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The Picture of Health

The budding relationship between cloud and healthcare.

Cloud survey report:
Industry experts explore the current and planned cloud adoption strategies of senior IT professionals.

Researched by Longitude
THOUGHT LEADERSHIP SPECIALISTS

Introduction.

Healthcare is a bellwether industry for cloud adoption. Its organizations mostly sit in the middle of the pack when it comes to cloud services and strategies, sometimes outpacing peers in other industries, sometimes trailing them—but only ever by a few steps.

The industries use of DaaS, SaaS, and PaaS is broadly in line with cross-industry averages. There's an even split between the number of organizations with a cloud strategy that's either complete or largely executed (36%), and those with a strategy that's developed and under way (37%).

More than a quarter describe their cloud strategy as "somewhat developed and articulated." That number is set to dwindle as more of the industry's applications are moved to a cloud model. Organizations expect the proportion of apps that are not cloud based to fall to 17.8% within three years.

It should come as no surprise that Healthcare is not fully at the vanguard of cloud adoption and development. As one of the most regulated industries, it can only adopt new technologies once they are proven to be reliable and secure.

But as healthcare providers are now preparing to increase adoption of cloud technologies and services it's an indication of just how dependable the model has become.

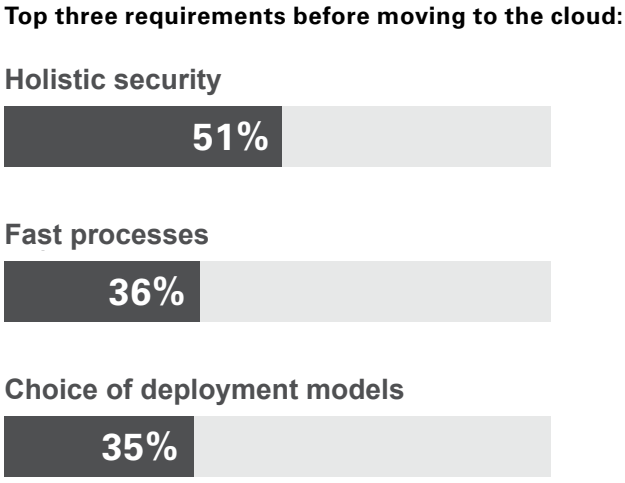
This report is based on the responses of 81 senior IT leaders occupying a range of roles within the healthcare industry. The research was conducted in late summer 2017 as part of a larger survey of 730 senior IT decision makers in 13 countries and nine sectors.

The value of security.

Healthcare's most cited IT priority is improving cybersecurity, with 40% of organizations highlighting it as one of their top requirements. This is no surprise, given the potential penalties for those infringing data governance requirements, such as GDPR and HIPAA.

The sensitivity of handling an abundance of patient data is also reflected in attitudes to cloud migration. 51% of respondents list holistic security (security at all levels) as a key requirement ahead of any move.

Top three requirements before moving to the cloud:



Respondents chose up to three from 12 possible options.

Given the volume and variety of threats coming from all corners of the globe, this is perhaps no surprise. But the emphasis on cybersecurity carries special weight among healthcare institutions as so much of the data they hold is confidential.

The industry has understandable reservations about putting clinical data and mission-critical workloads in the cloud, but the increase in cloud adoption shows this mindset is changing. Such a shift in attitude will enable organizations to access more sophisticated capabilities, such as machine learning, to recognize patterns and avoid credible threats before they occur.

The data dichotomy.

Overall use of analytics applications in the industry is comparatively low—43% compared with 51% across the industries. However, healthcare organizations fare better with big data applications, with a slightly above-average uptake of 62%.

When it comes to cloud migration, big data is the application that's most commonly earmarked (an above-average 42%), while analytics is also higher than average.

These figures are likely to rise in future, as improving business intelligence, analysis, and data visualization are top IT priorities.

Organizations are generating and importing more and more data—from genomic data and information collected by wearables, to clinical trial and longitudinal study data. Such volume means that traditional business intelligence tools are no longer enough.

Those that are able to apply advanced analytics, such as machine learning, can help recognize patterns. These patterns can potentially lead to the early diagnosis of medical conditions for patients that show early symptoms, and enable the comparison of treatment efficacy.

For example, Vhi Healthcare leveraged the Oracle Cloud Platform to develop a mobile wellness application that connects directly to their customers' health data via wearable devices.

Organizations that are conducting data management in the cloud are doing so for a range of reasons: to improve data management features, carry out analytics, or speed up application and service delivery. But the chief motivation for adopting cloud data management is to make data more accessible.

This will help healthcare organizations extract more value from their data to improve operations. Cloud systems can bring together cost data, quality data, and clinical data, and aggregate it to gain visibility across care processes—something on-premises systems have traditionally struggled with.

Sisoft Healthcare Information Systems is a case in point. It uses cloud technology to make it easier for stakeholders to interact and share data among picture archiving and communication systems (PACS), radiology, laboratory, and family practitioner information systems.

Integrating and scaling.

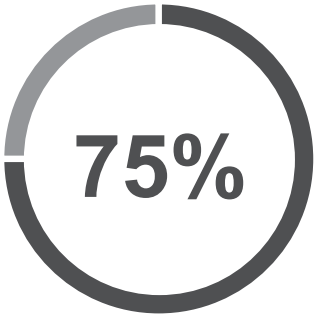
Improving integration between systems is high on the IT agenda within healthcare, and is among the top three priorities across the industry.

For those organizations that have already undertaken integration projects, cost savings were the most common driver, alongside the need to improve application security and standardize processes.

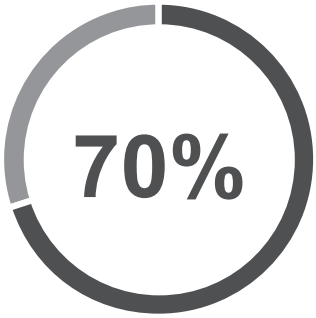
Moving from an on-premises to a cloud architecture allows companies to make savings on buying, maintaining, and upgrading applications and infrastructure, as well as to increase the quality of service they offer.

In addition, businesses in the industry are using cloud migration as a way to extend the functionality and features available to them: for example, bringing in end-to-end encryption for handling clinical or otherwise sensitive data.

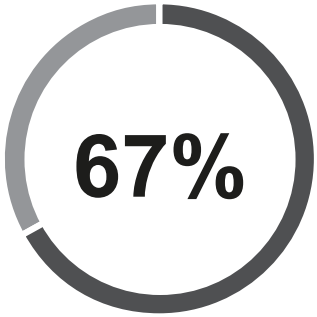
Scalability is also a key focus. Infrastructure that can scale faster than on-premises equivalents allows organizations to address their commercial needs, and support growth and profitability requirements. This is a message that the industry is receiving loud and clear. It has the highest level of companies that list scalability of resources as a key requirement of their move to the cloud.



agree the cloud provides greater scalability and agility to change according to business needs.



agree there are clear financial benefits in moving IT and application development to the cloud.



agree that moving applications, DevOps, and workloads to the cloud is integral to their organization being competitive.

Doing more with less.

Healthcare organizations' reasons for moving to the cloud are often driven by a need to do more with less. It's a trend that comes against a background of rising demand for services: Patients are living longer and with more chronic conditions, significant numbers of healthcare professionals are reaching retirement age, and the industry is consolidating.

The cost of providing care has also soared worldwide. As a result, national healthcare systems must address spiraling expenses and inefficiencies.

The most common drivers for those organizations migrating to the cloud are improving IT resource management, followed by saving costs.

However, almost as many businesses have identified a more forward-looking benefit—to improve the speed of innovation.

On top of the practical reasons for migration, organizations recognize the importance of innovation, and the ability to introduce new capabilities faster, and at a lower cost. Moving to the cloud has allowed them to introduce new processes and functionality that hadn't been possible under the constraints of legacy environments.

Currently, healthcare organizations' use of private and hybrid cloud deployment models is in line with that of other industries surveyed, while its uptake of public cloud is slightly above average: 33.7% of healthcare cloud apps are in the public cloud.

Data warehouses are the workloads most likely to be prioritized for cloud migration (57% of organizations will be moving their data warehouses, which is the joint-highest figure across industries).

Databases are the second most popular workload, but levels in Healthcare are low compared with other industries. Organizations are also more likely to hold their data and database backups in house, as only 20% have earmarked these for cloud migration—the lowest proportion of all industries by a considerable margin.

Build or buy?

Healthcare companies develop a small-but-significant proportion of their applications in the cloud from scratch: 22.9%, compared with a cross-industry average of 22.7%. But they also expect that proportion to rise substantially, reaching 28.5% in three years—again, broadly in line with the cross-industry average.

Organizations want to make sure the applications they use are adapted to their requirements. A relatively low 14% say they use off-the-shelf platforms with no customization, compared with over half that reported altering these to fit their needs.

Cloud development or customization is likely to remain a challenge in the short term. The industry has one of the lowest proportions of businesses (58%) that agree with the statement: "We have the right skills in house to fully utilize cloud-based application development and management." The struggle to find new talent to take advantage of app development in the cloud is an issue for a quarter of respondents.

The changing cloud mindset.

Despite concerns over skills, perceptions are shifting and the prognosis is positive. In the past, security and regulatory concerns have held back cloud adoption; now, there is a collective understanding that cloud environments can offer security standards above and beyond what can be found on premises.

The cloud is established among organizations as a way to reduce costs and improve resource availability. Now, those firms are recognizing an additional, crucial benefit of the cloud: the ability to accelerate innovation and respond to their increasingly challenging environment.

Making it happen.

To migrate effectively to the cloud, healthcare organizations need a strategy that incorporates multiple elements: from the underlying platform and applications, to integration capability. Above all, they need flexibility—to be able to develop a custom migration plan that works for them.

For further information, visit:
oracle.com/industries/healthcare

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