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BRIDGING THE GAP BETWEEN HEALTHCARE & THE FUTURE THROUGH
INTELLIGENT & RESILIENT IT INFRASTRUCTURE

Healthcare needs to be ready to face any challenges thrown its way. **Always.**

Only recently, the COVID-19 pandemic showed healthcare facilities how rigid and inflexible their operations were. Increased exposure to a wider base of illnesses and an aging population contributed to the pressures of this industry.

Furthermore, workforce shortages, data management inefficiencies, higher turnaround times leading to care backlogs, and the financial uncertainty in healthcare around the world stunted healthcare facility readiness in responding to rising demands.

The necessity of total transformation in the industry and its setup has, thus, presented itself with urgency. Healthcare now needs to respond to contemporary challenges with a convergence of modern technology, philosophies, and practices through granular modules for end-to-end process simplification.
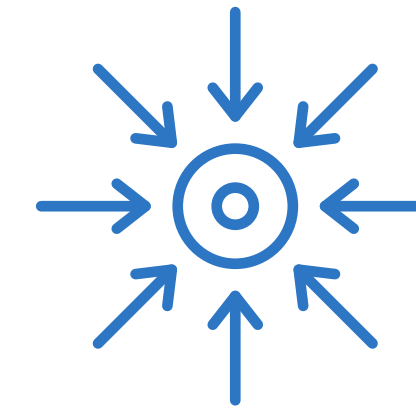
Summing up, the major challenges that healthcare as an industry faces today are:
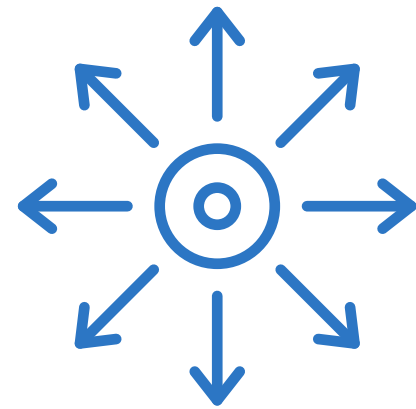
Outward challenges

The roadblocks associated with care and service delivery. The pandemic created a drastic paradigm shift to efficient on-premises and remote healthcare, and the facilities found themselves lacking in the digital capacity required to meet the spiking demand.

Inward challenges

The repetitive, mundane workflows that take away from quality service. Healthcare workers end up investing more time than necessary in handling automatable tasks. Additionally, the partially digital, poorly managed nature of healthcare today creates more siloes and inefficiencies than an offline facility.
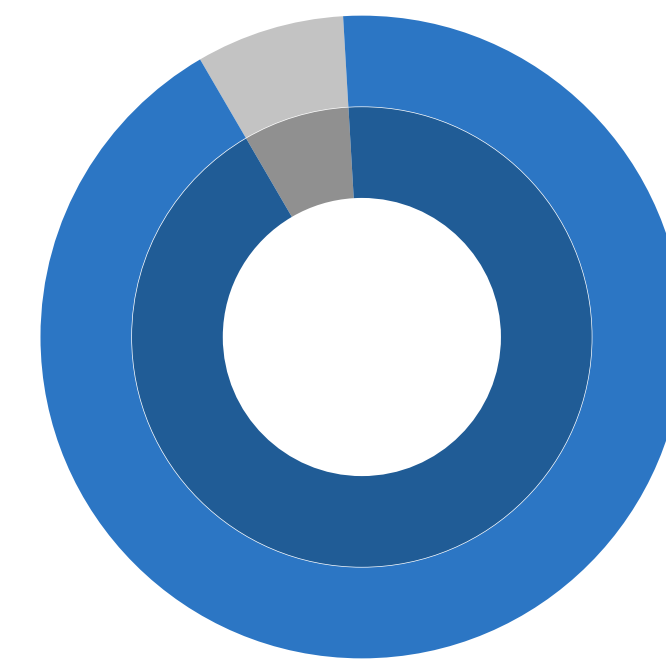
In the end, transforming a healthcare facility by pivoting on digital pillars centers on enhancing these major aspects:

◆ **Patient experience**   ◆ **Operational efficiencies**

◆ **Care & service delivery**   ◆ **IT infrastructure**

Digital transformation is rapidly taking on a structured and more refined form. Healthcare facilities have begun to understand the importance of categorizing and phasing their digital adoption. Responding to the increasing complexities of data, facility, and resource management, digital transformation solutions can now help health facilities orchestrate their long-term and short-term goals with enhanced performance on all fronts.

At the core of every digital transformation lies the aspect of enhancing the digital capacity of an institution. Healthcare facilities now seek assistance with phasing out legacy IT setups and transitioning to a robust IT ecosystem that is always online, functional, and efficient.

The focus on bettering data, resource, and process management is paramount. An uninterrupted and resilient ICT landscape thus needs to be architected for healthcare to make it future and wartime-ready.

92%

of the survey respondents highlight that transforming patient experience with a healthcare facility is the top-rated outcome of digital transformation.

88%

On the same lines, patient experience is the healthcare function that received the most investment in the transformation.

IT in Healthcare:
Why it Matters

A robust IT landscape is imperative to achieve business continuity in a volatile and evolving healthcare universe. Modernization of healthcare ICT infrastructure helps facilities achieve their long and short-term goals, in addition to providing them with enough resilience to absorb demand-supply fluctuations and maintain the balance between agility and sturdiness.

With the objective of streamlining the operational efficiency of a business system in addition to improving the quality of care and services, a healthcare facility needs to function with a central, unified approach for disparate processes.

"Digital strategy is not and should not be separate from the organizational strategy."

- **Cherodeep Goswami**,
  system vice president and chief information officer at the University of Wisconsin Health.

This statement applies to healthcare as well. A well-defined digital strategy helps healthcare facilities improve their overall functional performance, aiding them in etching out more time for enhancing value and quality delivered to the stakeholders involved. Surprisingly, a new trend is emerging in healthcare circles, riding on the wave of digital transformation and powered by data and insights.

Healthcare facilities are now exploring the "Advisory" models of patient care, focusing more on delivering quality treatment rather than securing a one-time customer. To cultivate a lifetime relationship with a customer, healthcare facilities are relying more on intelligent insights and the relevance of service and care delivery through contemporary means using well-configured digital interfaces.

Cloud computing models have emerged as the need of the hour for detangling the complex processes, functions, and operations that a healthcare institution must deal with on a daily basis. The ICT environment that is made possible through clouds supports the modernization of a business with the essential tools and computing power required to manage critical and non-critical workloads at facilities with ease.

Patient **Data Management**

Countless institutions have now begun to adopt Electronic Health Records (EHR) and Electronic Medical Records (EMR) of patients in the wave of digitalization. Functioning on legacy IT systems, however, causes frequent failures and compromises machine performance under increased data loads on the systems created with the heavy volume of EHRs and EMRs.

Healthcare facilities easily manage this situation by deploying cloud-first solutions that deliver the necessary workload distribution and computing bandwidth for patient data management. Expert cloud computing platforms in the industry, such as Web Werks VMX, are making it possible to combine artificial intelligence with patient data to enable healthcare to deliver high value as an add-on with patient care.

Information Delivery

Digitalization also encompasses deploying necessary tools, applications, and software on-premises and across devices that enable information consolidation.

Establishing a centralized and singular source of truth for enterprise information and data is the first step to ensuring an efficient flow of the latest and updated information at the point-of-care and point-of-service.

A robust IT infrastructure functions on a universalized protocol that helps the health facility orchestrate efficient workflows across departments like caregivers, administration, clinicians, and patients.

Powered by artificial intelligence, a cloud-based IT ecosystem by Web Werks VMX choreographs automated and logical workflows to seamlessly carry information across the facility from a single source of truth to any destination - on-premises or remote.

Flexible Healthcare Delivery

The pandemic revealed a new way of catering to patients in the form of telehealth. Facilities are now increasingly leveraging the gifts of modern technology, namely, high network speeds, video conferencing capabilities with excellent video quality, commerce capabilities, and the power of media, to serve their stakeholders along the value chain.

Cloud IT systems make it possible to scale and deploy the computing power required to house and run a variety of enterprise applications. Right from telehealth modules to delivering patient data to remote locations over high-security networks, the centralized and democratized IT landscape keeps the facility resilient for remote and quick on-premise care.

Data Accessibility at the Point-of-Care

Modernized IT systems improve patient data accessibility regardless of device and location. Healthcare facilities can thus improve the quality and promptness of service delivered at the point-of-care

with insight-rich data, patient history, treatment, and medications, consulting medical professionals, and a lot more.

Clouds Keep Patient Data Safe & Handy

Cloud networks hosted in certified data centers are secure and fortified with multilayer security that ensures compliance with national and international standards (like HIPAA, PIPEDA, HITECH, and GDPR).

Health facilities with electronic records of patient data are thus able to eliminate manual compliance checks and mitigate violation risks by automating the process orchestrated through the cloud IT with Web Werks VMX.

Consumer-Focused
Healthcare Delivery

"A patient's journey is not just in the hospital. There is a "before" and an "after" (or a "not at all"), and what we need to do is be able to stitch that together, making sure we are caring and understanding the context and then where we can leverage those digital tools to be there for them."
- CDO of a large health enterprise.

In essence, modernized IT aids in reimagining healthcare for cultivating lifelong relationships with those needing care and rehabilitating their faith in the institution as a facility that has their interests in mind.

Real-Time Patient Feedback, Monitoring, & Response

Healthcare is now able to commoditize its services and garner patient feedback in real-time through digital touchpoints that can be shared over channels like IMs, emails, or SMS.

Cloud systems have also enhanced the way patient health can be monitored - remotely or on-premises - through applications that share real-time health data to the enterprise through secure and compliant networks. Medical response teams can thus be alerted in time when healthcare systems flag an emergency in a patient's real-time health monitoring data.

Delivering Value with Care

An IDC research reveals that 42% of caregivers and clinicians have assimilated digital collaboration tools into their daily practice.

The pandemic forced remote assistance on healthcare institutions that weren't digitally equipped or prepared for the transition. The traditional workflows and practices were rigid and set in stone and couldn't accommodate the morphing needs of the healthcare patients, workforce, administration, and clinicians. This triggered an irreversible evolution in the industry towards adopting a digitally integrated and agile approach to operations and delivery that resonated well with the needs of the hour.

Web Werks VMX Enterprise Cloud is an integrated IT solution for healthcare institutions offering high computing power at scale. Facilities can now reinvent their workflows and processes to align with the digital necessities that customers have come to expect and take for granted.

A modernized and robust digital infrastructure makes it possible for health institutions to generate, collect, collate, correlate, organize, and process patient (and

stakeholder) data with relative ease and automatically. With a digital backbone running across the enterprise at each point of contact, the users can access, enter, and modify information directly on the enterprise cloud, updating the information everywhere.

Such universalization and integration of data is only possible with a hyperconnected ecosystem that is always aware and runs on intelligent algorithms that can synthesize insight from each byte of data collected and learn with each iteration.

Cloud enablers like Web Werks VMX make it possible for healthcare institutions to achieve their envisioned agility and resilience by orchestrating a customized approach to cloud migrations. By exhibiting precise balance in workload allocation to multi-cloud and hybrid cloud environments, healthcare can now demonstrate better system uptimes, higher efficiencies, increased volume of data processing per unit of time, and better returns in terms of actionable insights.

Intelligent workload allocation allows healthcare to stay prepared for increased workloads in clutch situations (much like the recent pandemic).
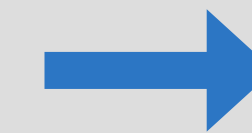
Resilience at Every Step of the Journey

A reliable IT landscape in a health institution helps deliver better service to the patients. The lesser realized but major benefit here is that it also streamlines internal operations, functions, practices, and workflows by creating a digital culture in the facility.

Survey Response to DX Barriers in %

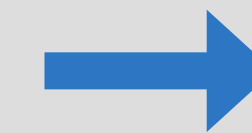### Solutions Dissolving DX Barriers Highlighted by Respondents

IT Infra solutions

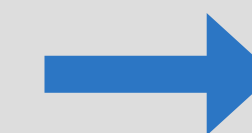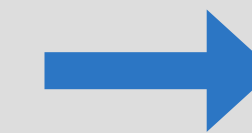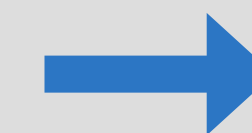| Solution	Barrier	%
Implementation of AI, ML, NLP to enhance and enrich raw data	Data Quality	64%
Enabling always-online systems with ready data access at point-of-care	Data Access	52%
Customized cloud environments, phased scalability and dormant computing power for emergencies	Budget	68%
Pay-as-you-use models for Cloud resources improve ROI from deployed solutions	ROI	48%
Cloud implementation partners handle everything	Talent Requirement	48%

- Enterprise-level applications display better online, networking, and collaboration capabilities which works to coordinate the ground force better.

- Cloud adoption assures smoother administrative processes across various healthcare channels. This includes providing patients with ways to initiate inquiries through SMS, email, website, call, or in-office channels to avail of care or services. Integrated systems are able to route inquiries and service requests to the right department, enabling smoother interconnection, relevance, and delivery while enhancing customer experience at the same time.

- Healthcare is now leveraging the power of automation to design follow-ups, treatment and appointment reminders, cautionary communications, and updates relevant to the patients to be delivered to their channels of preference.

- Clinicians can leverage the cloud's AI and ML capabilities to augment and enhance their caregiving processes. It helps them automate and process patient data with ease and within lesser time.

- Gaining access to data whenever and wherever empowers caregivers to think on their feet in cases of emergency, equipped with insights and actionable and targeted data at the point-of-care. Patients have their EHR, EMR, and interaction history already collated by intelligent enterprise systems ready for access, eliminating information redundancy and expediting treatments.

- On-demand scaling and deployment of augmented computing capabilities and enhanced performance is possible through modernized IT infrastructure and well-connected systems. Healthcare has special utility for such preparedness in the event disasters strike.

Modernized IT landscapes are providing healthcare with the necessary tools it needs to evolve with the times and create a caregiving ecosystem that is accessible from any corner of the world and delivery-ready.

Summary

By 2025, the market for global EHR/EMR will have reached

$38 billion.

- -

During the pandemic year (2020), digital health funding spiked to

$13.9 billion.

Healthcare is now extending beyond the four walls of dedicated facilities or private clinics. Digital, interconnected channels are enabling caregivers to create a web of service delivery over hyperconnected networks and digital channels. Implementation partners have steadily addressed the barriers presented by digital transformation through scalable, customizable, secure, and speedy migration models that can be personalized to every healthcare facility on a needs-basis.

The future isn't far from where disparate technologies would integrate with facility systems, like personal wearable devices communicating directly with clinician's care systems for exchanging vital health information. Such mechanisms of care delivery and patient health monitoring can prove to be pivotal in saving the lives of high-risk patients.

A robust IT infrastructure is what lies at the core of making a truly unified, integrated, and smooth-functioning healthcare ecosphere possible.

Web Werks
VMX

visit **www.webwerksvmx.com** or call us on **+91 8097 522 490.**

Reference Links:

1. https://www2.deloitte.com/us/en/insights/industry/health-care/digital-transformation-in-healthcare.html

2. https://drive.google.com/file/d/1UZbS9UBl3V4gwlswdZy1uUjTercgKB4C/view?pli=1

3. https://www.statista.com/topics/2409/digital-health/#dossierKeyfigures