DELL Technologies

Rethinking today's patient care delivery and workflows

HOW VIRTUAL HEALTH IS EXPANDING PATIENT CARE ENGAGEMENT

For healthcare providers and patients around the world, virtual health has progressed from an optional service to a necessary one to meet the needs of coordinated care both inside and outside of traditional healthcare settings. From remote patient care to tele-ICUs and AI-assisted workflows, virtual health solutions provide the opportunity for healthcare organizations to rethink their clinical delivery protocols and workflows.

INCREASE YOUR DIGITAL DEXTERITY WITH VIRTUAL HEALTH

Boost individual productivity, strengthen collaboration, and improve patient care

The need to build out a comprehensive virtual health environment has accelerated in today's healthcare environment as organizations work to balance clinical and business requirements. Virtual health capabilities are front and center as caregivers look to expand their patient care treatment tools—leveraging technologies that facilitate remote monitoring, collaboration, communication, and the safety of caregivers and patients.

Virtual health moving forward

Create more clinical focus on patients regardless of location

While recent challenges have accelerated the use of virtual health, one thing is certain: there is a long-term need for fast and secure virtualized healthcare across the care continuum; and achieving that level of healthcare requires a plan for digital transformation with virtual health at the core of the delivery model.

7x

anticipated growth in telehealth by 2025, according to Frost & Sullivan—representing a five-year compound annual growth rate of 38.2%.[1]

76%

of patient consumers are now interested in using telehealth services, up from just 11% a year ago.[2]

According to a recent report by Frost & Sullivan,[1] telehealth is set to continue surging forward as both healthcare providers and patients across the globe take note of its many benefits, including reducing risks and enabling certain diagnoses and treatments to be conducted remotely. In fact, many physicians believe this will lead to a drastic shift in how healthcare is delivered at the point of care. They believe telehealth will be a method of triage, increasing clinician presence in the home, while reserving in-office visits for patient care episodes that require it.

Advancements in data and data management capabilities coupled with remote care delivery technologies are enabling new virtual health workflows to take shape across the healthcare system—from preventative care to virtual inpatient monitoring to remote chronic care management. As the needs of patients and providers evolve, these virtual health innovations will continue to provide the foundation for the future of care.

THE VIRTUAL HEALTH ECOSYSTEM

VIRTUAL HEALTH | also known as eHealth

The broad term for delivering coordinated, collaborative patient care inside or outside of traditional medical settings using all relevant information and communication technologies (ICT)

OTHER NON-TRADITIONAL MODELS

Using all ICTs such as mobile self care (mHealth) and disease-management initiatives

VIRTUAL CARE | also known as Remote Care

The ways healthcare providers remotely interact with each other and their patients, including telehealth and remote patient monitoring

TELEHEALTH

Refers to the use of telecommunications technologies to deliver health and wellness services and information that support patient care, including telemedicine

REMOTE PATIENT MONITORING

The continuous or periodic monitoring of vitals regardless of patient care location—both in-facility (e.g., Tele-ICU, TeleSitting) and at home (TeleNursing)

*A recent Annual European eHealth Survey revealed that **telehealth services** are among the biggest eHealth trends in Europe.*[3]

Boost clinical productivity and strengthen collaboration

Telehealth and remote care solutions are revolutionizing how we approach patient engagement.

Both clinicians and patients have embraced the use of remote care, especially telehealth services, in the current environment. From prevention and screening to monitoring chronic conditions like cardiovascular disease and diabetes to extending behavioral health services, telehealth capabilities are becoming a vital component of modern healthcare. For healthcare practitioners, they can effectively scale services to see more patients while also obtaining more accurate data from outpatients—increasing their quality of care after discharge. Rather than relying on information given to them by their patients which can be imprecise; remote and virtual care solutions can provide continuous and precise measurements that inform better treatment beyond the acute care location.

For the patient, remote care isn't simply more convenient and efficient care. It can help facilitate early and timely diagnosis to avoid preventable readmissions. Since the healthcare facility can house the data and integrate it with its EMR, remote care can also be extremely useful in determining the best possible care option for the patient if future readmission is necessary.

In the U.S., readmissions cost an average of $14,400 per person and over $60 billion per year, and costs continue to rise.[4] Remote patient monitoring and virtual care technologies are helping hospitals lower readmissions through new preventative measures.

The World Health Organization anticipates that even with a 10% increase in the global healthcare workforce by 2030, there will still be a shortage of nearly 18 million healthcare workers due to "population growth, aging societies, and changing disease patterns."[5]

Remote care technologies are helping to address this shortage with new approaches to patient engagement.

Video-enabled inpatient care

When hospital admission is necessary, practitioners' abilities to visit and manage all their patients remain a challenge in acute patient care. We see this difficulty represented in the sometimes overwhelming ratio of hospital beds to healthcare staff. As clinicians can physically see only so many patients and effectively treat and monitor them during their daily rounds—especially during a rise of potentially infectious cases where repeated visits risk the health of both staff and patients, hospitals need more options to interact with their patients remotely.

With remote care technology solutions, clinicians can interact with their acute care patients using secure video-enabled platforms while they're away from the acute care location, if they need to scale their services to accommodate busy rounds, or when the risk of infection becomes too high. Leveraging video-enabled inpatient care also helps to reduce the need for personal protective equipment (PPE).

Dell Technologies Acute-Care Mobile Solutions

Dell Technologies and our partners empower care professionals by helping them be more productive, more satisfied, and better able to care for their patients remotely with our acute-care mobile solutions—including video-enabled telemedicine, specialized medical devices, mobile compute, networking and infrastructure solutions, and telehealth accessories. With remote monitoring and analytics platforms powered by Dell Technologies, you can unlock your data for waveform integration, predictive medicine, risk stratification, Tele-ICU and more.

Remote chronic disease management

According to the World Health Organization, chronic diseases account for almost three quarters of all deaths worldwide.[6]

Patients with a chronic illness often require frequent in-person check-ups to monitor vitals closely and help prevent their condition from deteriorating. But due to rising healthcare costs, mobility restrictions, and limitations on inpatient services, healthcare organizations are looking to new virtual approaches to extend care capabilities to their patients and families.

Innovations in remote monitoring, IoT, and analytics technologies are quickly progressing the treatment of chronic illnesses to help expand coverage and ensure better patient outcomes. These capabilities are empowering patients with diseases such as cardiovascular, respiratory, diabetes, and musculoskeletal conditions to better track their own progress and current condition from the comfort of their own homes or wherever they may be.

By leveraging intelligent monitoring devices, care providers can remotely gather large amounts of near-real-time data. Instead of healthcare providers making decisions and recommendations according to only a few data points obtained during office visits, modern analytics platforms can simultaneously measure hundreds to thousands of data points remotely and consistently for a more complete, holistic picture of the patient's status.

Coordinating the intake of this information and being able to create actionable insights based on analytics are critical to increasing reach and improving patient outcomes. By bringing all this data together, we can begin to gather a more complete picture of the patient whether chronically ill or seeking wellness guidance. For example, it is plausible that care teams in the near future can use the data to measure the impact of introducing a new treatment regimen or to develop predictive patient algorithms, giving practitioners a crucial advanced window on a sentinel event.

The eCare21 Virtual Care Solution, powered by Dell Technologies

Dell Technologies and eCare21 have collaborated to create a solution that informs caregivers, care team members, and healthcare professionals to make treatment decisions that lead to better patient outcomes and help reduce hospitalizations and readmission penalties through preventive care. The solution coordinates the intake of biometric and other health data using powerful Dell Technologies analytics platforms and creating actionable insights to improve patient outcomes.
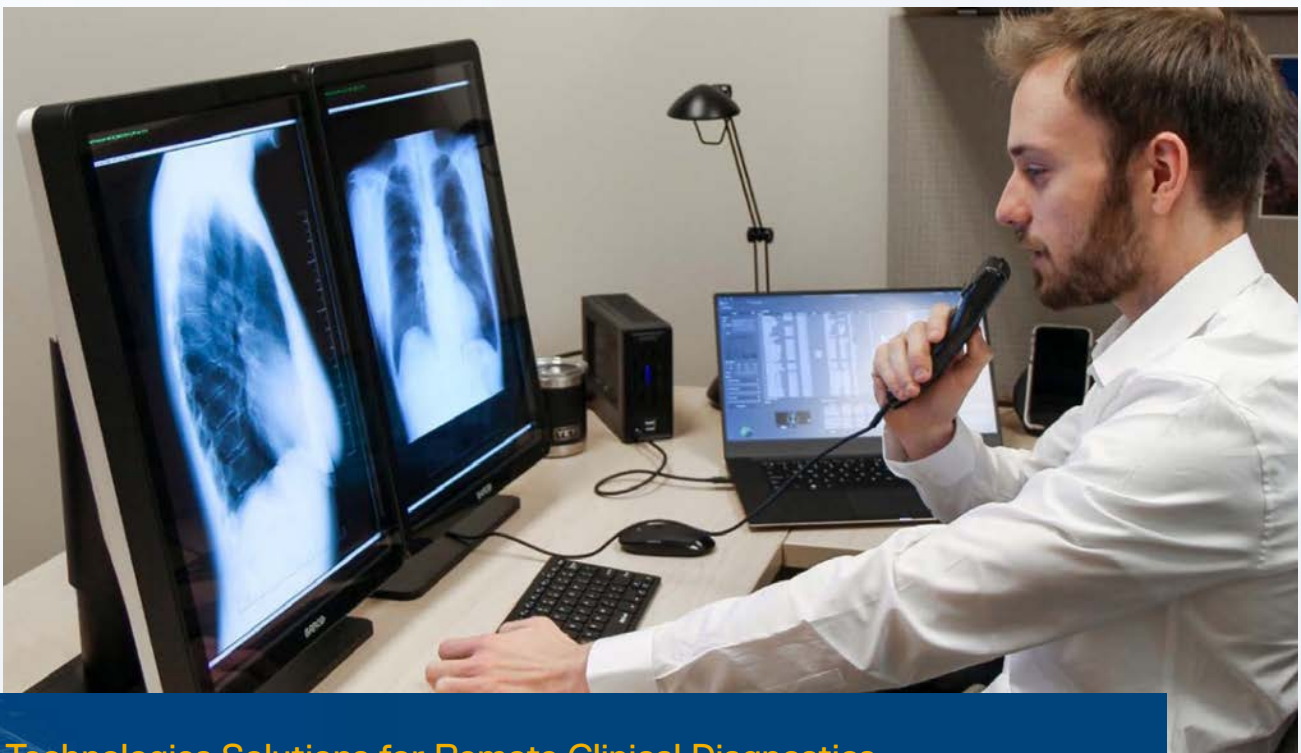
Remote clinical diagnostics

Clinical specialists including radiologists, cardiologists, pathologists, dermatologists, and others are opting to work remotely when possible. They are responding to **a rising demand for remote clinical diagnostics**—stemming from a need for quicker responses, recent stay-at-home mandates, and second opinions.

While working remotely, these clinicians require the proper equipment along with efficient communication capabilities. They need to rely on the same level of quality, security, and performance as medical workstations provide in the healthcare facility. They require diagnostic quality and performance as well as secure, reliable, and consistent access to EHR and medical imaging solutions such as PACS.

A typical home clinical diagnostic workstation includes a specialized diagnostic monitor, a high performance workstation, a specialized graphics controller for laptops, and a digital workspace featuring authentication and security controls for remote access with a network optimized for reliable access and the fast transfer of patient images.

Dell Technologies Solutions for Remote Clinical Diagnostics

With Dell Technologies solutions for clinical diagnostics, expect the same performance as in the hospital reading room. Designed to optimize remote workflows, the solution brings together Barco monitors, Dell Precision workstations with NVIDIA graphics, a display controller, and VMware® Workspace One for secure remote access to PACS imaging. Add the optional VMware SD-WAN by VeloCloud for optimum bandwidth management.

Data-integration platform as a service (iPaaS)

With massive patient data generated in disparate sources from payer, provider, and patient management systems, healthcare needs a way to leverage all that information and bring it together to extract more actionable insights and improve patient care. Data platforms using AI and machine learning are becoming a requirement in healthcare as a way to help reduce data fatigue, increase staff productivity, and improve employee and patient satisfaction. However, healthcare organizations see the most significant benefits from this workflow integration when combining patient data across multiple sources.

Unifying multiple technology platforms under an intelligent data-integration service not only opens the doors to **creating a holistic view of each patient, including unique care needs, but also gives way to a master patient index and master data management capabilities** that can redefine how healthcare operates and how care delivery is approached entirely.

Dell Boomi Unified iPaaS Platform

Dell Boomi is a cloud-native, unified, open, intelligent platform that provides healthcare organizations with secure and scalable integration capabilities to quickly build connected healthcare ecosystems geared for multi-party collaboration, modern channels of patient engagement, and data-driven insights.

Security across all touch points

Device security is a persistent requirement for existing and emerging healthcare technologies. Safeguarding patient data and hospital administrative data is becoming increasingly complex. The expansion of virtual health is resulting in a growing attack surface. More healthcare providers and staff are working remotely, and more intelligent IoT and IoMT devices are being added to the edge.

From utilizing high-granularity automatic fingerprinting to contextual anomaly detection at the sensor level, this new era of end-user device security is preparing hospitals to defend against cyber threats using AI-assisted ransomware, mobile malware, and other advanced persistent threats that we've seen more recently. This approach not only extends to existing IT security measures like firewalls and access controls but also leverages these systems to make them smarter, using unique data from each device to provide even more context and control.

Dell Technologies Device and Data Security Solutions

Dell Technologies security solutions, including VMware Carbon Black endpoint security, VMware NSX network micro-segmentation, and Medigate clinical device-fingerprinting cyber recovery solutions for air-gapped data recovery, provide a comprehensive approach to endpoint threat management. Intelligent security is built into every touch point—from edge to core to cloud—factoring in users, IDs, devices, assets, and data.

Dell Technologies Virtual Health Solutions

Dell Technologies has collaborated with top virtual health and technology partners to deliver **solutions that streamline workflows, improve patient safety, and inform caregivers to make better clinical decisions.**

Designed with healthcare providers and patients in mind, these solutions leverage best-in-class Dell Technologies compute, analytics, infrastructure, and multi-cloud platforms in collaboration with our healthcare partner solutions to enable healthcare organizations to advance their virtual healthcare initiatives.

Simplify IT management while scaling to meet increasing network bandwidth demands with Dell Technologies modern infrastructure solutions from flash to cloud-enabled to scale-out and software-defined technologies.

Dell Technologies Health IT consultants and technology services are available to assist your healthcare organization with the planning, development, deployment, and support of your virtual health solution implementation, including integration with your EMR and standard workflows.

WHY DELL TECHNOLOGIES FOR VIRTUAL HEALTH:

We offer a wide range of solutions for your entire virtual care ecosystem from edge to core to cloud.

Our transformative end-user devices, virtualization, hyperconverged infrastructure, and multi-cloud platforms are designed to work with partner solutions.

Our Health IT consultants, solution architects, and delivery teams bring extensive experience in both healthcare and information technology to help you accelerate your digital transformation.

DELLTechnologies

Advancing patient care delivery and workflows with Dell Technologies

There's never been a better time to embrace the fast-developing benefits of virtual health. From increased access to care, improved patient outcomes, increasing access to reimbursement, and reducing overall costs of care, innovative remote care solutions are radically and permanently changing how our healthcare is delivered to achieve clinical and business agility as we shift from response to recovery.

Find out more about how Dell Technologies transformative end-user devices, virtualization, hyperconverged infrastructure, and multi-cloud platforms are designed to work hand-in-hand with our partner solutions. Our Health IT consultants, solution architects, and delivery teams bring extensive experience in both healthcare and information technology to help healthcare organizations accelerate their virtual health transformation.

Learn more about our solutions for healthcare

Contact one of our healthcare experts

Join the conversation with #TransformHIT

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