

PHILIPS

Healthcare informatics



Advancing and connecting
care through a cloud-based
platform approach for
health informatics

Current healthcare IT infrastructures pose systemic challenges.

The landscape of care delivery has been rapidly evolving—with more care being managed outside the hospital, the introduction of new data is ever increasing. And at the same time, many health systems have faced challenges responding and adapting due to their fragmented, vulnerable, and expensive IT infrastructures made up of a myriad of niche systems, modalities, and devices with associated software.

In addition to creating operational and financial inefficiencies, the disconnect between systems of data has had a negative effect on patients and caregivers. Caregivers have been ill-equipped to develop the most informed clinical decisions—while also facing burnout due to the administrative burden created by disconnected point solutions. And patients have become increasingly dissatisfied with data transparency, accessibility, and usability.



It has become clear that individual point solutions have limited value, as they do not allow health professionals to adapt easily to a rapidly changing landscape for delivering care. What health professionals truly need are integrated solutions that orchestrate along care pathways.

The global pandemic has been a catalyst for change.

Until the onset of the COVID-19 pandemic, technologies and solutions to advance healthcare IT infrastructures—and ultimately provide better care—had been slow coming to the forefront. The pandemic sparked a global sense of urgency to pivot and adapt. The barriers between organizational functions like finance, IT, clinical services, and business strategy—which had previously hindered the adoption of digital products and services—have disappeared as healthcare organizations respond to new realities.

However, even before the pandemic, fragmented IT environments were affected by capital limitations, fewer reimbursements, and less budget for innovation. Unexpected costs limited the capability to seize new investment opportunities.¹

In fact, up to 78% of IT operations budgets were being allocated to “keeping the lights on,” and COVID-19 only exacerbated the issue. And while innovation is a major factor in health system differentiation, many organizations have struggled to advance due to general financial constraints—as well as the barriers to adoption posed by the often-lengthy budgeting cycles associated with capital investments.

A recent International Data Corporation (IDC) survey found that, across industries, 75 percent of organizations are currently adjusting their IT road maps to reduce the costs of current systems, enable easy execution, and create operational efficiencies in financial reporting, project management, and employee experience.² And IDC’s COVID-19 Tech Index found that over 30 percent of organizations are increasing spending on Software-as-a-Service (SaaS) solutions—which can enable greater agility, with more predictable costs.³

“The best healthcare companies are responding to disruption with digital and innovation initiatives that enable new business models, and address the challenges of increasing demand and escalating costs.”

—Gartner⁴

As healthcare organizations continue to aggressively pursue digital transformation, they must balance the needs and expectations of patients and staff with pressure to streamline resources and implement with speed.

Staff and patients need and expect enhanced access to data and analytics.

For clinical staff, fragmented IT systems create unique difficulties related to the delivery of care. Without integration and standardization of patient information, making confident, well-informed clinical decisions can be difficult. Additionally, the administrative hours required to learn and use disparate point solutions takes time away from patient care—which can ultimately result in staff burnout and turnover. And with the conditions of the global pandemic putting clinicians' time at an even greater premium, the demand for quick access to integrated patient data is high.



“Health care is about using our best science, our best workflow, and our best teamwork...to heal individual patients and improve the health of our communities. We need great, up-to-date information to do that. Only by capturing, storing, analyzing data, creating new knowledge, and delivering that seamlessly to the provider at the bedside (or directly to the patient) can we grow, improve, and evolve as a learning health system.”

—CT Lin, MD, CMIO at UCHHealth and professor at University of Colorado School of Medicine⁵

As for patients, interest in remote services and virtual care has been increasing exponentially. Even prior to the pandemic, the Philips 2019 Future Health Index identified an appetite among individuals to have access to their health data, which can take place via tracking various health metrics through digital health technologies or access to a digital health record.⁶ This finding reflects a desire for convenience, to have more control of their health, and to learn more about themselves.

With more care managed outside traditional healthcare settings, and with the pandemic dramatically increasing the use of telehealth and virtual care services, patients expect transparency of information and protection of their privacy, while staff need easy and secure access to patient information in every care setting to provide the best possible care. And as healthcare becomes more complex, ensuring information is consistent and available across every touchpoint is paramount to delivering the best patient experiences and ensuring patient satisfaction.

Health systems need to break down silos to become more nimble.

As countless factors change the face of healthcare, the need for greater efficiency and simplification of IT environments is urgent. It is becoming increasingly difficult for traditional individual point solutions to keep up with the pace of change and have lasting impact because they typically operate in silos, rather than naturally exchanging data with each other. This creates a barrier between healthcare professionals and the holistic insights that lead to the best possible outcomes for each patient.

Additionally, point solutions oftentimes are not flexible enough to quickly accommodate the integration of new tools or an increase in capacity. Each solution comes with separate life cycle terms and conditions, making it difficult for organizations to scale with ease. Furthermore, individual point solutions typically have unique or disparate security compliance efforts that must be managed individually and may result in data vulnerability.

With holes continuing to be exposed in current IT infrastructures, the transition of healthcare to a digital ecosystem is upon us.



“No single clinician can provide all the digital health products and services needed by individuals within their health journeys. Healthcare delivery organizations must master the use of open ecosystem orchestration IT platforms that are effective at orchestrating...affiliated and unaffiliated business partners.”

—Gartner⁷

To succeed now and in the future, health systems need to move beyond point solutions. Healthcare professionals require integrated solutions that ease administrative processes and orchestrate along care pathways, across multiple products. By pivoting from point solutions, health systems can liberate data from silos and connect it in a way that enables people and healthcare professionals to gain insights, take action, and collaborate on care in a more integrated way.

A platform approach is essential.

A platform is a set of software and the surrounding ecosystem of resources that help organizations adapt to ever-changing technology. Their value comes not only from their features, but their ability to connect external tools, teams, data, and processes. They allow software to communicate and share data across systems, as well as up and down a value chain.

With a platform approach, the solutions that generate data are united by a common infrastructure, which improves access to the data itself. For health systems, this means that caregivers can access the same information at different points in the care continuum, and patient-centric insights can be shared and augmented throughout the patient journey.

The platform approach can also simplify workflows within a health system. Using a common infrastructure means that the processes of administering the data are the same from solution to solution—which reduces strain on internal IT resources. It also means caregivers can spend less time learning how to enter data, and more time using it to guide their clinical decisions. Caregivers in different settings have access to integrated patient data and analytics, creating more continuity in the care experience.

The adoption of platform-based IT models is on the rise globally:

“More than 30% of global economic activity—some \$60 trillion—could be mediated by digital platforms in six years’ time, according to a McKinsey research report, and yet experts estimate only 3% of established companies have adopted an effective platform strategy.”

—Jennifer L. Schenker⁸

Because platform solutions are delivered using a Software-as-a-Service (SaaS) model, they have more predictable costs, while transferring upkeep and maintenance responsibilities away from the health system. SaaS models help move IT infrastructure from a capital expense to an operational one, with less capital investment in initial setup and monthly costs that are typically based on the usage of the system (e.g., number of users accessing the system, number of patients managed with the system, etc.). With less capital investment required and a more predictable cost model, organizations are better equipped to adapt to market changes, staying current through investment in new solutions.

Cost, equipment, and time-to-implement barriers are removed to make adjusting scale up or down simpler, and adoption of new innovations faster. And because the responsibility of keeping the system operational and up-to-date rests with the platform partner, the organization can shift the focus of its internal IT resources towards strategic growth initiatives.

Cloud adoption can increase agility and security.



In a traditional, on-premise model, organizations have difficulty scaling to meet demand, as it may require physical adjustments to the IT infrastructure. And access to data is restricted, as users must be connected to the on-premise network. A platform approach, coupled with a cloud-based model of delivery, removes those barriers.



With a platform solution on the cloud, organizations can scale up or down in a matter of days without requiring significant internal IT resources. Cloud technology provides flexibility, scalability, and speed—both in adopting new innovations and in adjusting resources to meet demand.



And data can be accessed everywhere through the cloud—an essential requirement for new models of care delivery where patient information must be visible in care settings that include the home, outpatient clinics, and traditional hospital environments.

While data needs to be visible in more care settings than ever before, it must also be secure. Cloud technology offers advantages to health systems as it relates to managing the complexities of data protection. Security protocols such as HIPAA-compliant 128-bit encryption, multi-factor authentication, and layered server security become the responsibility of the cloud provider, who maintains a team dedicated to monitoring, addressing current vulnerabilities, and preparing for the future. The burden of keeping systems up-to-date and compliant is transferred away from internal IT.

“Cloud-based solutions have matured to a point where they are more secure than local server solutions alone...The reality is that these solutions, when properly integrated, should and do strengthen an enterprise’s overall cybersecurity posture by adding additional layers of security and monitoring.”

—Why healthcare data may be more secure with cloud computing. *MobiHealthNews*, 2018.⁹

The more flexible health systems can be in responding to needs and adopting innovations, the sooner healthcare leaders can adapt to new realities and work towards achieving the quadruple aim: improved patient experiences, improved staff experiences, better outcomes, and lower cost of care.



Cloud adoption will not compromise data privacy.

“Cloud solutions tend to be more secure because large infrastructures generally are updated with the latest patches and security measures, whereas “closet-IT” or on-premise solutions might not have the same level of attention.”

—Why healthcare data may be more secure with cloud computing. *MobiHealthNews*, 2018.⁹

Like other highly regulated entities, healthcare organizations often mention security and data privacy as potential barriers to adopting cloud-based solutions. And while it is true that the protection of patient data should be paramount, there are many reasons why utilizing the cloud can be beneficial.

- Cloud security technologies are specifically designed to protect data stored or transmitted beyond the network perimeter. Because the software is in the cloud, the vendor can apply critical patches and updates instead of relying on users to do the job themselves.¹⁰
- Many cloud solutions offer the ability to use data lakes to house raw data. This structure inherently protects patient information:

“As data enters the ‘lake,’ each piece of information is identified with a range of security information that embeds security capability within the data itself. This type of approach could reduce barriers to information sharing between the industry and the public.”

—James Norman¹¹

- As cloud solutions continue to evolve and security measures become more robust, governments are revising regulations to allow for data storage in the cloud. For example, France’s Hébergeurs de Données de Santé (HDS) certification was updated in 2018 to include cloud service providers that host personal health data governed by French laws and collected for delivering health services. Issued by ASIP SANTÉ—the organization responsible for promoting electronically based healthcare solutions in France—HDS certification requires that service providers keep personal health data secure, confidential, and accessible by patients. Cloud solutions that meet the certification requirements adhere to stringent privacy policies.
- Cloud solutions are becoming more widely available at the global level—which means that data no longer needs to leave the country or region to be stored in the cloud. Organizations can adopt cloud solutions while remaining compliant with local requirements regarding data residency.



A cloud-based platform approach today is the key to seamless care tomorrow.

As healthcare continues this rapid evolution, it is vital for organizations to take a holistic view of the end-to-end patient journey as they consider how to adapt and lead the future of care delivery. Patients will continue accessing care from different points, and because of that, we must be connected and prepared to meet them where they are—with personalized services that are informed by centralized sources of information.

At Philips, we like to visualize healthcare as a continuum, as it reflects the very real concept of continuous care. And we are ideally positioned to help consumers on their health journey and connect them to their caregivers for the right intervention, at the right place, at the right time.

Today, we're leveraging our deep clinical and operational expertise, along with our unique health informatics solutions portfolio, to build innovations that link most of the clinical workflows inside the hospital with the patient's health journey in ambulatory and at home. We believe that it is through cloud-based platform solutions that we have an unsurpassable opportunity to connect care across care settings, securely break data silos, and provide a single, unified experience for patients and healthcare professionals alike. And we're committed to making that experience a reality.

Contact your Philips representative to learn more about how Philips is connecting care and empowering collaboration through HealthSuite.

References:

1. Hayward, D. (2019, July 25). Navigating Healthcare IT Transformation and Economics. Retrieved November, 2020, from <https://www.delltechnologies.com/en-us/blog/navigating-healthcare-it-transformation-and-economics/>
2. North Rizza, M., Permenter, K., Beauvais, J., Jewell, J. (2020, November). The New Enterprise Applications: Modern, Modular, and Transformational (Rep. No. US46972420). Retrieved November, 2020, from <https://www.idc.com/getdoc.jsp?containerId=US46972420>
3. Della Rosa, F. (2020, May 26). COVID-19 Response: SaaS Supports Digital Transformation. Retrieved November, 2020, from <https://blogs.idc.com/2020/05/26/covid-19-response-saas-supports-digital-transformation/>
4. Digital Transformation and Innovation in Healthcare. (n.d.). Retrieved November, 2020, from <https://www.gartner.com/en/industries/healthcare-providers-digital-transformation>
5. Lin, C., MD. (2020, November 24). What Clinical Informatics Is Not. Retrieved November, 2020, from <https://healthsystemcio.com/2020/11/24/what-clinical-informatics-is-not/>
6. Philips. (2020, March 23). Transforming healthcare experiences. Retrieved November, 2020, from <https://www.philips.com/a-w/about/news/future-health-index/reports/2019/transforming-healthcare-experiences.html>
7. Gilbert, M. (2020, August 11). It's Time for Healthcare Delivery Organizations to Adopt a Digital-First Strategy. Retrieved March 19, 2021, from <https://www.gartner.com/doc/reprints?id=1-24DB6303&ct=201014&st=sb>
8. Schenker, J. (2019, January 28). The Platform Economy. Retrieved November, 2020, from <https://innovator.news/the-platform-economy-3c09439b56>
9. Comstock, J. (2019, April 01). Why healthcare data may be more secure with cloud computing. Retrieved November, 2020, from <https://www.mobihealthnews.com/content/why-healthcare-data-may-be-more-secure-cloud-computing>
10. Protecting Data in a Shifting Security Landscape. (2019, May 01). Retrieved November, 2020, from <https://healthtechmagazine.net/resources/white-paper/protecting-data-shifting-security-landscape>
11. Norman, J. (2016, June 13). Why healthcare organisations should take the plunge with data lakes. Retrieved December, 2020, from <https://www.linkedin.com/pulse/why-healthcare-organisations-should-take-plunge-data-lakes-norman/>

