

Microsoft Azure and Healthcare





Cloud Computing and Healthcare

The healthcare industry has experienced a much-needed technological overhaul in recent years, which has been ushered in by developments in healthcare information technology (HIT) and regulatory reform. As a result, technology aimed at building collaboration and coordination in this sphere, once limited, is now seeing a welcomed boom.

Leading the charge in the modernization of healthcare-related technological tools is cloud technology. This is because the industry is on a trajectory that calls for a shift toward an information-centric and consumer-driven care delivery model. In response, cloud computing has emerged as the go-to solution, because it provides the infrastructure needed for healthcare systems to leverage more advanced technological resources; thereby, yielding the following benefits, among a host of others: on-demand access to massive data storage capabilities—which is especially pertinent as large data sets like electronic health records (EHR) are managed. Enhanced collaboration opportunities for such data are also enabled, as cloud solutions diminish limitations traditionally experienced due to

geographical restrictions or departmental silos; such real-time sharing of data can add tremendously to optimized and evidentiary patient care delivery. There's also the flexibility to scale up or down according to organizational needs and the ability to streamline workflows and operational facets. Lastly, but certainly not least, there are cost-saving advantages.

With these benefits in mind, it's no wonder that a recent Healthcare Information and Management Systems Society (HIMSS) Analytics' survey of cloud computing adoption in healthcare provider organizations found that 83% of IT executives report they are currently using cloud services.¹

Along with the increased adoption of technologies in this realm comes the parallel need for stringent requirements for security, confidentiality and accessibility. While these advancements are meant to improve quality of care and patient safety, concerns of security cannot be ignored. Hence, cloud solutions must be able to meet stringent governmental and industry regulations

and standards made to safeguard such highly sensitive data; and in turn the privacy of all associated individuals.

Microsoft Azure has emerged as a trusted solution to address present challenges. In fact, according

to the HIMSS Analytics survey, Azure was most frequently cited as the cloud solution for health organizational demands.²

Here's how Azure has emerged as a surefire solution to meet the needs of the healthcare industry:

HIPAA compliance

For organizations in tightly regulated industries, such as healthcare, where laws regulate protected health information (PHI), the need to understand how cloud adoption affects privacy, security, and regulatory compliance standing is critical.³ To safeguard and protect identifiable health information, The Health Insurance Portability and Accountability Act (HIPAA) law was established and extended to cover all entities with access to patients' PHI, as well as third party associates, such as cloud service and IT providers who are also privy to such data.⁴ And along with the Health Information Technology for Economic and Clinical Health (HITECH) Act, which was enacted to promote the adoption and meaningful use of

health information technology,⁵ the scope of HIPAA has been further expanded. Specifically, when it comes to third-party associates or accessors of PHI, HIPAA regulations require the creation of contracts to ensure the adequate protection of these data. These contracts, or Business Associate Agreements (BAAs) outline security and privacy adherence provisions set forth in HIPAA and the HITECH Act.⁴ Enter Azure's rigorous security features, with which healthcare entities can expect Microsoft's Business Associate Agreement (BAA), to ensure HIPAA compliance.² With a BAA cemented in place, Azure users can process and store PHI with assurance of security and compliance.

Compatibility and continuity across the spectrum of care

Azure is able to transform communication and collaboration channels in today's healthcare climate, in which accountability, meaningful care and clinical outcomes can be defined by not only the quality of data generated, but how efficiently this information can

be shared among disparately located relevant parties.

This platform confers the ability to analyze data streams from a range of resources in order to pool information and present a comprehensive view of patient-level data, track trends and predict outcomes. In this way, productivity is enhanced, efficiency is realized and critical, yet informed decisions can be made more seamlessly and frequently to boot.



Backup, secure and recover

Of primary concern for organizations making the critical decision to adopt cloud-hosting solutions are security and accessibility issues. In the healthcare industry, this is particularly salient due to governing regulations dictating matters concerning PHI and other personal data.

By offering enterprise-grade privacy, compliance and security capabilities, Azure is a flexible solution that meets regulatory and security requirements, while

allaying fears and gaining the trust of many healthcare organizations. This is achieved via its rigid architecture, which ensures applications and servers experience fewer delays and increased availability,⁶ along with robust security functionalities that's supported by standardized encryption protocols. Superior backup and recovery technology facilitated through Azure's Site Recovery function means healthcare enterprises can remain confident that their data is protected from issues ranging from natural disasters to security breaches.

Productivity with Office 365

Beyond the cloud, health organizations have discovered the myriad benefits afforded by another Microsoft technology—Office 365. This platform gives these organizations the resources they need to achieve optimal care outcomes through teamwork.⁷ Office 365 comes equipped with a variety of collaborative tools, including SharePoint and Skype for Business, which allow clinical staff members to share documents and meet face-to-face, even when separated geographically. The platform also comes equipped with OneNote, an interactive notation solution with which users can collaborate over shared digital resources. This simple tool makes

faulty paper-based processes obsolete and allows for the adoption of streamlined, automated systems that encourage productivity. Plus, the platform comes with traditional workplace tools like Excel, PowerPoint and Word.

In all, Microsoft Office 365 can drive patient-centered healthcare. The tip of the iceberg? The platform works with Azure, forming a winning combination of cloud technology and collaborative capabilities: a holy grail of operational efficiency, compliance, cost-savings, security, accessibility and patient satisfaction, among other benefits.

Holistic Health

But that's not all. There are some additional noteworthy tools that can be leveraged with Azure to further solidify its standing as the premier cloud solution for today's modern healthcare system. Aply called Microsoft Health, one of such tools encourages healthier lifestyles by providing users actionable insights into how physical activity benefits their overall health.

Culled data may include information on workouts or sleep quality, all accessible on a web dashboard, presented graphically in an easily digestible format.⁸ To achieve this, Microsoft Health combines individual data with the power of the cloud to actualize fitness goals. By using Azure-based machine learning technology to analyze collected data, the platform is able to provide more consistent and valuable data insight over time as it is populated with more stores

of information and as its capabilities expand.⁸ Added to that, are key cloud offerings of privacy, security and accessibility.

A closely related tool, HealthVault, has been developed as a trusted repository for the type of health information that's analyzed by its counterpart. With this capability, HealthVault can function as a feature-rich development platform for consumer and patient engagement.⁹ How so? Hint: Azure. Through a combination of HealthVault and Azure, solutions providers are able to access the former via the latter. So, take for example an organization that has implemented a custom made EHR, Microsoft HealthVault with Windows Azure will provide a flexible platform that allows them to host their application or health data.¹⁰ That way, they can do more with more.

Organizational optimization

Azure cloud solution from Microsoft is enabling transformative experiences in the healthcare industry. The intuitive system supports a variety of programming languages, tools and frameworks, including both Microsoft-specific and third-party software and systems, that allow for increased efficiency, productivity, accountability, assurance and security—

all integral facets of the patient care experience. And by serving as the structural framework and support of additional Microsoft health-promoting tools, Azure is poised for dominance as the premier cloud solution to improve patient care and satisfaction. Now, that's meaningful and useful.



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