VansonBourne

NUTANIX

2019 Edition

NUTANIX ENTERPRISE CLOUD INDEX

HOW THE HEALTHCARE INDUSTRY COMPARES

Second Annual Report

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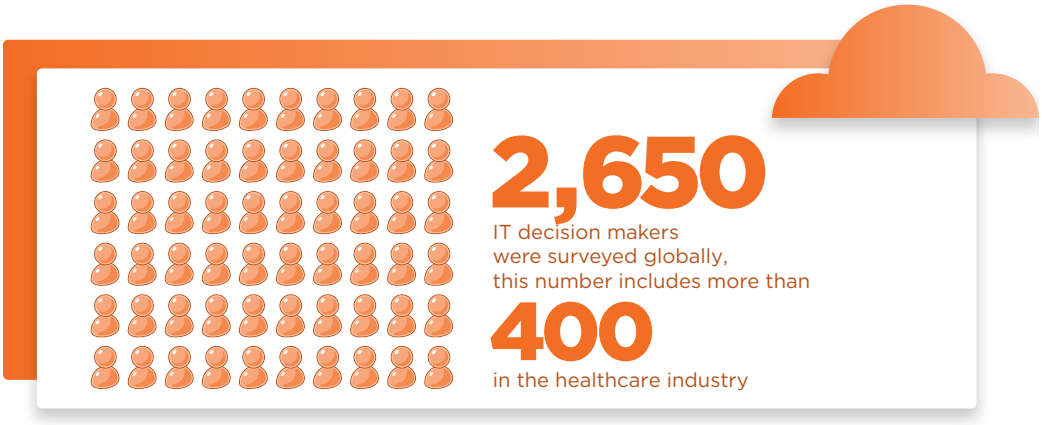
Second Annual Report

The Nutanix Enterprise Cloud Index 2019

About This Report

For the second consecutive year, Vanson Bourne has conducted research on behalf of Nutanix to learn about the state of global enterprise cloud computing deployments and plans. In mid-2019, the researcher surveyed **2,650** global IT decision-makers, including more than **400** in the healthcare industry, about where they're running their business applications today, where they plan to run them in the future, their challenges with cloud computing, and how their cloud initiatives stack up against other IT projects and priorities. The 2019 and 2018 respondent bases both spanned multiple industries, business sizes, and geographies.

This report is a supplement to the global *2019 Enterprise Cloud Index report* and focuses on cloud deployment and planning trends in **the healthcare industry**. It highlights key data points gleaned from IT professionals in the healthcare sector and how they compare to enterprise cloud experiences and plans in verticals around the world.



CLOUD TERMINOLOGY IN THIS DOCUMENT

- **PRIVATE CLOUD:** A cloud-enabled IT infrastructure running in a corporate data center or privately hosted by a third-party service provider.
- **PUBLIC CLOUD:** Infrastructure-as-a-service (IaaS) and platform-as-a-service (PaaS) offerings from third-party cloud service providers such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform.
- **HYBRID CLOUD:** A combination of private and public cloud environments, with some level of interoperability between them.
- **MULTICLOUD:** An IT environment that uses multiple public cloud services, with some level of interoperability between them.
- **TRADITIONAL OR LEGACY DATA CENTER:** Centralized location housing computing, storage, and networking equipment for the purpose of running applications and for collecting, storing, and processing large amounts of data, without the benefit of cloud technology.

Second Annual Report

Security and a Hybrid Future Are Top of Mind for Healthcare IT

Key Findings

1 **Hybrid cloud remains front and center on healthcare IT deployment roadmaps.** Despite lower-than-average adoption today (see **Key Finding 2**), **86.64%** of healthcare companies surveyed say they see the hybrid cloud as the ideal IT operating model. They shared plans to increase hybrid usage by about **44%** in the next three to five years while decreasing traditional data center deployments by about **35%**.

2 **Security is the biggest factor driving cloud deployment decisions in healthcare companies.** Well over half of healthcare respondents (about **60%**) said that the state of intercloud security would have the biggest influence on the future of cloud computing in their organizations. This finding was right in line with the average of all industry responses. Healthcare companies also mentioned data security and compliance most often as a top consideration when deciding which cloud option to use for hosting a given workload (**29.26%**), which was more frequently than any other industry except government (**36.62%**).

3 **Healthcare runs the third-lowest number of traditional data centers (48%), despite increasing its usage of them by more than 10 percentage points last year.** It also reported the third-lowest penetration of private clouds (**31.34%**), following the professional services industry (under **14%**) and the construction and property sector (**18.75%**).

4 **Healthcare organizations consider hybrid cloud to be the most secure IT operating model, more so than all other industries.** Healthcare companies chose hybrid cloud as most secure almost **33%** of the time, compared to the average of about **28%**. At a distant second, healthcare IT pros ranked on-premises, non-hosted private cloud as the second most secure infrastructure (**21%**). They indicated that public cloud infrastructure was least secure, with only about **7%** choosing it as the most secure option.

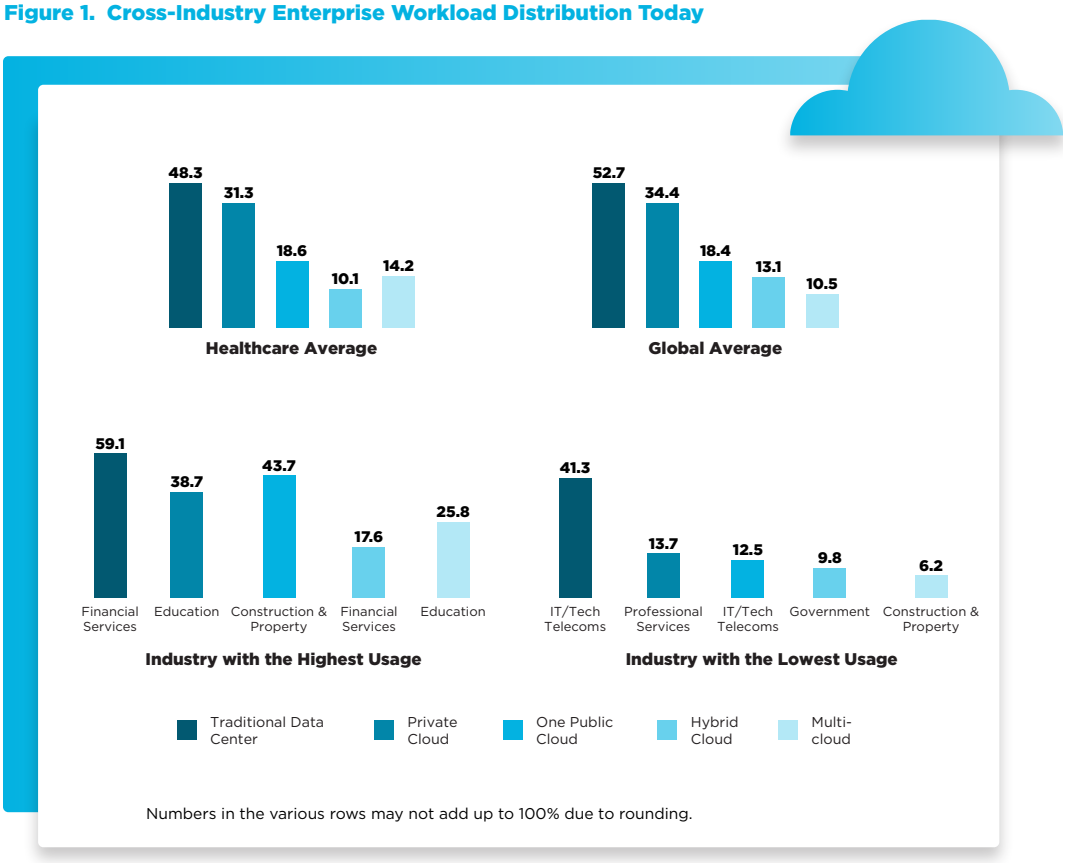
5 **Currently, healthcare leads most other industries in multicloud deployments but lags in hybrid cloud adoption.** About **14%** of healthcare providers surveyed reported that they currently use more than one public cloud infrastructure service. Their multicloud adoption is the third-highest following the education industry (with about **26%** penetration) and the IT, technology, and telecoms sector (about **15%**). After decreasing its hybrid cloud use by more than **8%** from 2018 to 2019, the healthcare sector was left with the lowest penetration of hybrid clouds (about **10%**) of all industries surveyed except government, which trailed healthcare by less than a percentage point.

IT Operating Models: In Use and On Deck

Overall, the **2019 Enterprise Cloud Index** revealed enterprise plans to aggressively shift investment to hybrid cloud architectures during the next five years. However, in the short term, we have seen significant shift back to data center usage and widespread movement of applications from public cloud services to on-premises infrastructure.

Healthcare companies surveyed in 2019 fell largely in line with these trends (**Figure 1**). The figure shows healthcare IT deployment distributions in the context of the global deployment averages and other industries that scored the highest or lowest in one or more IT deployment category. As the figure indicates, healthcare companies lead the averages in public cloud usage while running lower-than-average percentages of traditional data centers, private clouds, and hybrid clouds.

Figure 1. Cross-Industry Enterprise Workload Distribution Today



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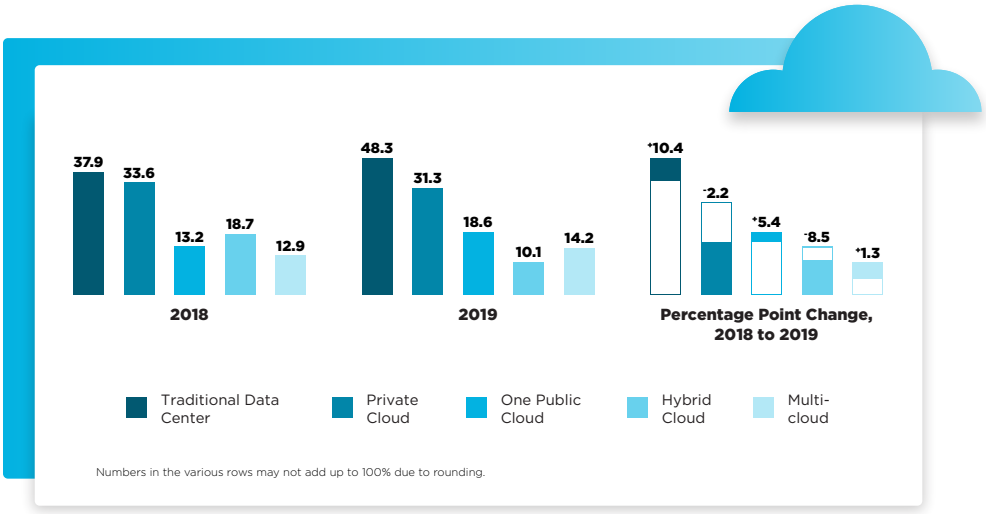
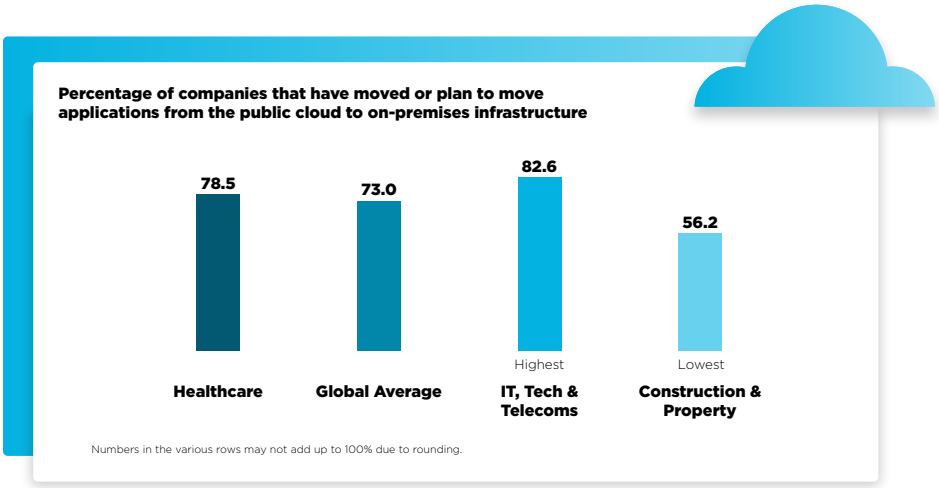
Like other industries, healthcare increased its use of traditional data centers during the past year. These initiatives took place despite stated plans in 2018 to reduce data center use in favor, primarily, of hybrid clouds. **Figure 2** shows how the IT deployment distribution in healthcare companies shifted from 2018 to 2019. The biggest changes were an increase in traditional data center usage by **10.46%** and an **8.56%** decrease in hybrid cloud deployments. In addition, respondents using a single public cloud service increased by about **5.5%**, as the figure shows.

Figure 2. Healthcare Deployment Distribution Comparison, 2018 and 2019



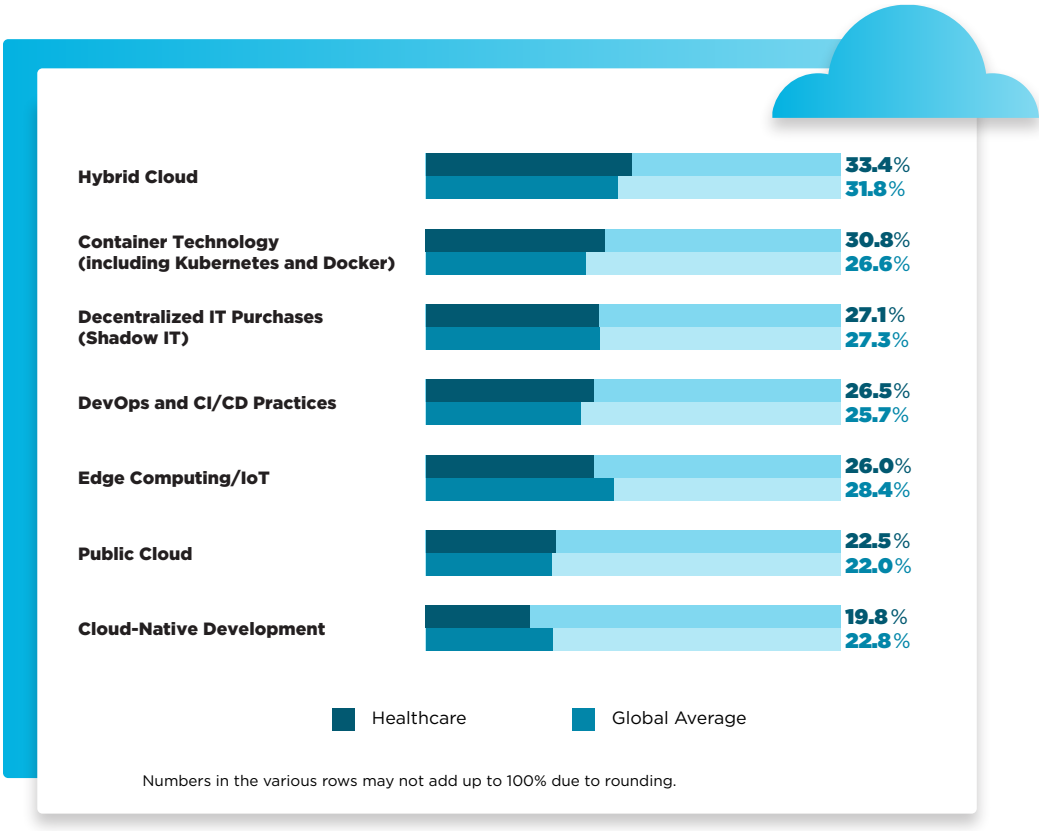
Accounting in part for the unexpected uptick in data center usage during the past year are respondent initiatives to move public cloud applications back on-premises. Reasons for these cloud repatriation initiatives often have to do, in part, with waning cost benefits of public cloud over time, particularly as applications mature, become more predictable, and grow more economically supported on-premises. Nearly three-fourths of all global companies interviewed across industries (**73%**) indicated movement or plans in this direction, and even more companies in the healthcare (**78.57%**) sector reported having repatriation initiatives (**Figure 3**).

Figure 3. Cloud Repatriation Levels



Changing regulations that govern where a given industry can store certain data can also play a role in infrastructure shifts; more than half of healthcare respondents cited this factor as the top one influencing cloud computing's future in their companies. In addition, the ECI data indicate the nascent state of tools for managing hybrid environments may have set some hybrid deployment plans back: nearly three-fourths (**72.58%**) of healthcare companies compared to **68.6%** of all respondents agreed that while their organizations would benefit from a hybrid cloud, their current IT vendors didn't provide the right solutions for building and managing a hybrid environment. Moreover, more than half of healthcare respondents (**53.69%**) agreed that their organizations lacked the necessary IT skills to set up a secure and compliant cloud infrastructure; **Figure 4** shows cloud-relevant skills that the highest percentages of healthcare companies said that they currently lack.

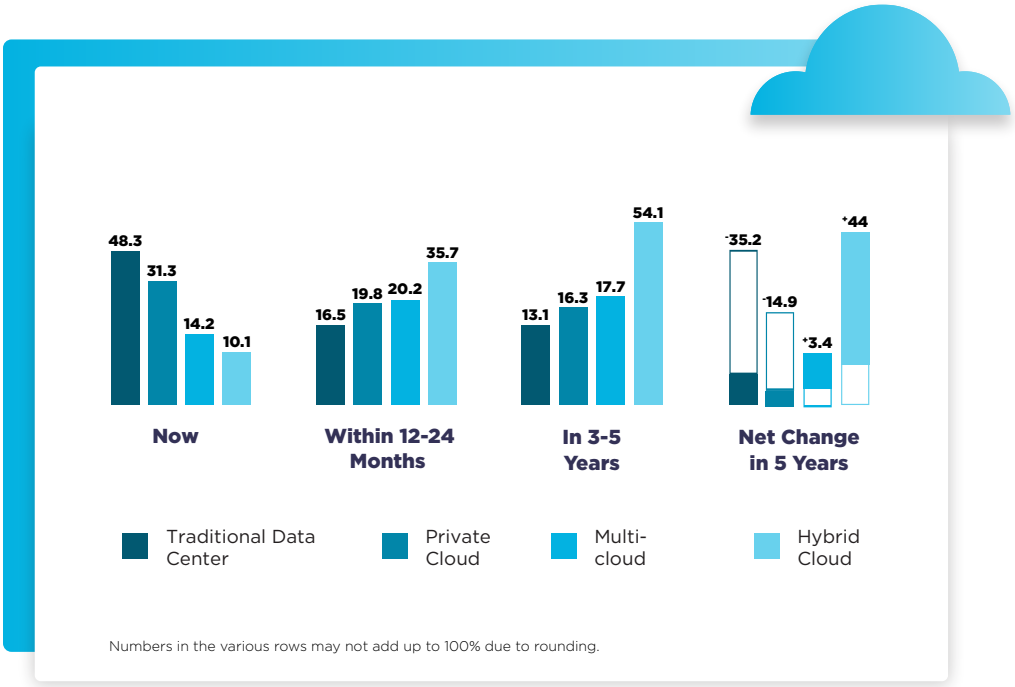
Figure 4. In which area(s) do you think your organization's IT department is lacking skills?



Notably, fewer respondents in healthcare than any other industry—less than one fifth—reported lacking cloud-native development skills, as the figure sh ows. By comparison, at the high end, more than **35%** of respondents in the education sector said that their companies lacked cloud-native skills.

Healthcare organizations seemingly have confidence that the issues of tools, cloud skills, and other obstacles will be worked out fairly quickly: they continued to share aggressive plans for moving away from traditional data centers and, to a lesser degree, private clouds over the next few years as they ramp up their efforts to deploy hybrid cloud infrastructure (**Figure 5**).

Figure 5. Five-Year Healthcare IT Deployment Outlook



And when asked about the future distribution of their data across various clouds and IT infrastructure, more healthcare companies than in any other industry (**34%**) indicated that they intend to run their workloads across multiple cloud environments going forward.

What Drives Healthcare Deployment Decisions?

The IT attributes that enterprises value most and whether they think a given IT model delivers that value play a big role in respondents' cloud implementation plans. Depending on an organization's business goals, a given enterprise may be looking to use cloud technology for outcomes that range from traditional cost reduction to overhauling customer experiences or entering new markets.

Digital transformation. In 2019, the lion's share of respondents from all industries said that digital transformation was having a positive impact on cloud implementation at their companies. For example, **68.66%** of healthcare companies cited this trend, followed by personalized healthcare (**51.84%**), then AI assistants (**44%**), as positively affecting their cloud adoption. In terms of what they're trying to achieve with digital transformation, most 2019 respondents mentioned traditional business improvement expectations, centered around cost and business process efficiencies. Healthcare companies were no different.

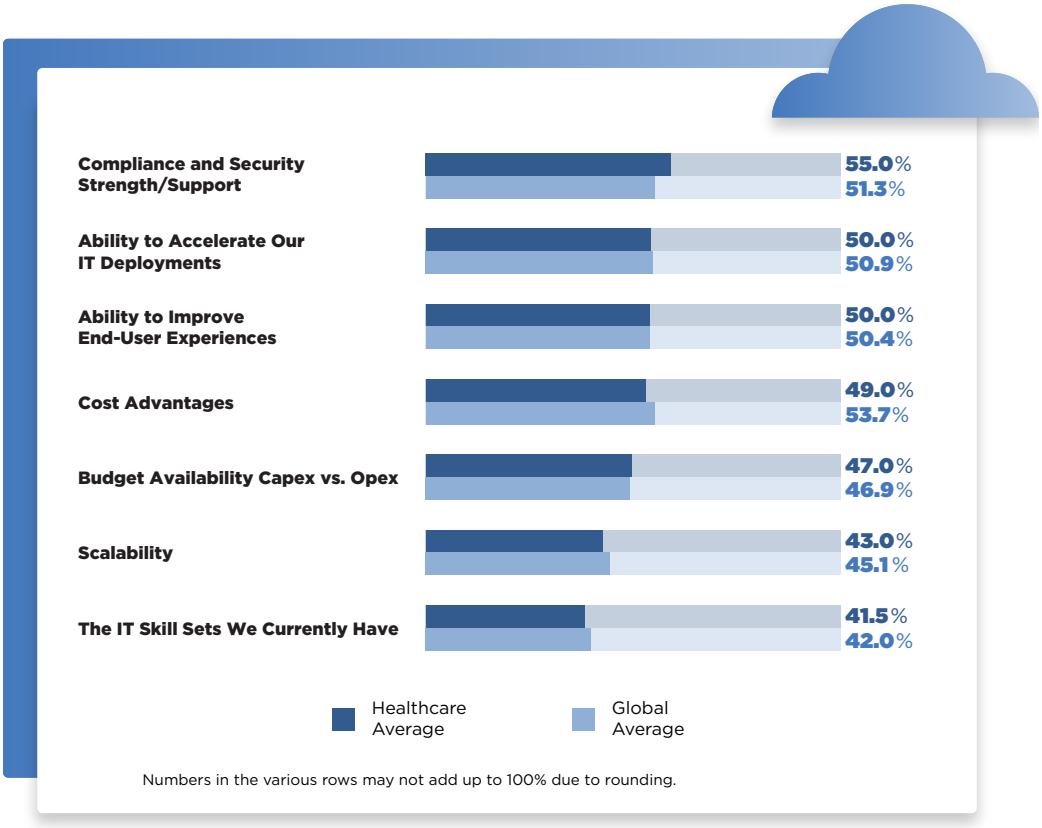
Security. Amid this backdrop, on average, aspects of cloud security came up most often as having the greatest impact on cloud deployment decisions. Healthcare IT pros chose the hybrid cloud as the most secure IT operating model most often (about **33%** of the time) compared to traditional data centers, both on-premises and hosted private clouds, and public clouds. Healthcare companies also chose hybrid cloud as most secure more often than all respondents on average (about **28%**). It's not surprising, then, that security is playing a large role in healthcare companies' IT deployment decisions, as well.

For example:

- Well over half of healthcare respondents (**60.37%**) said that the state of intercloud security would be the factor having the biggest influence on their future cloud deployments. By comparison, the second most important factor was regulation governing where healthcare companies are allowed to store data (**55%**).

- More than half of healthcare companies (**55%**) cited compliance and security strength as a top consideration when deciding whether to deploy a particular cloud infrastructure (**Figure 6**). As the figure shows, healthcare companies are marginally less concerned with cost and budget issues than with security, accelerating IT deployment times, and improving user experiences.

Figure 6. Top Factors Behind Healthcare Cloud Decisions



- Similarly, when asked about the top factor influencing how they decide where to host a given workload, data security and compliance came up most often in healthcare companies (**29.26%**). By comparison, cost placed a distant second, with just about **15.5%** of healthcare companies citing it as the top factor.

Public Cloud Perceptions and Activity

The adoption of multicloud services in healthcare companies was among the highest across industries (about **14%** penetration). Here's how healthcare companies compared on other issues related to public cloud plans and usage:

- They reported fewer budget overages with public cloud services. Just **30.48%** reported being over budget in 2019 (down from 39.7% in 2018), compared with the cross-industry, two-year average of about **35%**.

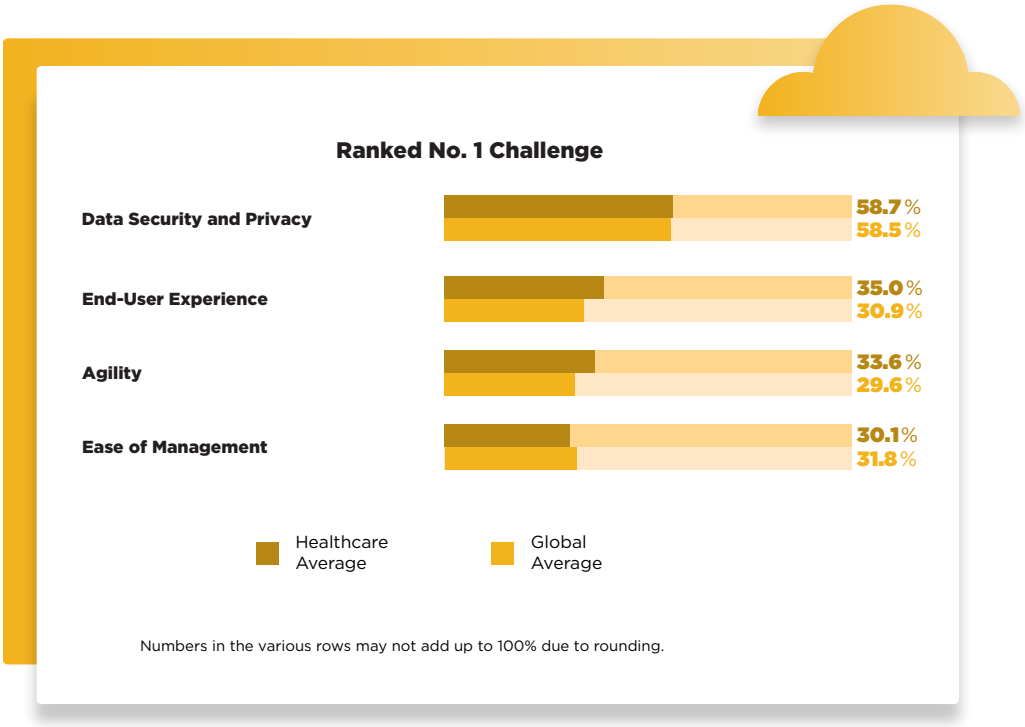
- Moderately more healthcare companies (**42.25%**) than average (**37.22%**) reported that public cloud services were completely meeting their expectations.

- As mentioned, more healthcare companies (**78.57%**) than average (**73%**) reported moves to repatriate applications from public cloud services back to on-premises infrastructure.

- When it comes to public cloud benefits, data security and compliance (**20.51%**) and lower total cost of ownership (**19.12%**) top the list, according to healthcare companies. In distant third place is application mobility across diverse cloud environments (**10.37%**).

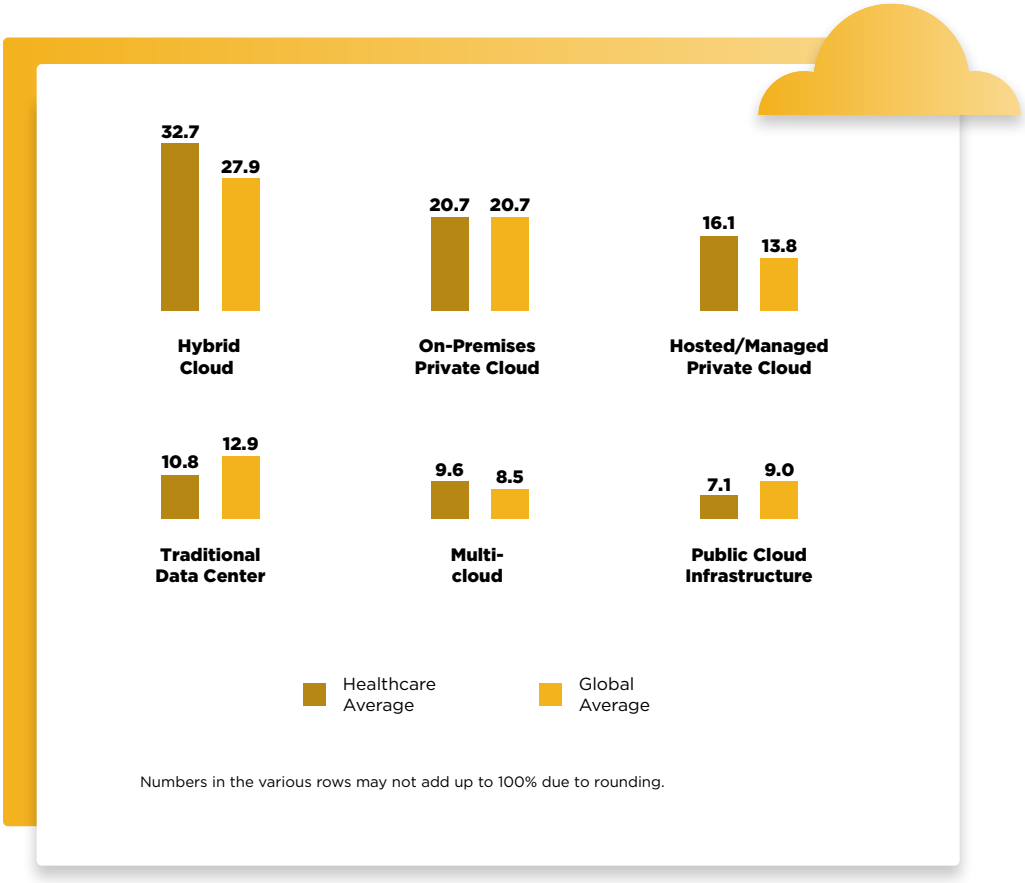
- Largely the same challenges face healthcare companies as those in other industries, with data security and privacy far and away topping the lists across market sectors (**Figure 7**). However, like other industries, healthcare companies find data security and privacy to be also the biggest benefit of the public cloud. Healthcare companies cited challenges with ensuring positive end-user experiences and agility moderately more often than the cross-industry global average, as the figure shows.

Figure 7. Challenges with the Public Cloud



Given healthcare companies' sensitivity to data security and privacy, it's interesting that they have among the highest public cloud penetration. Healthcare respondents gave public cloud infrastructure and multicloud environments the lowest security rankings, with just **7.14%** and **9.68%** choosing these options, respectively, as most secure (**Figure 8**). They ranked on-premises private cloud as second most secure, even though they decreased their private cloud usage slightly last year.

Figure 8. What's Inherently the Most Secure IT Model?



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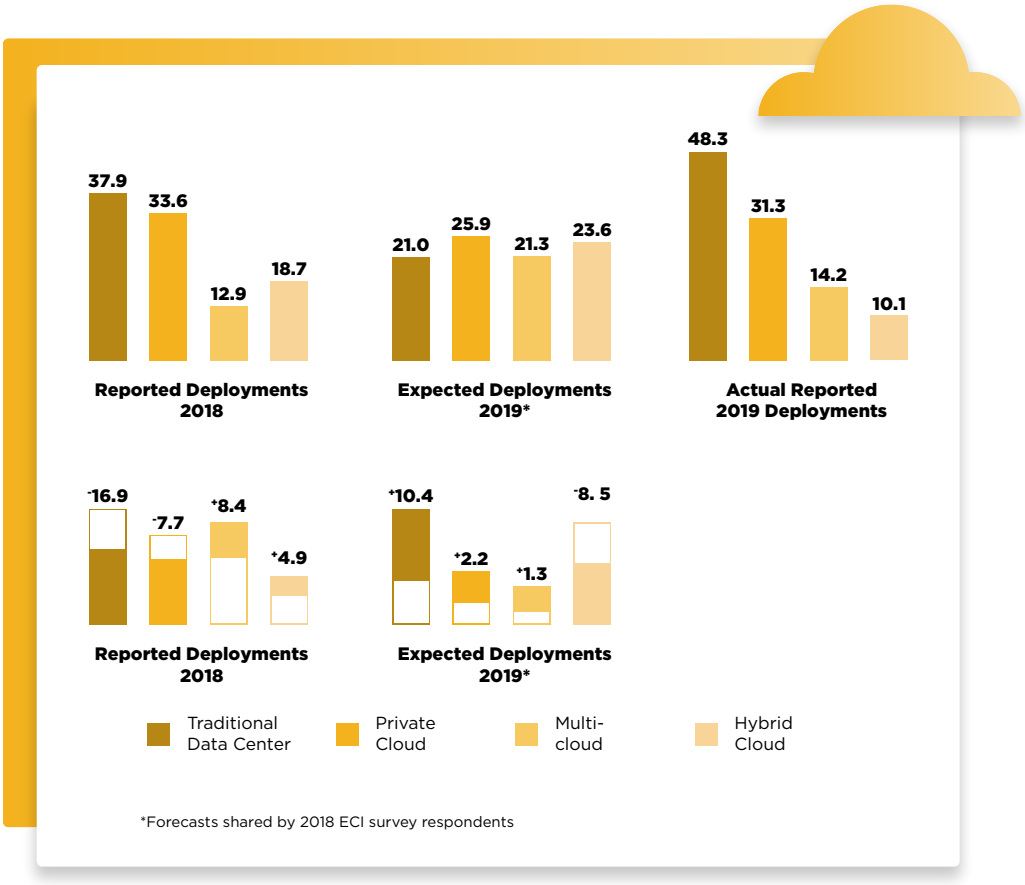
Conclusions

Healthcare companies closely align with the cross-industry averages in their plans to move away from traditional data centers toward hybrid clouds and, to a lesser extent, multicloud services in the coming months and years. At this juncture, they are running moderately fewer hybrid clouds and traditional data centers and moderately more public cloud and multicloud services than their peers in other industries.

Year-over-year **ECI** data from 2018 to 2019 has revealed that the one-year plans of enterprises to dramatically reduce traditional data center use in favor of hybrid cloud and multicloud deployments hit significant setbacks for all respondents globally. This is likely due to the fact that IT vendors didn't provide the right solutions for building and managing a hybrid environment. Overall data center usage actually increased by **12.3%**, while hybrid cloud usage, rather than increasing, fell by about **5.4%** overall. Healthcare companies' deployment changes followed the same general trend: their use of traditional data centers increased by **10.49%**, rather than decreasing by nearly **17%**, as respondents to the 2018 ECI study had projected. Hybrid cloud deployments, rather than increasing by about **5%** over last year, dropped by **8.56%** instead (**Figure 9**).

Figure 9. How Healthcare Deployment Plans Panned Out, 2018–2019



ECI data indicate that reasons for the decelerated pace of hybrid cloud migration might include an industrywide need for better app mobility and cross-cloud management and security tools that simplify deploying, managing, and securing workloads across disparate infrastructures. The high rate of public cloud repatriation back to on-premises infrastructures also indicates a possible economic motivation to redistribute maturing public cloud apps and the short-term need to bolster on-premises infrastructure to accommodate them.

Whatever the reasons, the infrastructure changes many 2018 healthcare respondents expected to make within the next year didn't come to fruition, as **Figure 9** reflects. Whether it takes one year, five years, or more, however, healthcare companies and others are likely to stay on the hybrid path unless a more secure option comes along. With security top of mind and an ever-growing concern, the fact that **ECI** respondents consider the hybrid cloud the most secure IT infrastructure option will likely keep it on enterprise roadmaps for some time to come.