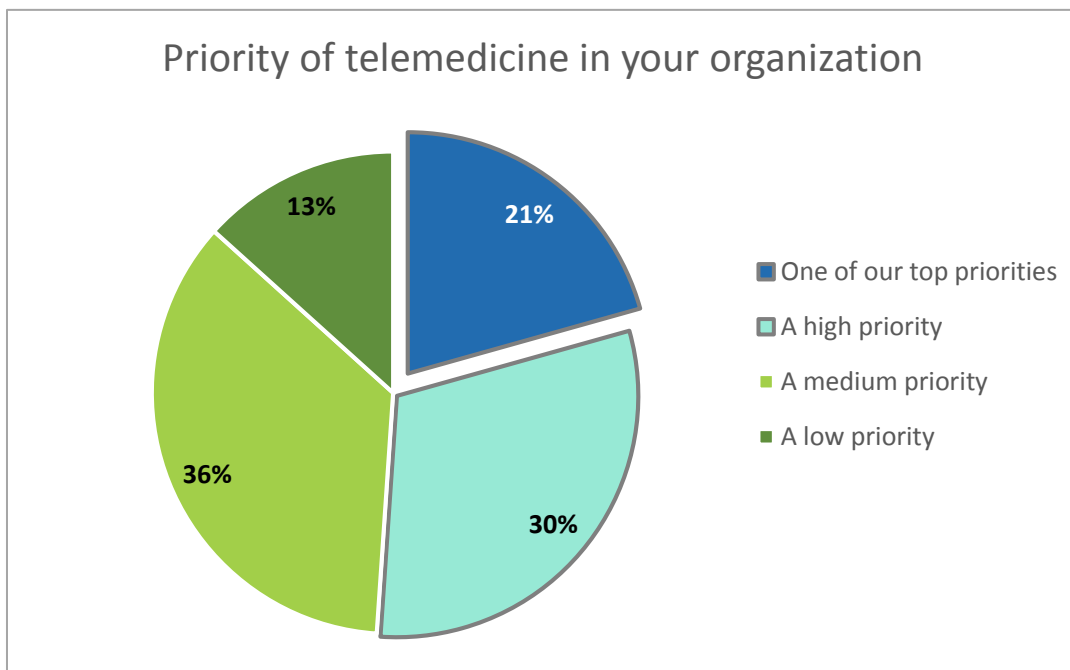
Table of Contents

Summary of Findings	2
Survey Results	4
Telemedicine as a Priority.....	4
Telemedicine Objectives.....	5
Success Factors	7
Telemedicine Program Challenges.....	10
Telemedicine Program ROI Contributors.....	12
Telemedicine Program Maturity and Status.....	14
Settings of Care	14
Medical Specialties and Service Lines.....	16
Enterprise Approach to Telemedicine	18
Telemedicine Program Management	19
Degree of Focus	19
Accountability for Success	20
Physician Coverage Models	20
Telemedicine Program Assets.....	22
Telemedicine Platforms	23
Use of EMR Systems.....	24
Telemedicine Platform Features	25
Participant Demographics	26
Organization Types	26
Organization Sizes.....	27
Telemedicine Program Models.....	27
Telemedicine Programs Geographic Scope	28
Conclusion	29
About REACH Health	29

Survey Results

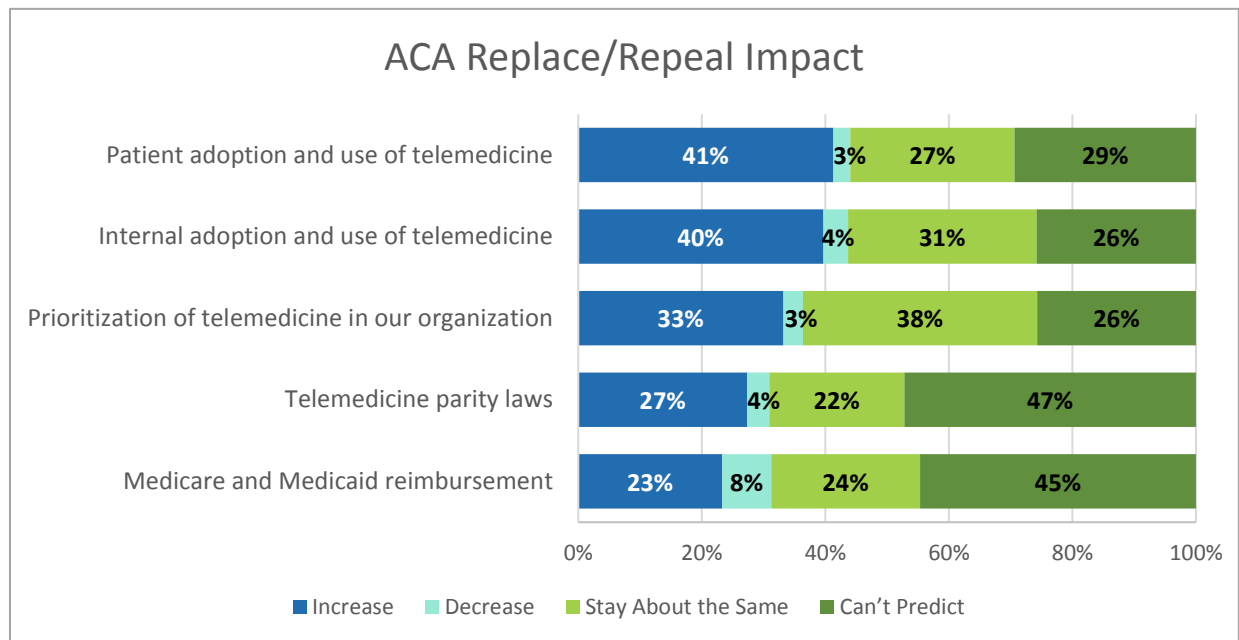
Telemedicine as a Priority

Telemedicine continues to mature and evolve, due in part to a growing population of aging and unhealthy individuals, coupled with an increasing shortage of specialist physicians. Slightly more than half of survey participants noted telemedicine as a top priority or high priority.



Interestingly, this represents a slight decrease in priority ranking from the 2016 survey. This is seen as a sign of continuing evolution and maturation of telemedicine, moving from ad-hoc project status to a mainstream service for many providers. This shift in priority could also be related to uncertainty regarding the future of the Affordable Care Act (ACA) and potential changes to Medicare and Medicaid funding.

In fact, survey respondents were asked how they expect the potential overhaul, replacement, or repeal of the ACA to impact their telemedicine programs. The responses indicate quite a bit of uncertainty with “Can’t Predict” accounting for 26 to 47 percent of the responses to the various potential impacts (see chart below). However, answers also suggest an overall positive outlook, with only a small percentage of participants indicating they expected a decrease in the various areas. Note that the survey was completed before specific legislative changes were proposed in February and March of 2017.

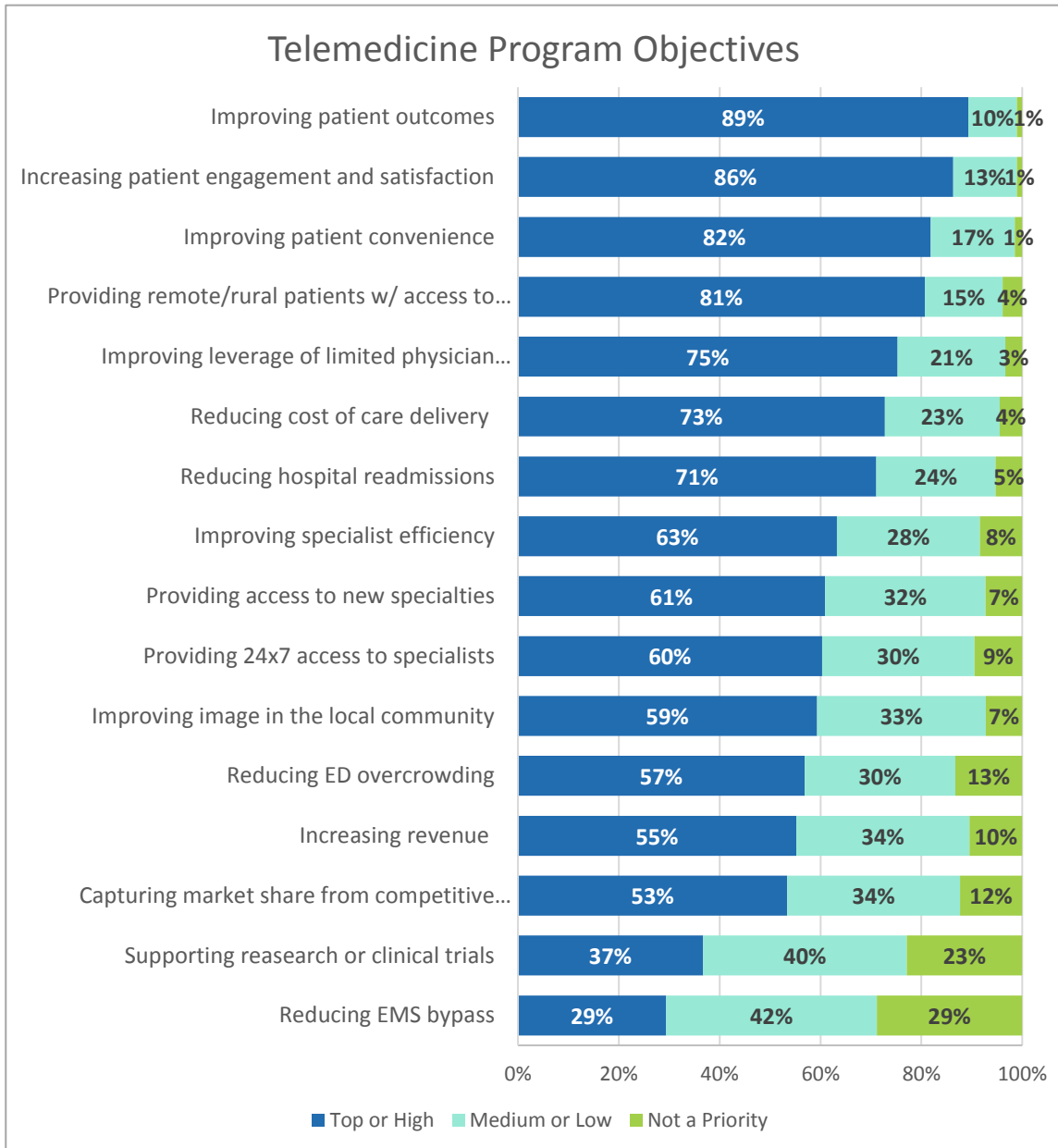


Telemedicine Objectives

Respondents were asked to rate their telemedicine program priorities. We expanded “Improving financial return” in 2016 to two options: “reducing cost of care” and “increasing revenue” in 2017.

From most common to least common, telemedicine program objectives can be categorized as follows:

1. Patient oriented - access, convenience, satisfaction and outcomes
2. Improving leverage and efficiency of limited physician resources
3. Reducing readmissions and cost of care
4. Improving image in the local community
5. Improving financial performance
6. Reducing EMS bypass.

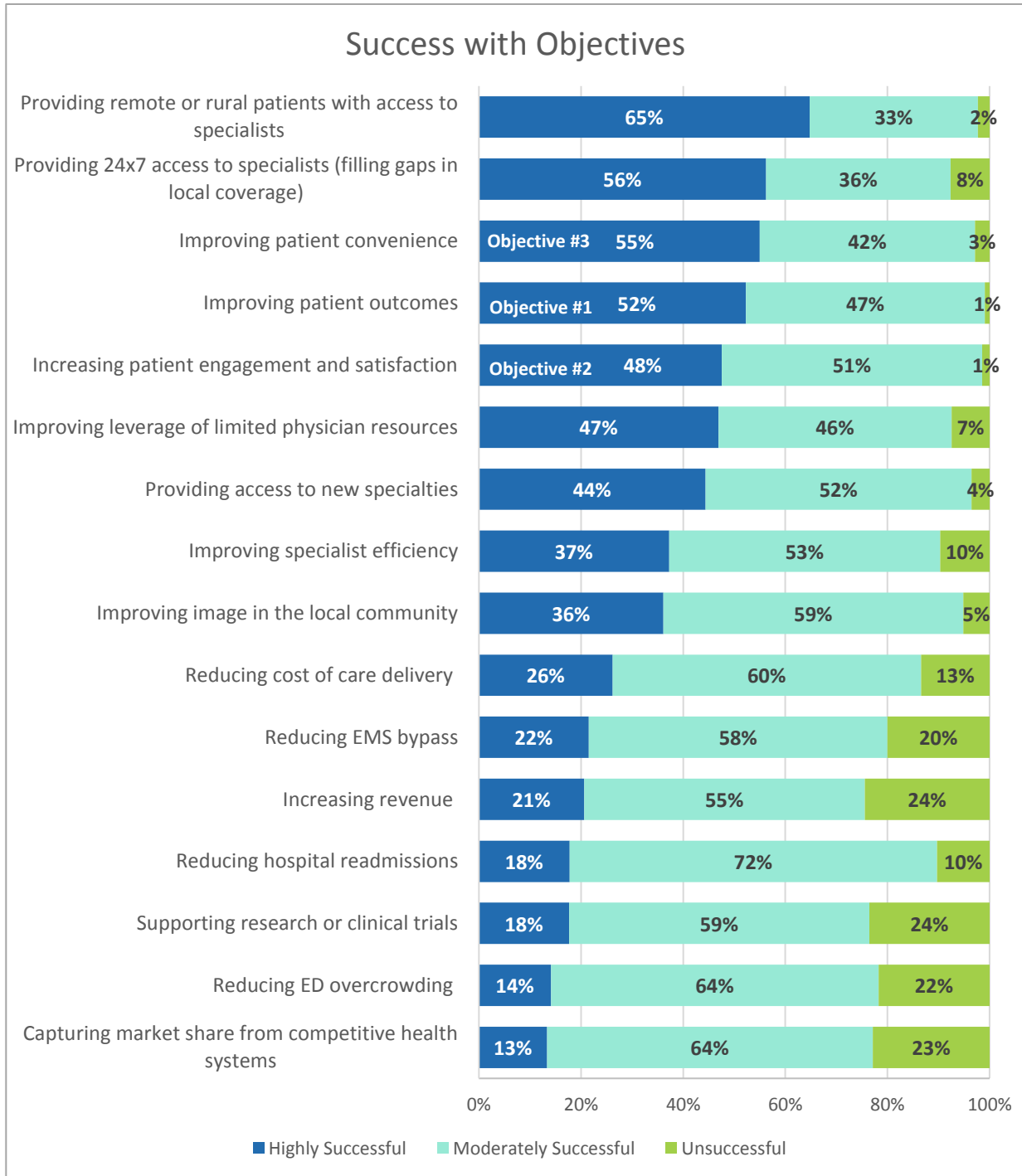


Key Takeaways

- ⊕ Patient-oriented objectives top the list as most common objectives for telemedicine programs, continuing the patient-oriented trend of past years. Improving patient outcomes, increasing patient engagement and improving patient convenience occupy the top three positions as the most common objectives for telemedicine programs again in 2017.
- ⊕ There is an emphasis on better leveraging specialists with almost two-thirds of respondents ranking these a top or high priority.

Success Factors

Survey participants were also asked to rate their success in achieving objectives:



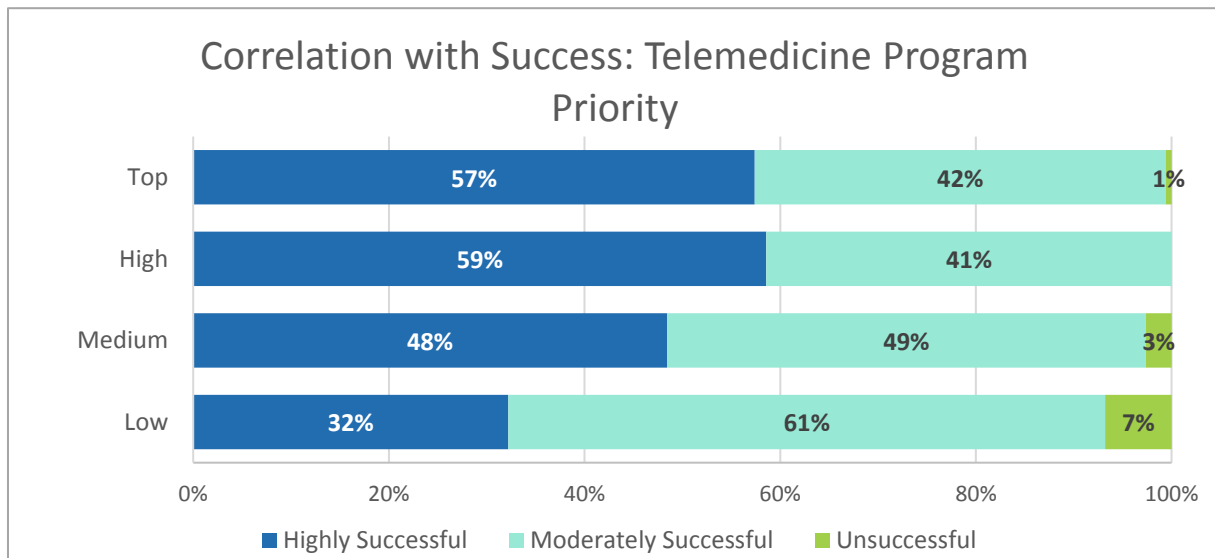
Key Takeaways	<ul style="list-style-type: none"> ⊕ Encouragingly, roughly half the respondents indicated a high degree of success with the top three objectives, which are all patient-oriented. ⊕ Financially-oriented objectives, such as reducing cost and increasing revenue, remained challenging for a majority of respondents. Other challenging objectives, such as reducing ED overcrowding and capturing market share, also have important financial implications. ⊕ Respondents had the greatest success in providing remote access to specialists, unsurprising as this is the most mature aspect of telemedicine.
----------------------	---

In addition to assessing success with objectives, a variety of organizational and telemedicine program attributes were tested in the study and correlated with success of the top three objectives:

1. Improving patient outcomes
2. Increasing patient engagement and satisfaction
3. Improving patient convenience.

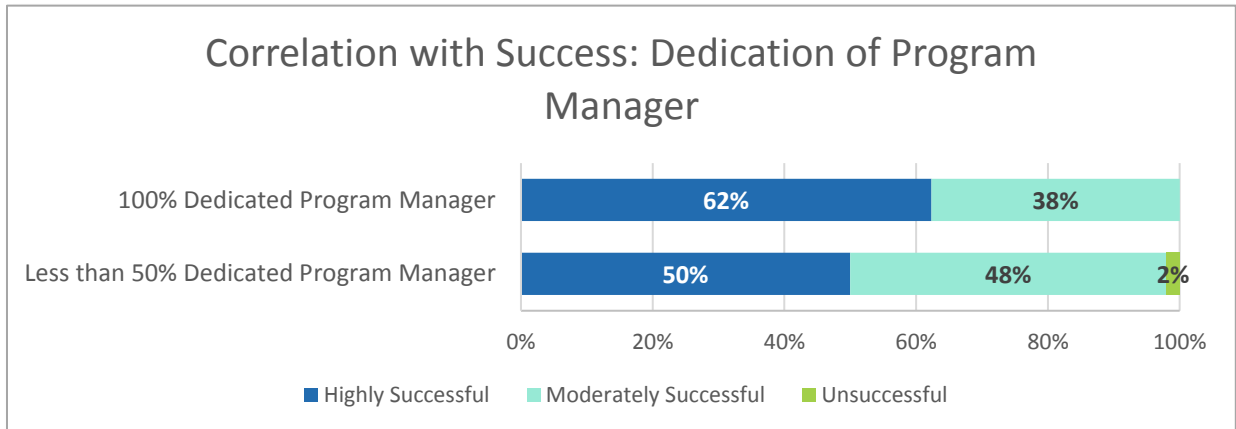
Some attributes exhibit a strong correlation with the success of these three objectives, while others exhibit an unexpectedly low correlation to success.

Not surprisingly, the priority of the telemedicine program, as ranked among other provider priorities, exhibits a strong correlation with success.



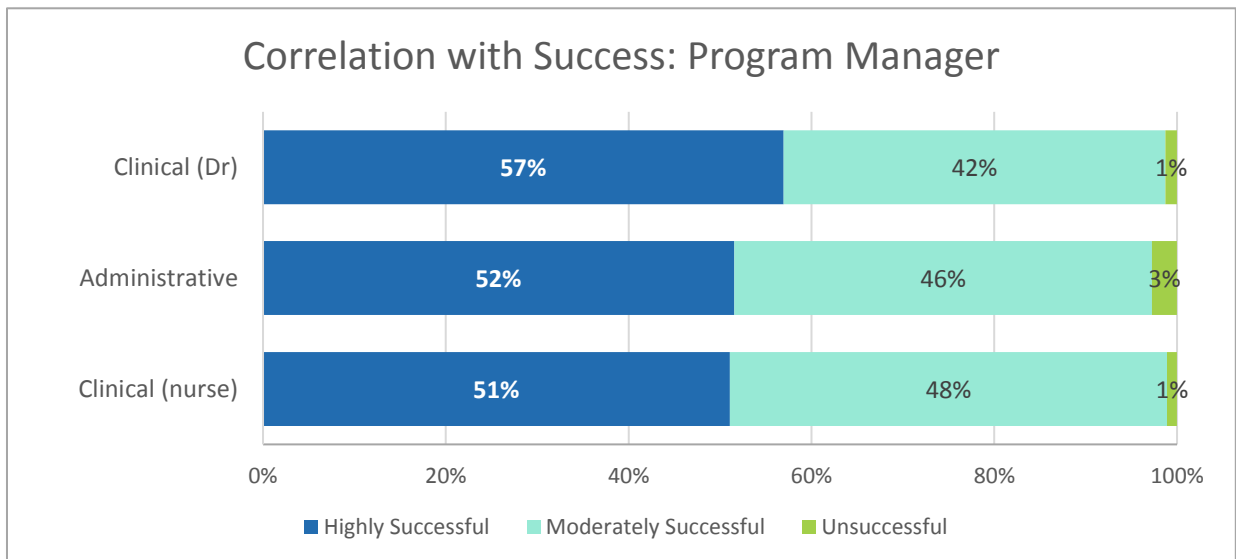
Key Takeaway	<p>Telemedicine programs ranked as a top priority are 56% more likely (57% vs. 32%), to be highly successful than those ranked as a low priority.</p>
---------------------	---

One of the keys to success, suggested by many telemedicine program experts, is the designation of a full-time, dedicated program coordinator or manager. The survey results from both 2015 and 2016 showed measurable support for this anecdotal observation and again in the 2017 results.



Note: This data is filtered for hospitals and IDNs only to allow for a more accurate year over year comparison.

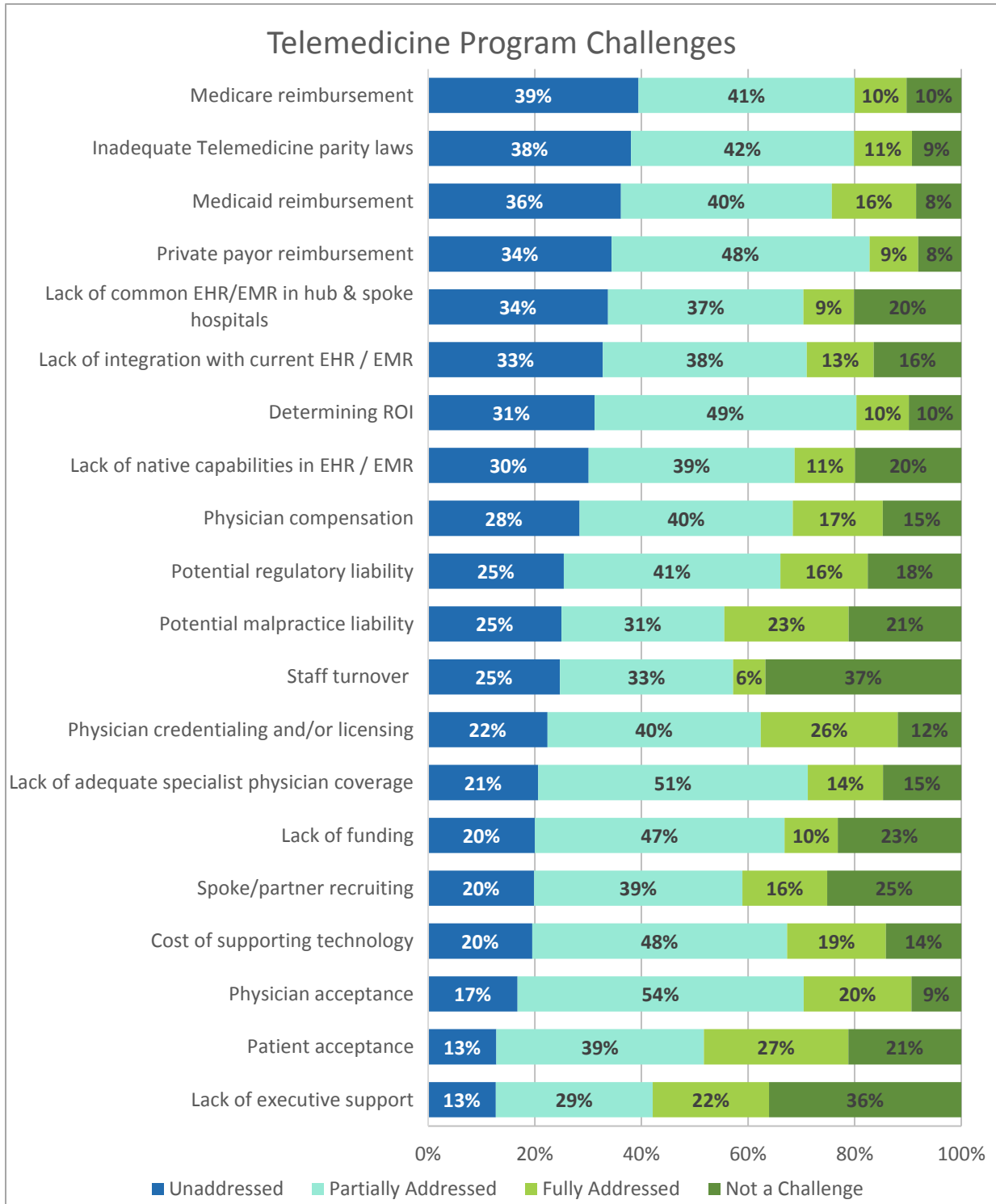
Key Takeaway	Telemedicine programs with a dedicated program coordinator or manager are 20% more likely to be highly successful than those with a program manager or coordinator that spends less than half of their time focused on the program.
---------------------	---



Key Takeaway	The role (administrative vs. clinical) of the person with primary responsibility for the telemedicine program has only a nominal impact on success.
---------------------	---

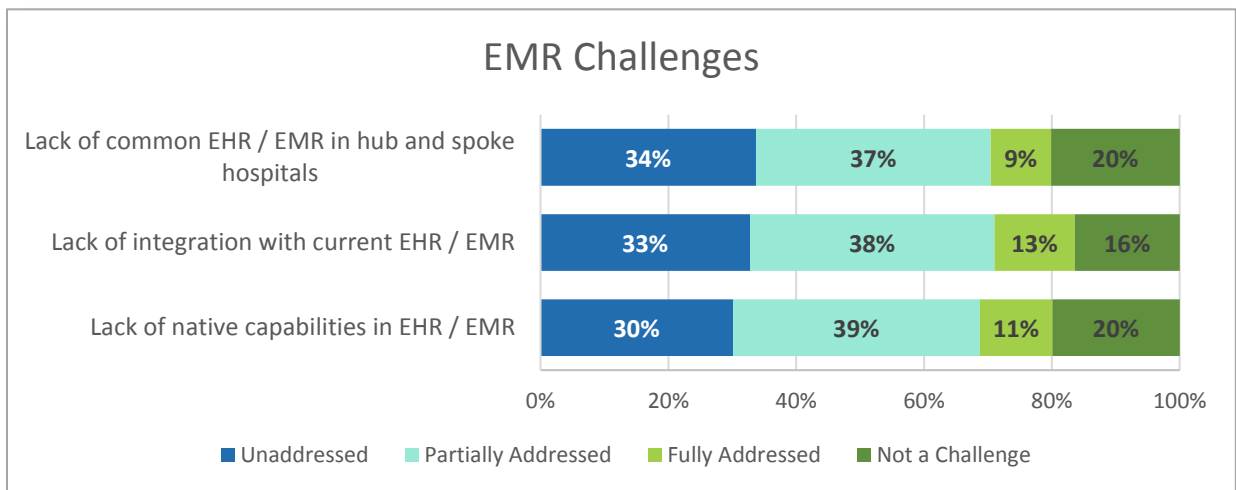
Telemedicine Program Challenges

Survey participants identified and ranked their challenges in terms of those that remain unaddressed, partially addressed, fully addressed or not a challenge.



Key Takeaways	<ul style="list-style-type: none"> ➤ Reimbursement, both government and private, continues to create the most significant obstacles to success, accounting for the top four unaddressed challenges to telemedicine. ➤ Challenges related to EMR systems also create significant obstacles to success, accounting for three of the next four unaddressed challenges. ➤ In spite of the ongoing challenges related to reimbursement and EMR systems, healthcare providers continue to actively plan, implement and expand telemedicine programs. See “Telemedicine Program Maturity and Status” below. ➤ Determining ROI continues to be elusive for many organizations even though 73% of respondents identified reducing cost of care as one of their Top or High priorities for telemedicine. ➤ Physician compensation remains relatively high on the list of challenges, possibly related to parity law challenges, noted as one of the greatest challenges to telemedicine programs. ➤ Amidst other telemedicine challenges faced by healthcare providers, patient acceptance continues to be consistently ranked as one of the least challenging.
----------------------	---

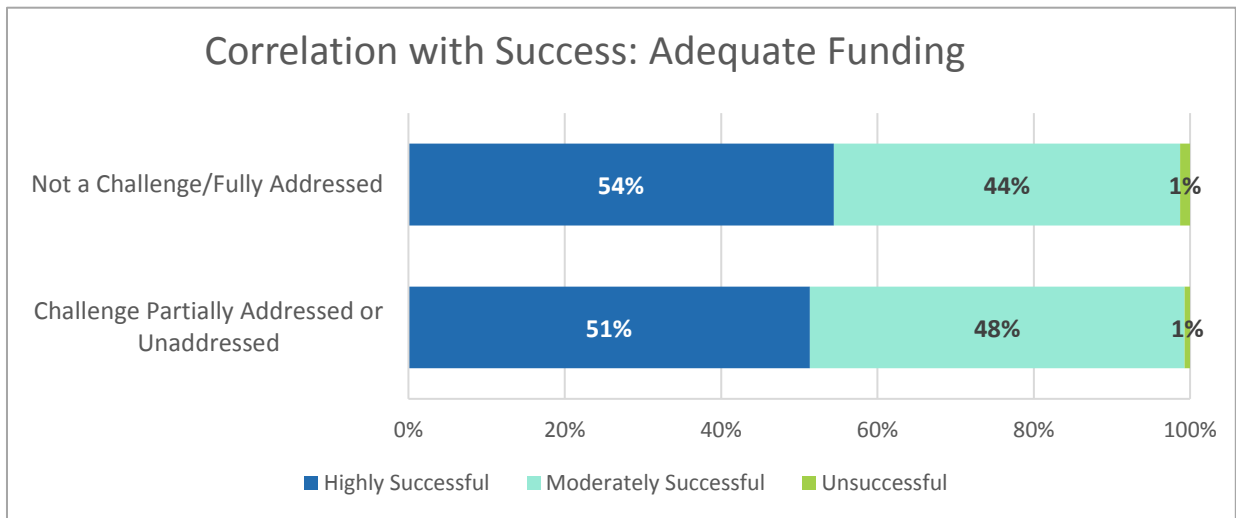
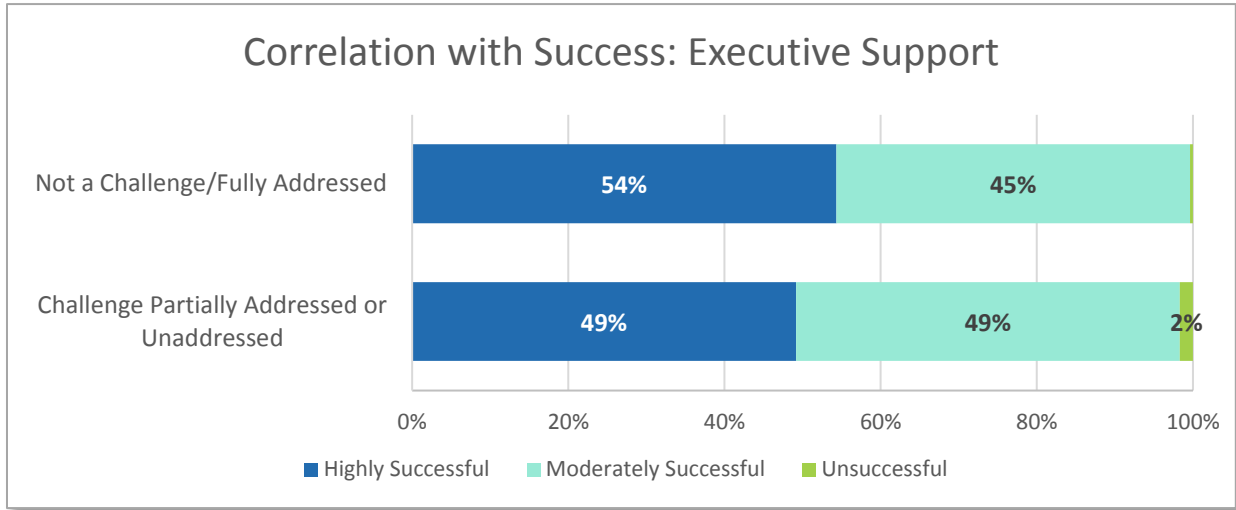
An increasing percentage of respondents continue to identify EMR challenges as unaddressed, than do respondents who identify those challenges as fully addressed.



Key Takeaways	<ul style="list-style-type: none"> ➤ EMR challenges continue to plague providers with the percentage that fall into partially addressed or unaddressed rising from 2016 to 2017. ➤ EMR challenges were identified as unaddressed by more than two times the number of respondents who indicated they have been fully addressed.
----------------------	---

Both executive support and the adequacy of funding were also tested for correlations with success of the top three objectives:

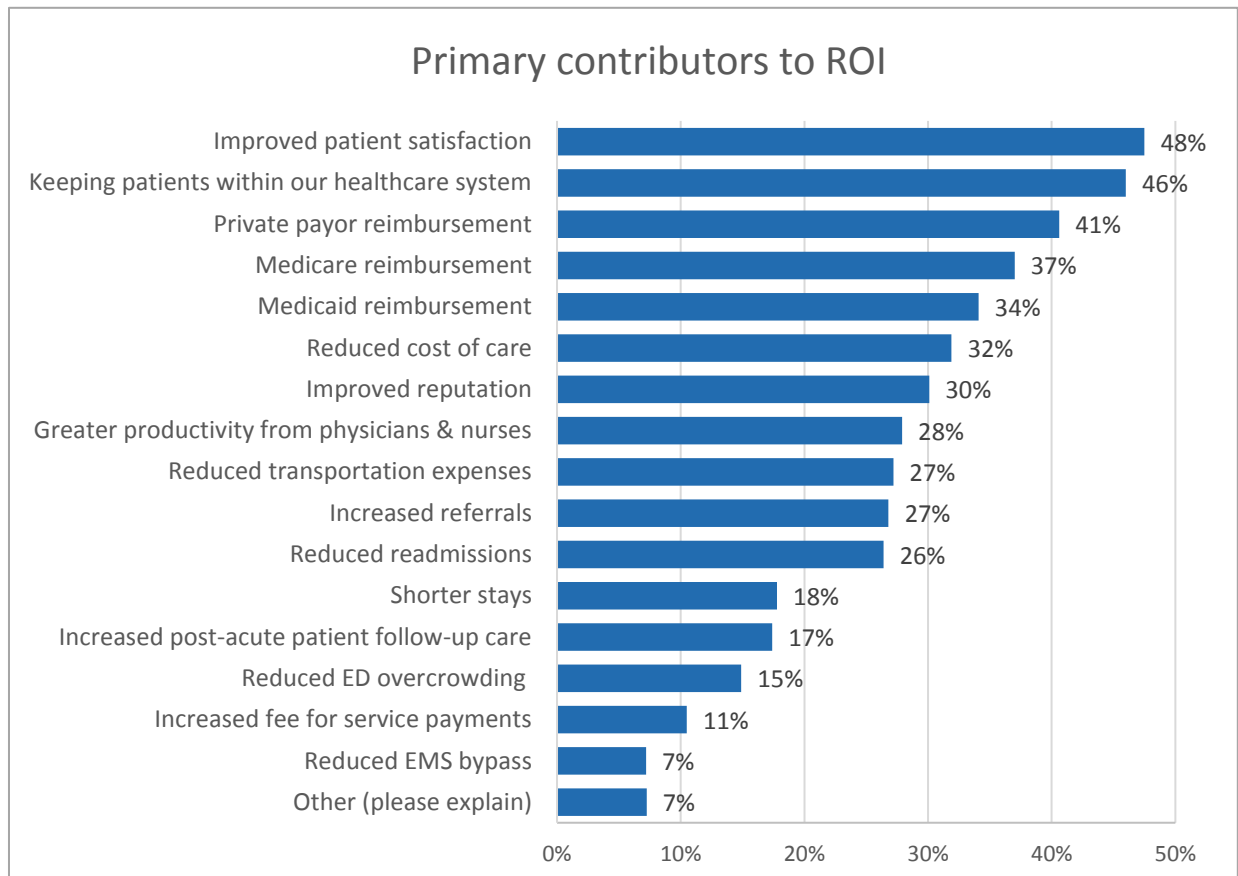
1. Improving patient outcomes
2. Increasing patient engagement and satisfaction
3. Improving patient convenience.



Key Takeaway	<p>While executive support and the adequacy of funding can both be correlated with program success, both seem to have only a slight impact.</p>
---------------------	---

Telemedicine Program ROI Contributors

Survey participants provided insight into their key contributors to return on investment (ROI) for their telemedicine programs.



Key Takeaways	<ul style="list-style-type: none"> ➤ In 2015, “Improved Reputation” topped the list. In both 2016 and 2017, “Improved Patient Satisfaction” was most commonly noted as a contributor to ROI. ➤ Based on ad-hoc responses in the 2016 survey, “Keeping patients within our healthcare system” was added to the answer options for 2017 and came in at number two.
----------------------	--

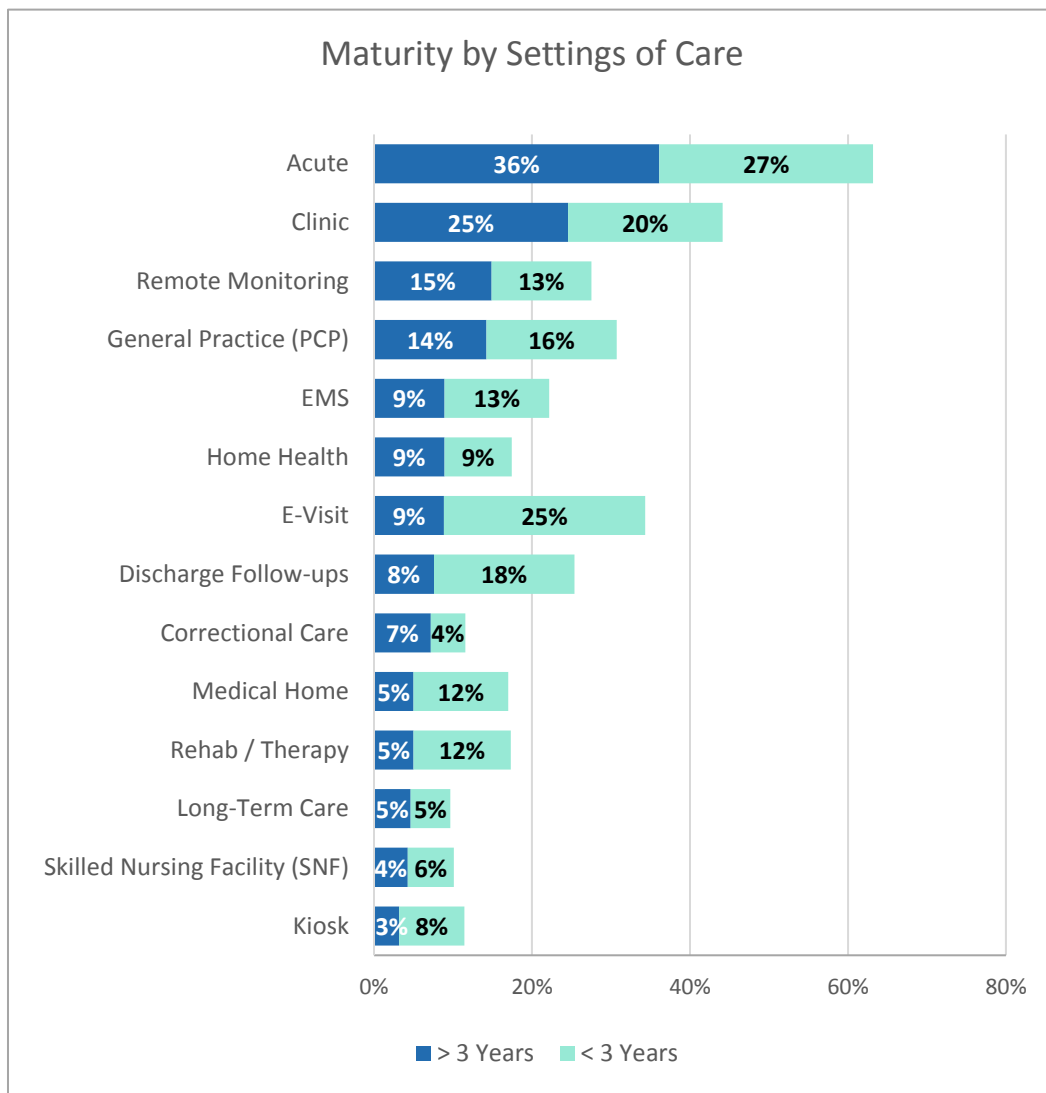
Other ROI contributors noted by survey participants included:

- “Providing immediate consultative access in life threatening conditions, thus reducing time to definitive care and improving outcomes”
- “Keeping patients closer to home and their support systems”.

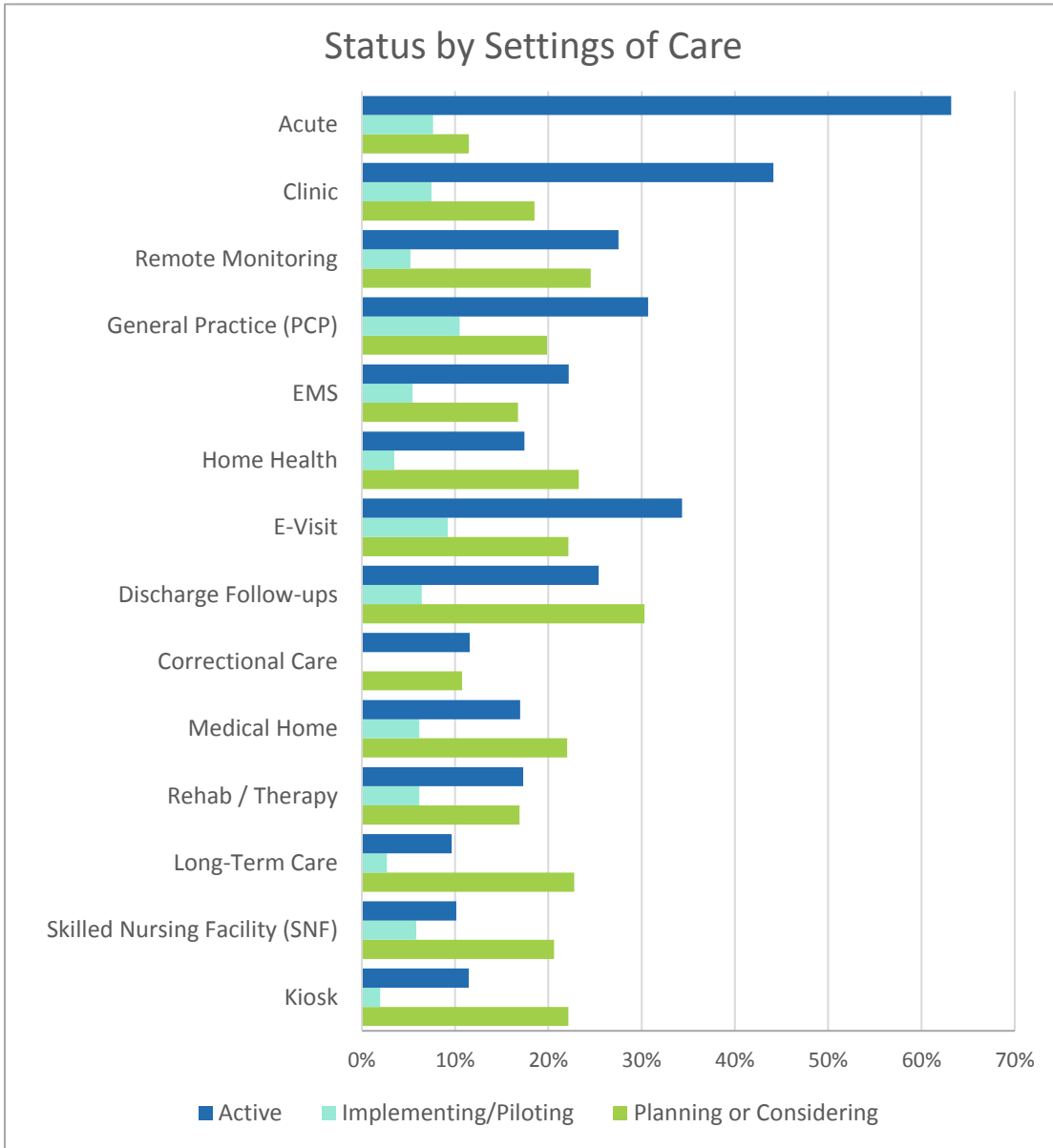
Telemedicine Program Maturity and Status

Settings of Care

As noted in previous years, the maturity of telemedicine programs varies widely among settings of care. In general, settings requiring highly specialized treatment are more mature than those most often requiring more generalized treatment. The exceptions are E-Visits and General Practice Physicians, both of which have grown rapidly during the last three years.



With a deeper look at the status of telemedicine programs, responses indicate that regardless of maturity, activity remains high in terms of implementation and planning across all care settings.

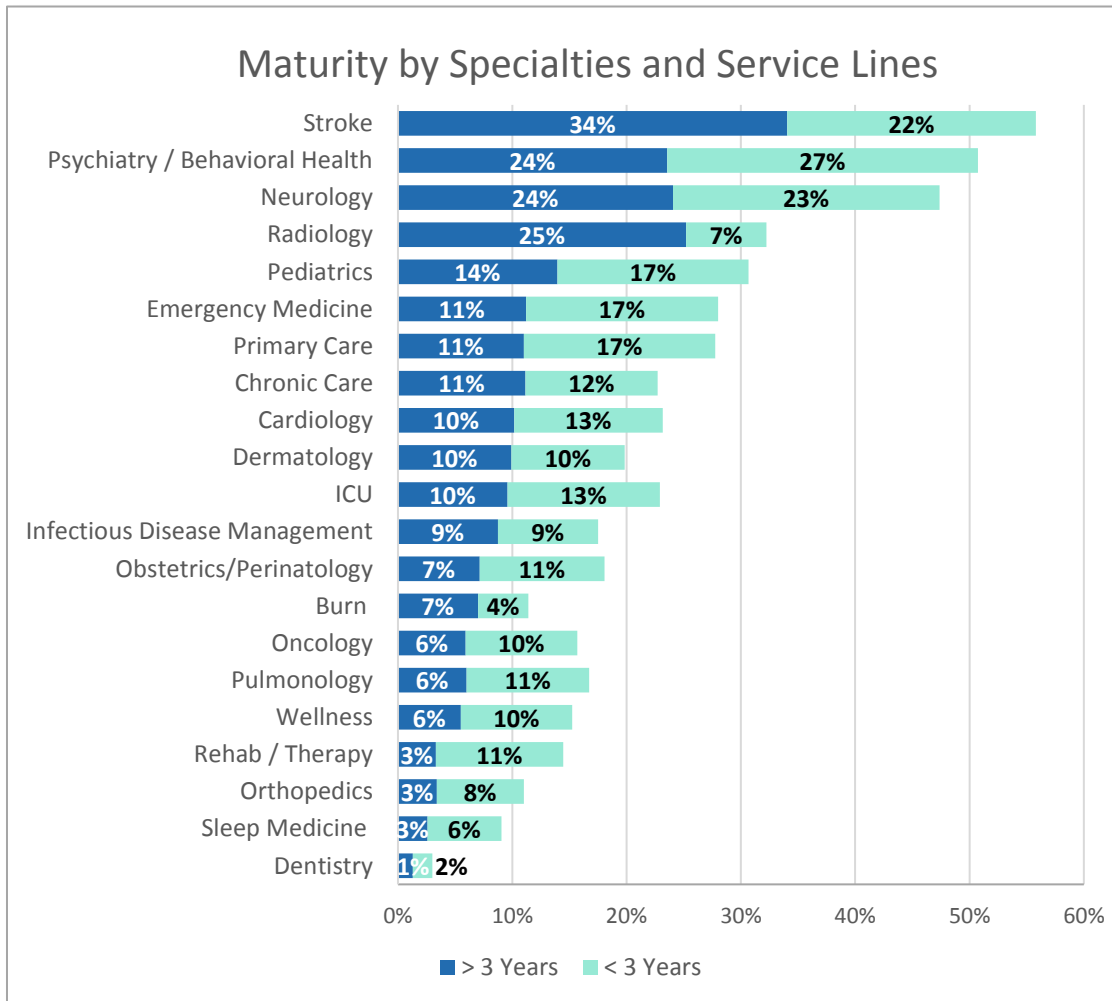


Key Takeaways

- All care settings, regardless of maturity, continue to show strong growth with competition for patients, improved patient experience and outcomes on the rise.
- The Acute Care and Clinic settings continue to mature. Both exhibit a small drop in respondents in the Planning phase compared to 2016.
- Active E-visit programs grew by 40% in 2017, and General Practice also saw strong growth as well.

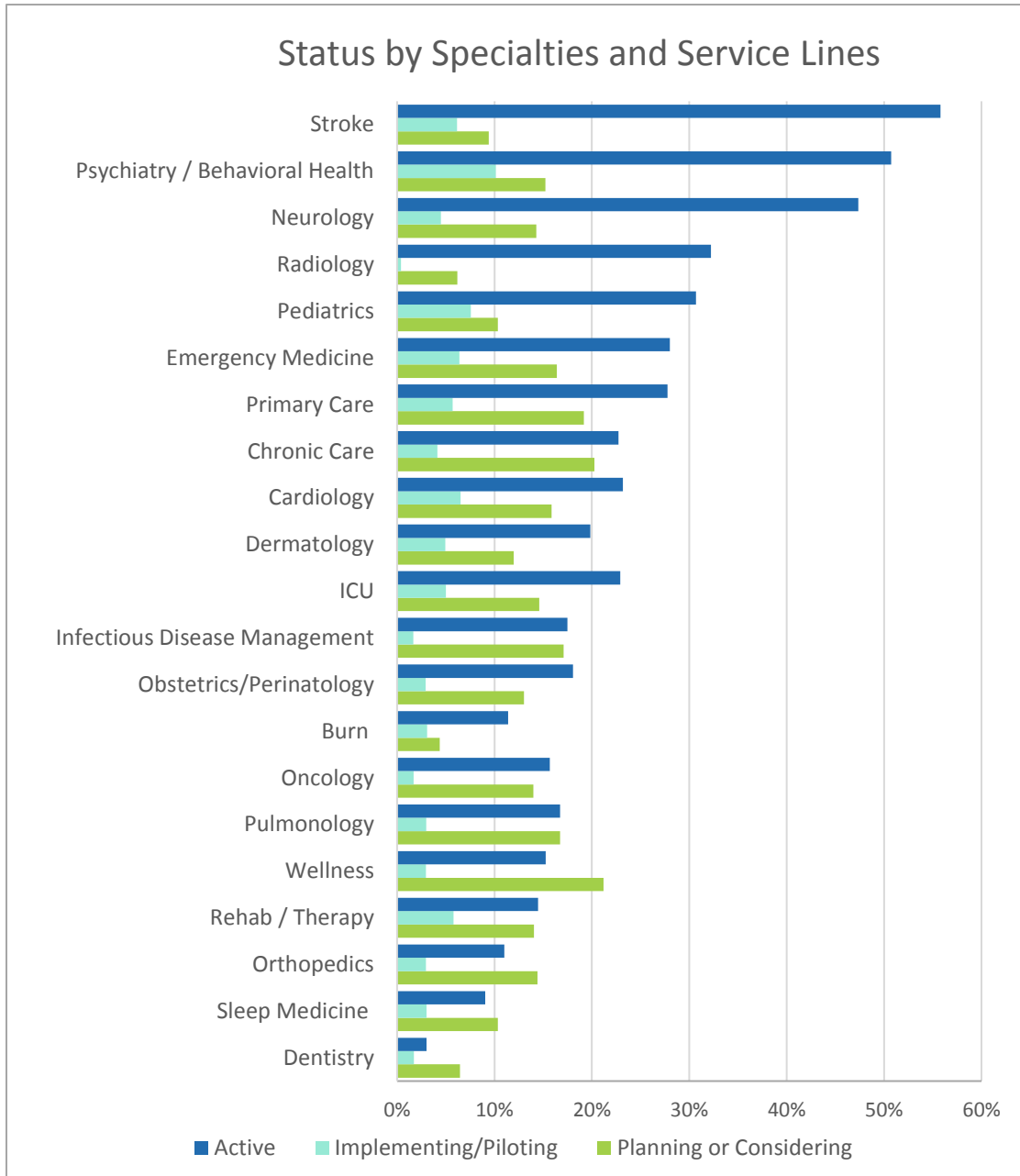
Medical Specialties and Service Lines

The maturity of telemedicine programs also varies widely across specialties and service lines.



Key Takeaways	<ul style="list-style-type: none"> ➤ Similar to settings of care, in general, service lines requiring access to specialists, especially those in increasingly short supply, are maturing more rapidly than the more generalized service lines. By 2020, the Association of American Medical Colleges estimates shortages of 45,000 primary care physicians and 46,000 surgeons and specialists. ➤ Note that only four service lines—Stroke, Neurology, Radiology and Burn—have fewer telemedicine implementations during the last three years than prior years.
----------------------	---

A closer look at the status of telemedicine programs across service lines also indicates a pattern similar to the settings of care analysis.

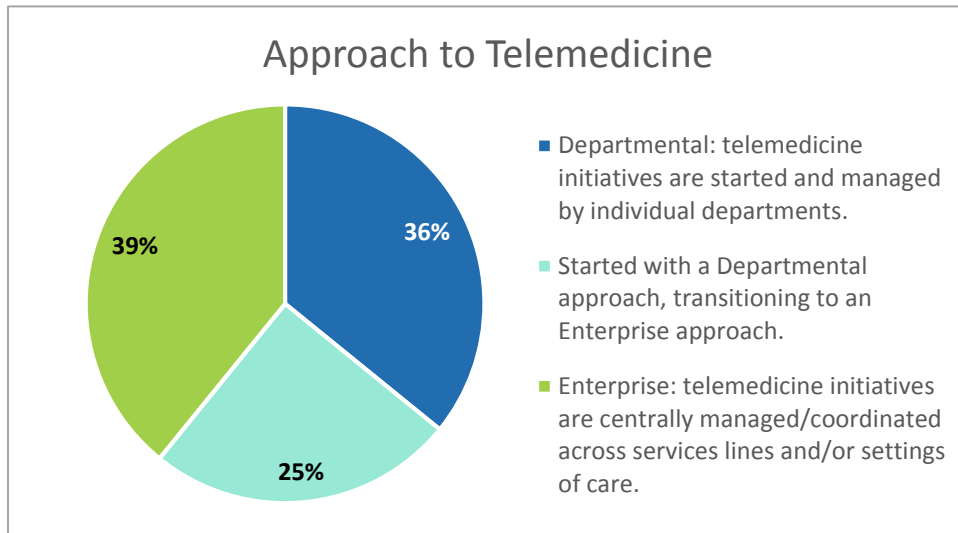


Key Takeaways

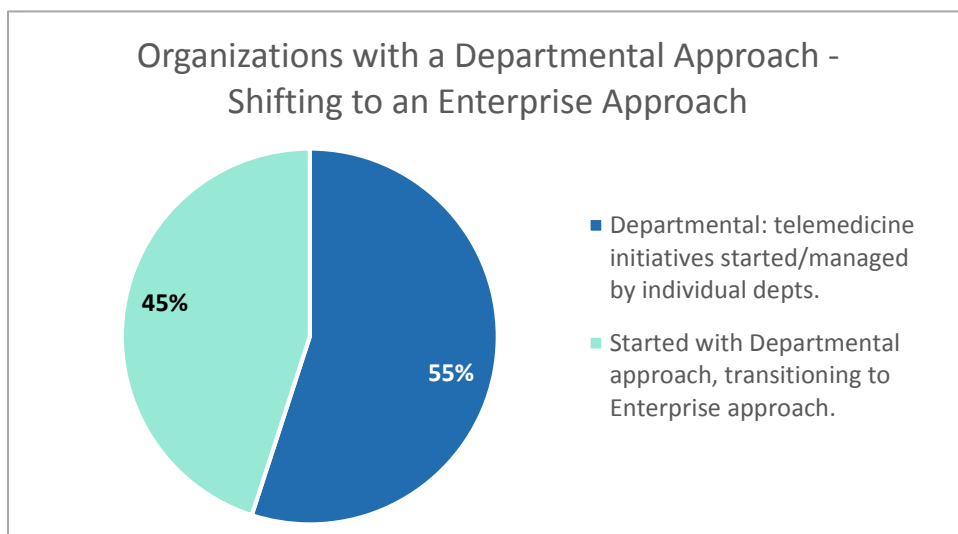
- Similar to settings of care, activity remains strong in terms of planning and preparation for all service lines studied.
- Seven service lines (Stroke, Behavioral Health, Neurology, Radiology, Pediatrics, Emergency Medicine, and Burn) are maturing. All exhibit a lower percentage of respondents in the Implementing or Planning phase than in the Active phase.

Enterprise Approach to Telemedicine

As the telemedicine industry continues to mature, there is an increasing trend toward an enterprise approach to telemedicine, with health systems moving more rapidly in this direction compared to stand-alone hospitals. This trend is illustrated in the responses to organizations' current approach to telemedicine, with over one-third of respondents already taking an enterprise approach.



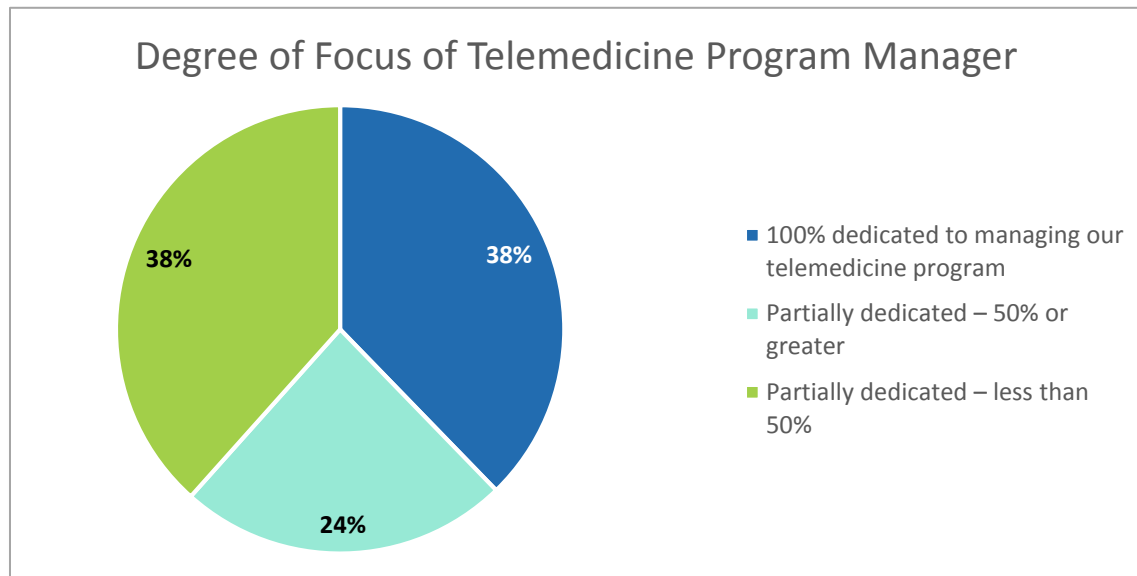
The data also indicates a notable shift from a departmental approach to an enterprise approach – 45% of telemedicine programs that began with a departmental approach are now shifting to an enterprise approach.



Telemedicine Program Management

Degree of Focus

The designation of a full-time dedicated program manager has been correlated to a more successful telemedicine program in past years. The survey results indicate that over one-third of the participating organizations now have a dedicated program manager. This is consistent with the 2016 results.

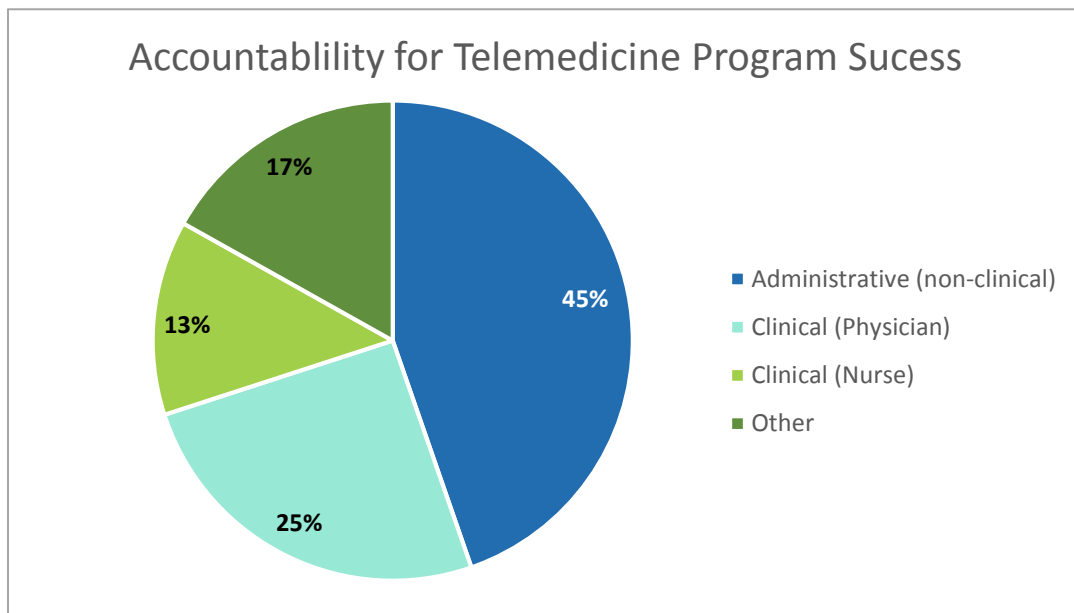


Key Takeaway

Recognition of the importance of a dedicated full-time telemedicine program manager or coordinator is increasing across all settings of care. This is likely due to the high correlation with program success, as noted in 2016 and 2015.

Accountability for Success

Survey participants were asked to indicate the orientation (clinical or administrative) of the person primarily held accountable for the success of their telemedicine program. Administrative (non-clinical) managers accounted for almost half of responses.

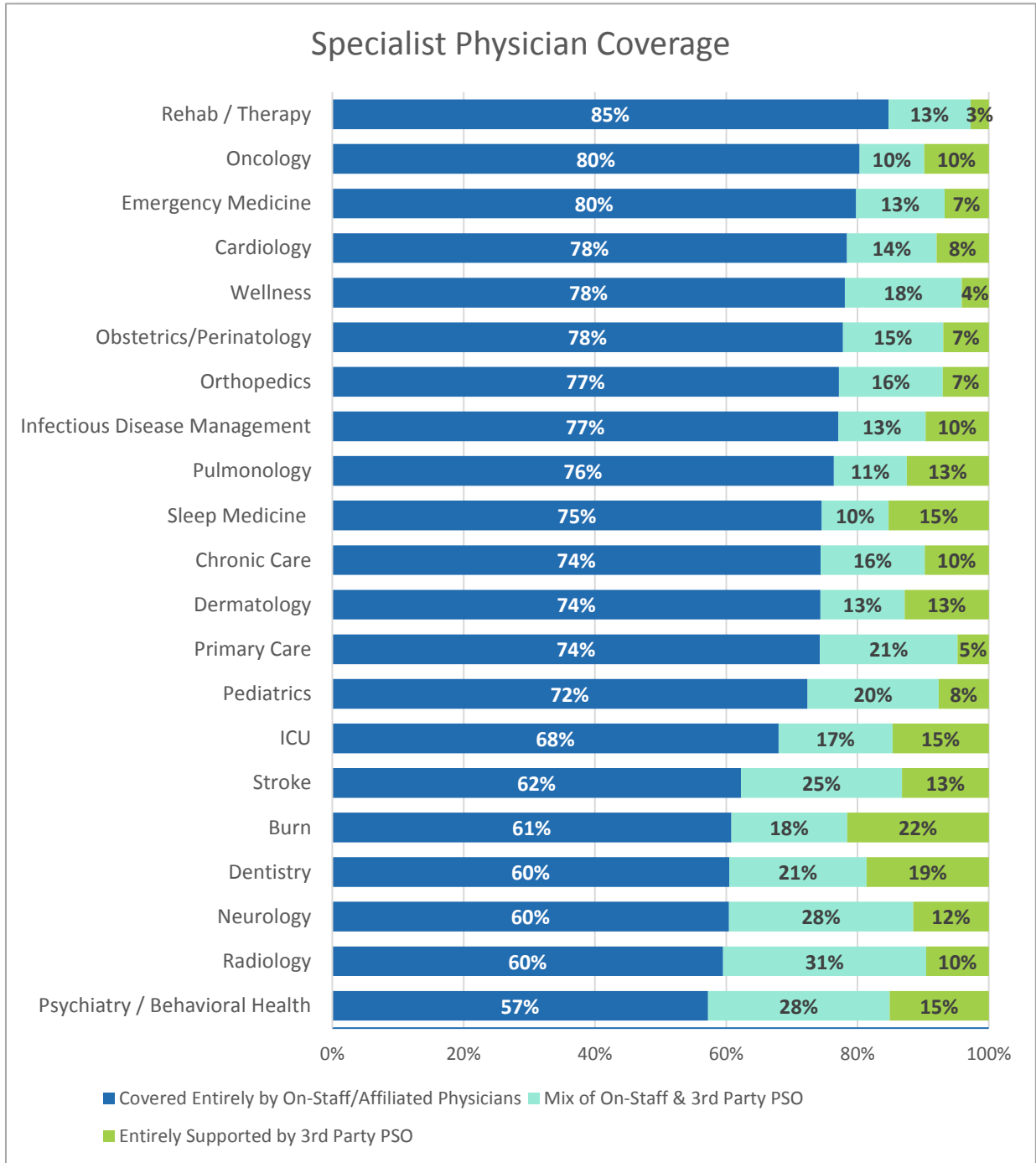


The “Other” option accounted for 17% of participant responses and included a wide range of replies. Numerous answers indicated the telemedicine program is managed via a team. Examples included:

- “Shared between Corporate and Physician” or “Shared between Physician and Administrative”
- “Multi-disciplinary team and administration”
- “Lead by a physician, but day to day management handled by a project manager”.

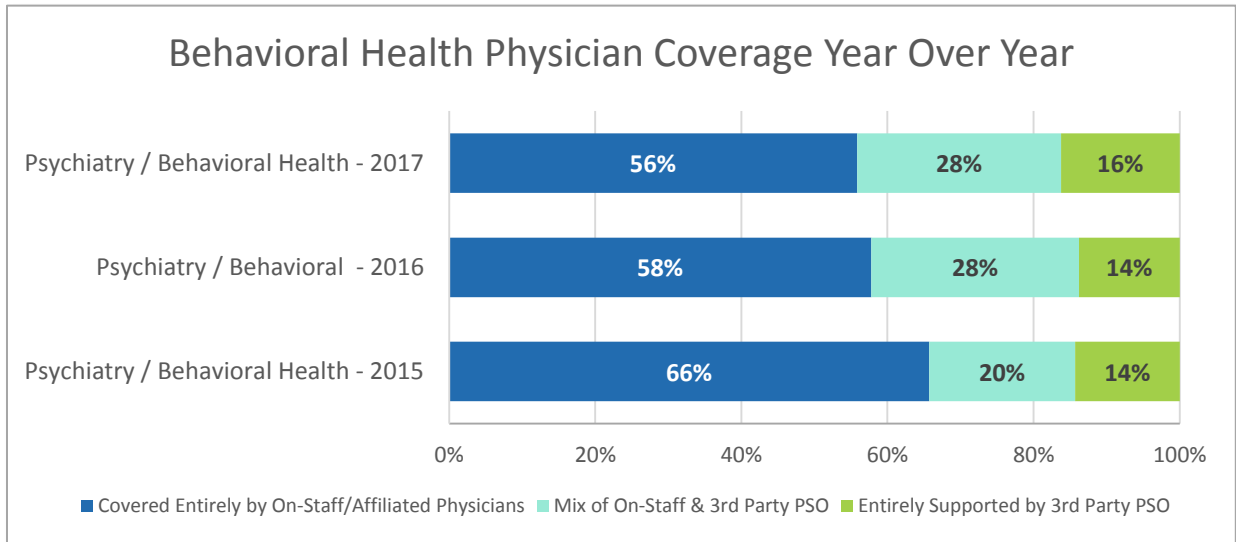
Physician Coverage Models

Survey participants provided insight into their use of third-party physician services to supplement their staff or fully support their telemedicine programs.



Key Takeaway	<p>Overall, all specialties are primarily dependent on internal staff or affiliated physicians for telemedicine physician coverage. Behavioral Health is the only specialty that falls below a 60:40 ratio of internal to third-party physician staffing. These results are consistent with prior years studied (2015 & 2016).</p>
---------------------	--

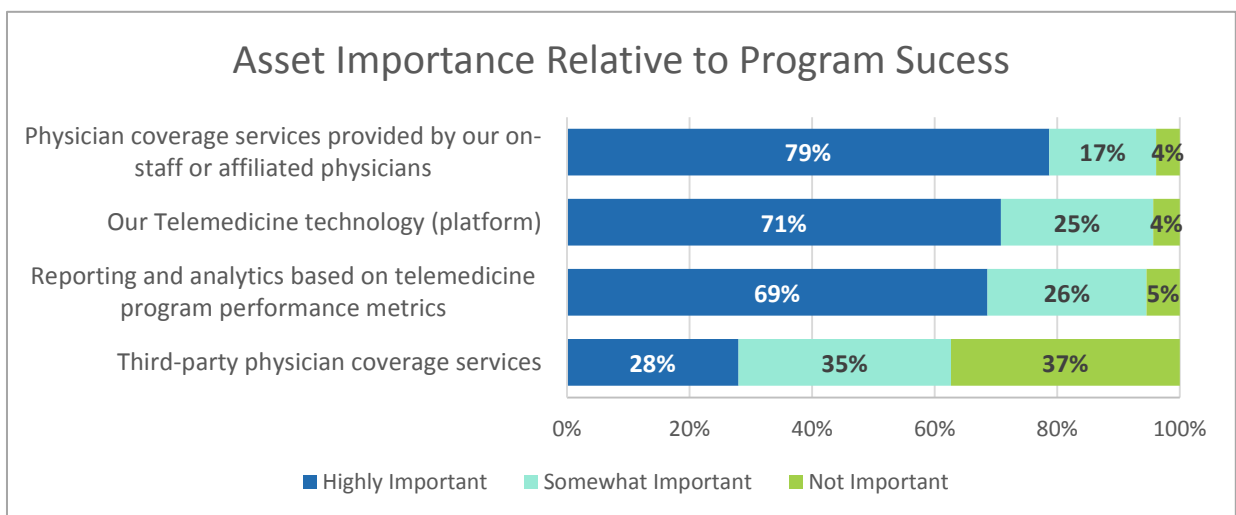
As noted above, Behavioral Health is the only specialty which falls below a 60:40 staffing ratio. In fact, as illustrated in the chart below, Behavioral Health is steadily shifting the mix toward third-party physician coverage.



Note: this data is filtered for hospitals and IDNs only to allow for a more accurate year over year comparison.

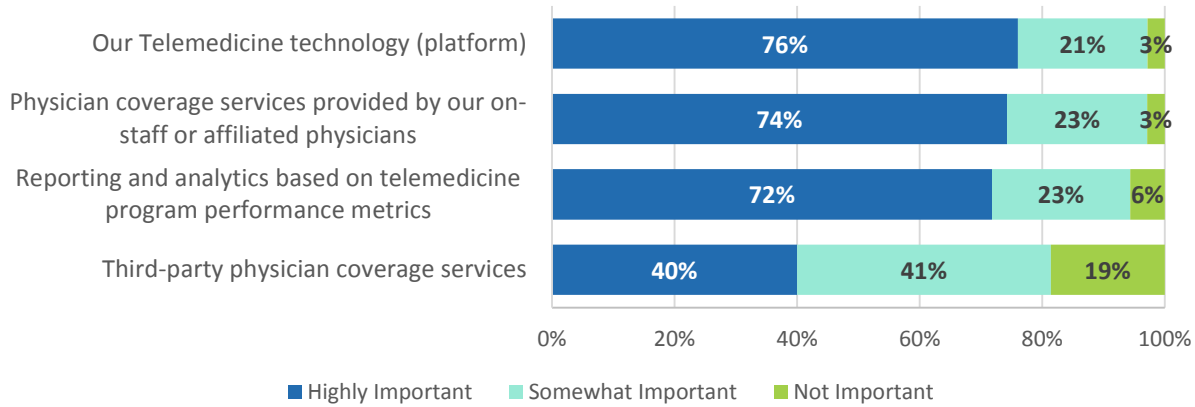
Telemedicine Program Assets

Telemedicine programs are a compilation of assets, each of which are important. This year respondents were asked to rate some of these assets based on their importance relative to program success.



To reduce potential skewing of the responses by organizations that either completely outsource physician coverage or only use in-house doctors, the data was filtered to analyze only organizations that use both in-house physicians and outsourced coverage. As illustrated in the following chart, even when filtered for a more balanced sample, the responses remain similar.

Asset Importance Relative to Program Success



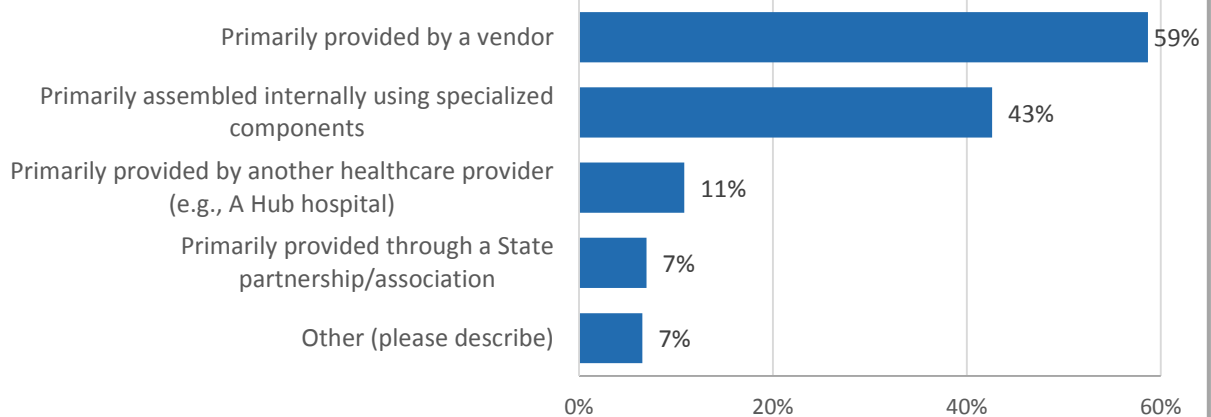
Key Takeaways

- Telemedicine technology, reporting and analytics and in-house physicians are viewed as highly important to the success of telemedicine programs.
- Outsourced physician coverage services are less frequently cited as important to success.

Telemedicine Platforms

Over half of participants indicated their telemedicine platform was primarily purchased or licensed from a vendor.

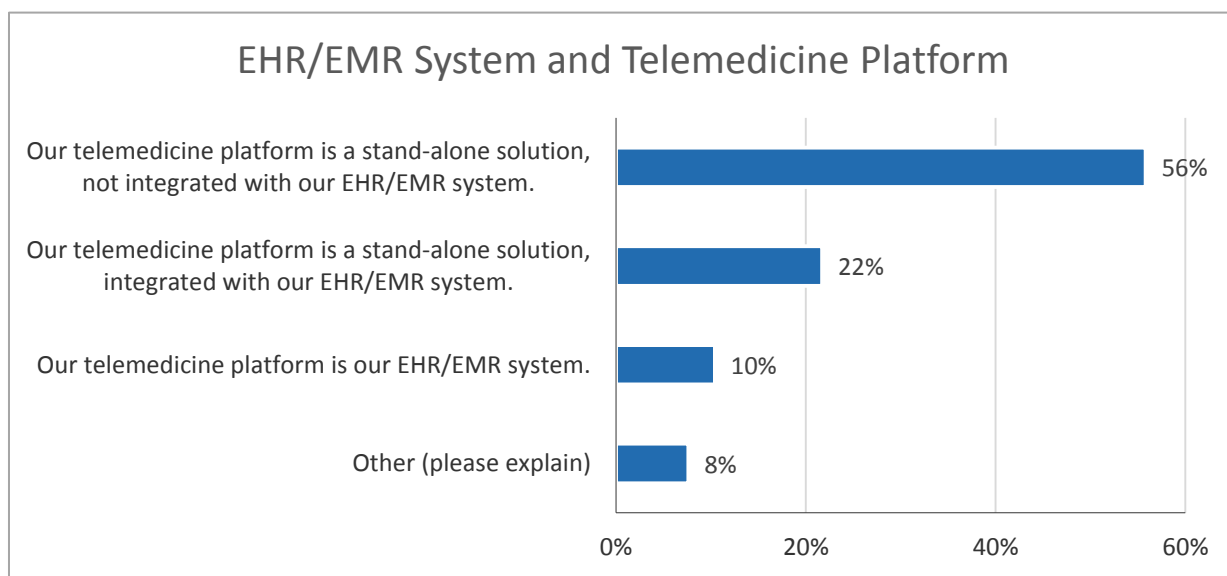
Source of Telemedicine Platform



Key Takeaway	<p>In general, larger organizations are more likely than smaller organizations to build systems internally. However, the survey results indicated that with telemedicine solutions, the mix of “Build vs. Buy” is highly consistent across the spectrum of organizational sizes, with large organizations only slightly more likely to assemble their telemedicine platforms internally.</p>
---------------------	--

Use of EMR Systems

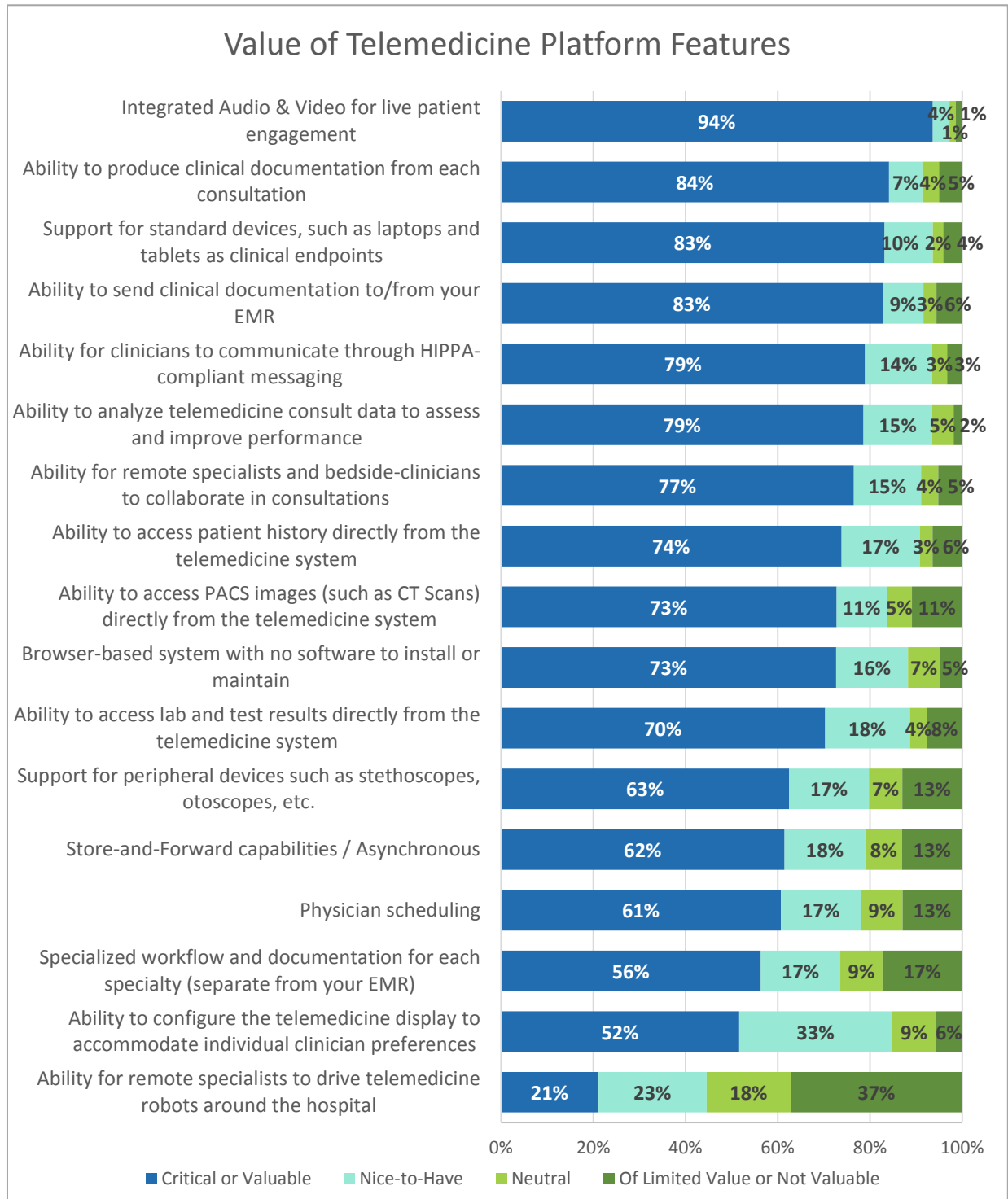
Two-thirds of the survey participants indicated their telemedicine solution is a stand-alone system, not integrated with their EMR system. Only 10% indicated their EMR system serves as their telemedicine system.



Key Takeaway	<p>The majority dependence on standalone telemedicine platforms is likely a reflection of the EMR Challenges noted on page 11.</p>
---------------------	--

Telemedicine Platform Features

We asked participants which features of their telemedicine platform were most valuable to their organization.

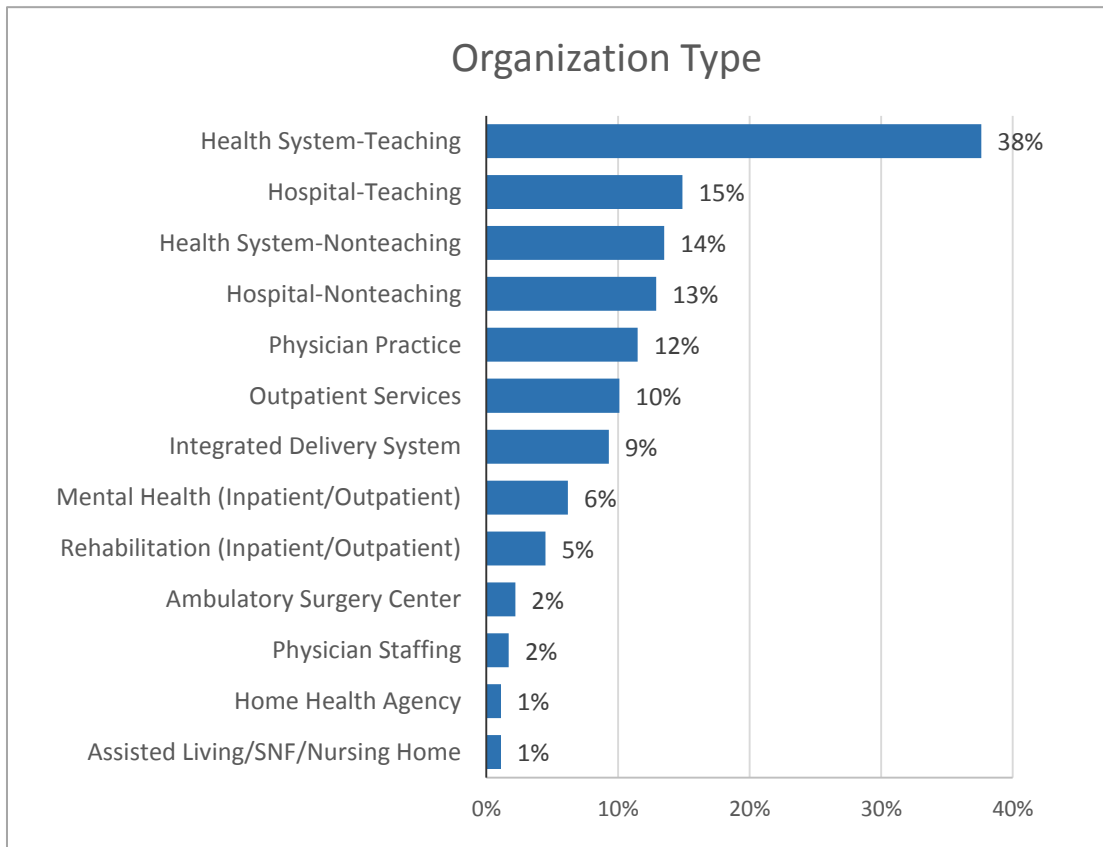


Key Takeaway	<ul style="list-style-type: none"> ➤ Audio/Video was cited most often as critical/valuable. This is unsurprising, as live A/V is often required for reimbursement and is critical in a wide array of examinations and clinical protocols across specialties. ➤ Three of the top six platform features are related to telemedicine data: clinical documentation, ability to send documentation to/from the EMR, and ability to analyze consult data. All of these were rated as critical or valuable by almost 80% of respondents.
---------------------	---

Participant Demographics

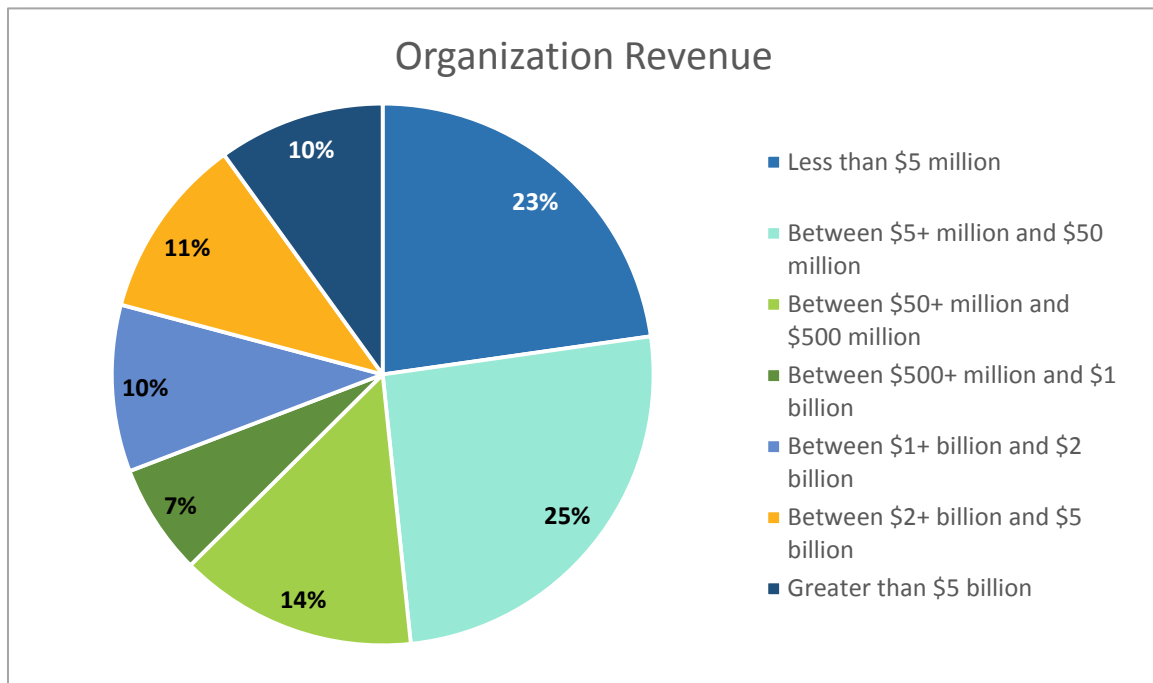
Organization Types

Survey participants represented a broad mix of healthcare organizations. More than half were from teaching hospitals or systems, with just over a quarter from non-teaching hospitals or systems and slightly over 10% from physician practices.



Organization Sizes

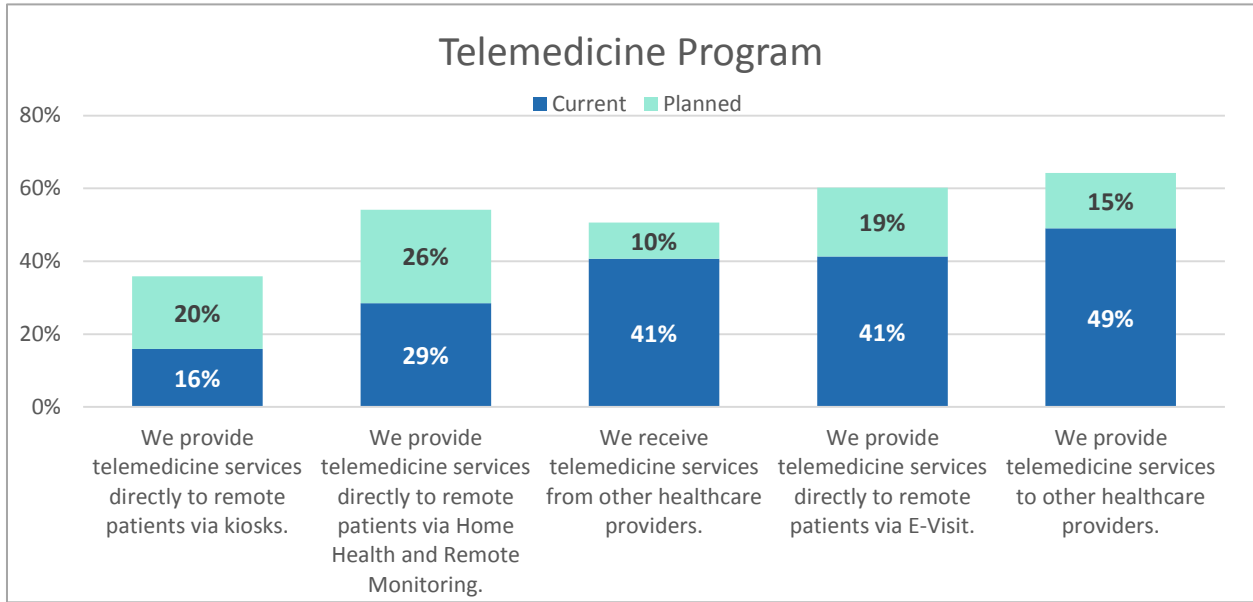
Organizations represented by the survey participants covered a broad range of revenues, clustered at both the high and low ends of the spectrum. Around a third (31%) have revenues of \$1B or greater, with just under half (48%) at the low end of the scale with under \$50M in revenues.



Telemedicine Program Models

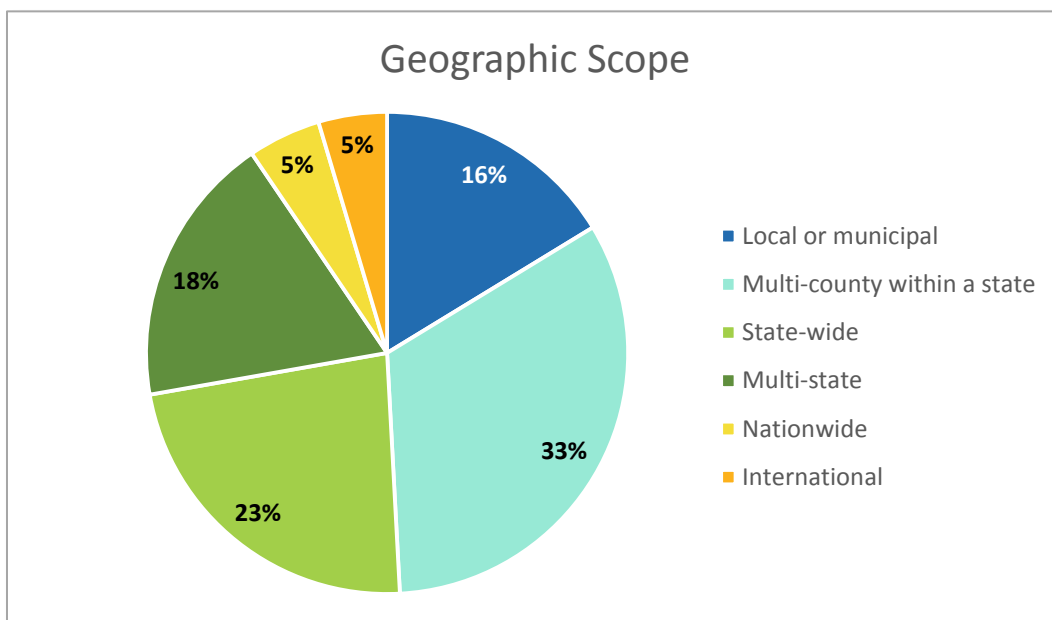
The organizations represented in the survey that are focused on provider-to-provider telemedicine have more active than planned telemedicine programs. Those focused on direct-to-consumer telemedicine indicate a mix of planned and active programs. This correlates with the earlier finding that the higher acuity settings requiring highly specialized treatment are more mature than lower acuity settings requiring generalized treatment.

Survey participation was weighted to providers offering telemedicine services to healthcare providers (Hubs) followed by those providing direct-to-remote patients via E-Visits, and those who receive telemedicine services (spokes). Next were those offering Home Health and Remote Monitoring, followed by those who provide direct-to-remote patient via Kiosks.



Telemedicine Programs Geographic Scope

Consistent with previous survey results, slightly over 70% of the survey participants operate telemedicine programs within the boundaries of a single state. This is not surprising considering the challenges of multi-state physician licensing as well as the variations in state-specific regulations and Medicaid reimbursement. Less than a quarter operate multi-state or nation-wide programs. Only five (5) percent operate international programs.



Conclusion

The third annual REACH Health telemedicine industry survey examined responses from 436 healthcare professionals. They provided input pertaining to their priorities, objectives and challenges, telemedicine program models and management structures, service lines and settings of care, and telemedicine platforms. Analysis of this information exposed numerous findings such as the challenges that have been most widely mitigated and those that continue to pose obstacles, as well as identifying telemedicine program attributes that are highly correlated to success. Responses were also compared to our previous year's findings to better understand trends and changes in telemedicine.

REACH Health thanks the survey participants for their valued input. Survey participants are invited to contact REACH Health at General.Inquiries@reachhealth.com to request a copy of their individual responses that can be used for benchmark comparisons with the summarized results.

About REACH Health

REACH Health is the leading enterprise telemedicine software company, providing solutions for multiple specialties and settings of care, all supported on one common software platform. Designed by hands-on physicians and expert software engineers, these solutions are recognized for fostering collaboration between bedside clinicians and remote specialists through shared clinical workflows. These solutions are also highly configurable, enabling physicians to tailor each consultation based on personal preferences and the information specific to their medical specialty.

REACH Health pioneered one of the nation's first [telestroke](#) programs and continues to be the innovation leader, delivering groundbreaking advancements in telemedicine and telehealth. Today, many of the nation's most successful telemedicine programs rely on REACH to achieve measurable improvements in their clinical, operational and financial performance.

For more information, visit reachhealth.com.