Brochure

Transforming healthcare for the future

Best practices for reinventing the way you work in healthcare

Escalating healthcare demands are changing the way organizations operate, urging them to uncover faster and more effective ways to collaborate, access critical information, and provide care.

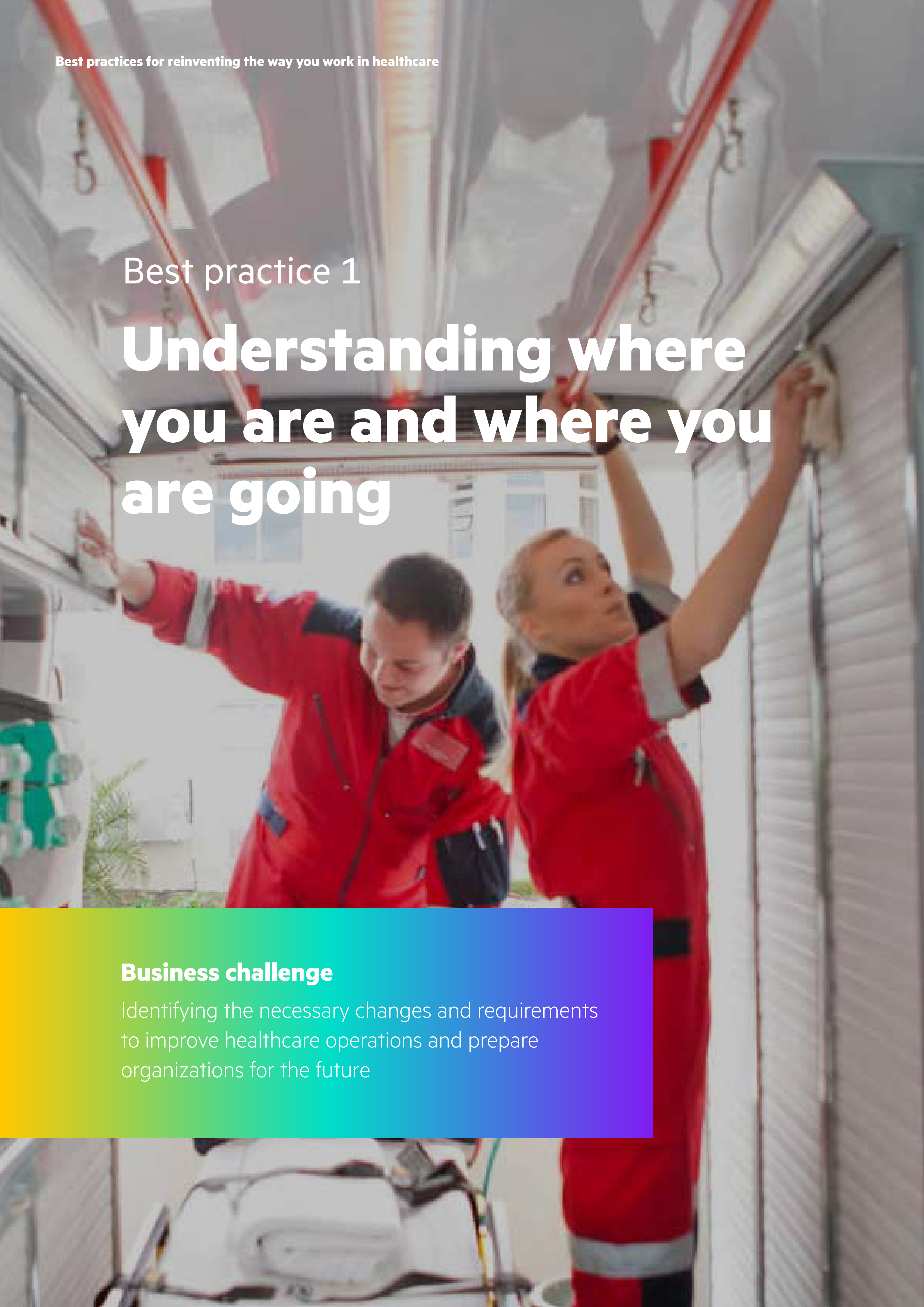
Global trends like population growth, increasing life expectancy, novel infectious diseases, and unhealthy lifestyles have triggered a massive need for health services. Healthcare workers now face mounting pressure to deliver personalized care to a rising number of patients. These patients require more doctor visits, complex treatments, and medications as well as the use of specialized equipment and personal devices which produce troves of medical data.

Today, mobile workforces are on the rise and quickly exceeding the capabilities of traditional infrastructure. Healthcare organizations are searching for better ways to operate and administer care in hospital rooms, in local clinics, and to rural communities. Outdated technologies cannot keep up with the explosion of health data and often lack the performance, flexibility, and security features to support users across various locations. Organizations must create a new type of environment that can extend the reach of healthcare workers in order to give patients safer, more immediate care.

Virtual desktop infrastructure (VDI) is changing how we think about healthcare. Hewlett Packard Enterprise and Intel® are pioneering this shift by developing robust virtual environments to boost remote productivity, scale on demand, and mobilize a growing network of healthcare workers. Together, we deliver workload-optimized solutions that help you respond quickly to business needs, such as turning health data into faster decisions and keeping data security top of mind.

The best practices outlined in this brochure will act as guiding principles for organizations looking to transform. Learn how to address key challenges, define an innovation strategy, and select the right VDI healthcare solutions to reinvent the way you work.

Table of contents



Best practice 1

Understanding where you are and where you are going

Business challenge

Identifying the necessary changes and requirements to improve healthcare operations and prepare organizations for the future

Enhancing healthcare operations and preparing for future challenges requires a clear understanding of where you are and where you need to go. Today, health IT is addressing the complexities of a hybrid workforce while treating patients across numerous locations. To succeed, they must learn how remote and mobile work capabilities can benefit their teams and patients as well as their business.

Virtual environments enable widespread access to critical resources, bringing data and insights to caregivers on demand and around the globe. Caregivers benefit from location freedom with the ability to work and communicate seamlessly. At the same time, patients benefit from increased access to doctors and the health services they need. This year, 65% of patients will have accessed care through a digital front door as healthcare organizations implement VDI technology to improve access, engagements, and experiences across all services. VDI can help check all the boxes:

- **Productivity:** With easy, anytime access to critical resources and data, it's business as usual for healthcare teams at work, at home, and in between.
- **Agility:** IT management is centralized and simplified with VDI, so organizations can easily update applications and scale rapidly to meet escalating demand.
- **Savings:** Compute power required for health applications resides in the data center, allowing organizations to invest in more economical end-user devices.
- **Security features:** Data remains in the data center instead of on individual devices, dramatically reducing risk if a device is stolen or compromised.

To prepare for the future of healthcare, organizations must have clearly defined goals for accelerating transformation and achieving a successful new workplace model.

The first step is to evaluate how different workflows impact important operational and clinical outcomes. Mapping workflows from the perspectives of caregivers, patients, and IT will help identify the specific workloads, resources, and support they need to enhance clinical and patient experiences. From this point, organizations can better determine how to update their infrastructure technology.

Performing an assessment is key for strategic business–IT alignment, operational process adequacy, systems and software configuration, and compliance mandates. Assessments of health IT environments are essential to both operational and financial success. HPE services can provide deep technical knowledge and innovation to support healthcare organizations as they transition.

Best practice 2

Identifying infrastructure challenges

Business challenge

Determining how on-site and remote technologies will be structured and used to meet today's and tomorrow's challenges

The demand for healthcare combined with massive data growth can cause major roadblocks to patient care. With greater demand comes greater costs and consumption of IT and resources. Many organizations are wondering how to revamp their infrastructures or how to manage new deployments against limited IT budgets and expertise. Healthcare organizations should consider modernizing their environments from the ground up to simplify and enhance their operations. With VDI, they can accomplish both while reducing costs.

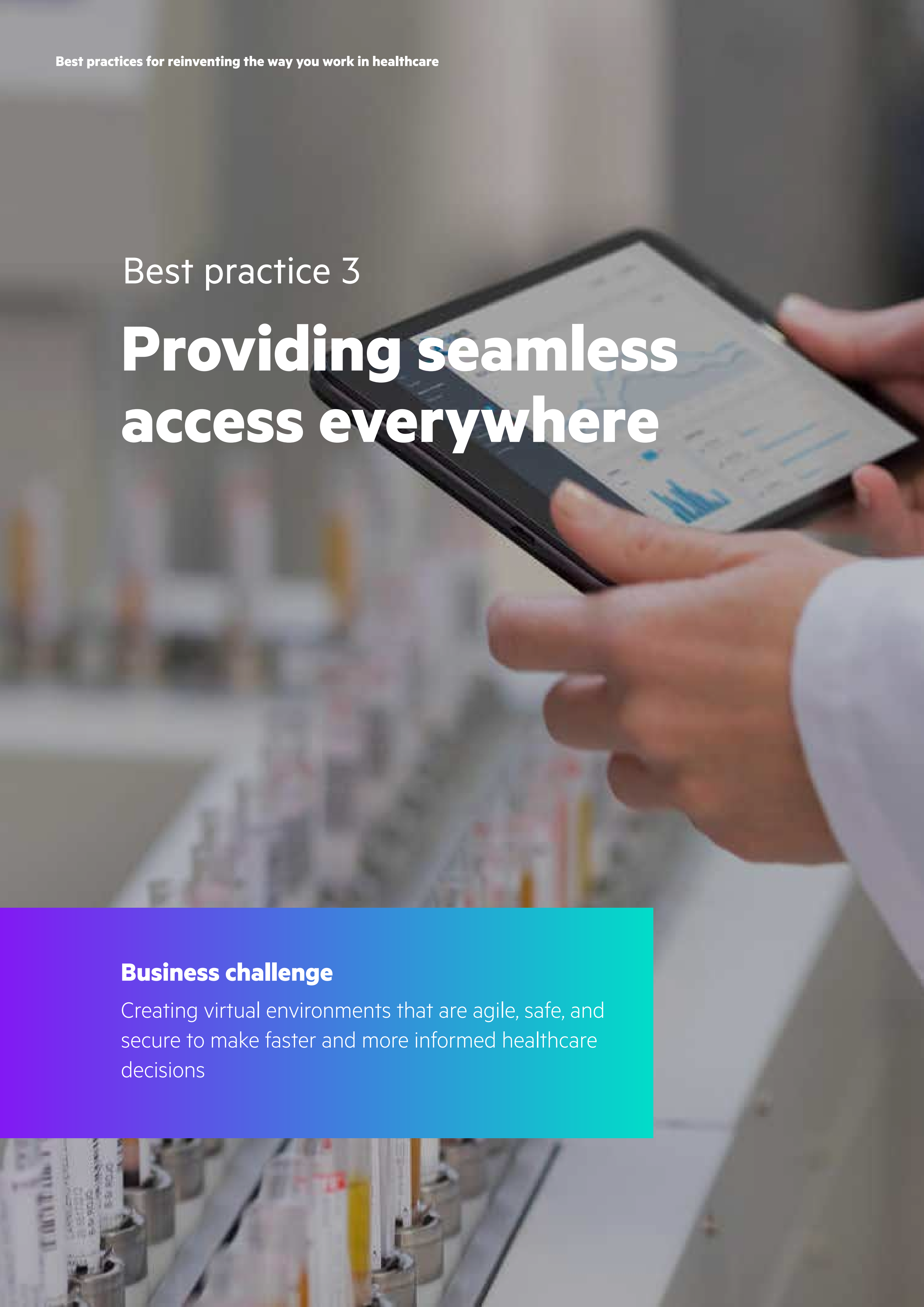
Start by applying a transformational approach to on-site facilities and remote locations. Review the use cases, workflows, and resources needed to meet and achieve critical requirements and desired outcomes—such as collaboration, productivity, and heightened experience along with reduced management and support costs. Optimizing on-site facilities results in more efficient operations and management can free up budget for transformation efforts.

A large number of organizations choose a cloud deployment model for VDI to gain maximum flexibility and cost-efficiency. Aruba Edge Services Platform (ESP) is a cloud-native platform for implementing any user, device, or medical IoT. Aruba technology makes it easy to power immersive mobile experiences, using AI to automate and secure the network. It delivers fast, stable connectivity that expands access to important health services and lowers operational costs, making Aruba ESP a must-have tool for modern healthcare.

As-a-service models reduce capital expenses and IT costs using pay-as-you-grow scalability to deliver the right amount of resources on demand. HPE GreenLake checks all the boxes, delivering VDI as a service with the security, control, and compliance benefits of on-premises IT. HPE GreenLake for VDI and technology from Intel enable organizations to provide secure virtual desktops to users in any location. Organizations can create fully customized VDI solutions for their network requirements, scale simply, and pay per use or per month. HPE can even operate and manage the platform on their behalf. Now, transformation that once took years can happen in a matter of months.

At the University of Michigan Health-West, 80% to 85% of the workforce is on VDI. Their vision is to give healthcare workers the capability to provide care anywhere, anytime, and on any device with no latency. The university selected HPE GreenLake to increase IT flexibility while controlling costs. According to Joshua Wilda, CIO of Health-West, the HPE solution has helped them meet the quadruple aim of healthcare—providing high-quality, low-cost, best-patient, best-provider experiences by:

- Offering just-in-time capabilities without adding infrastructure
- Supporting provider work life by offering a BYOD option
- Improving population outcomes where patients can receive “anywhere care”



Best practice 3

Providing seamless access everywhere

Business challenge

Creating virtual environments that are agile, safe, and secure to make faster and more informed healthcare decisions

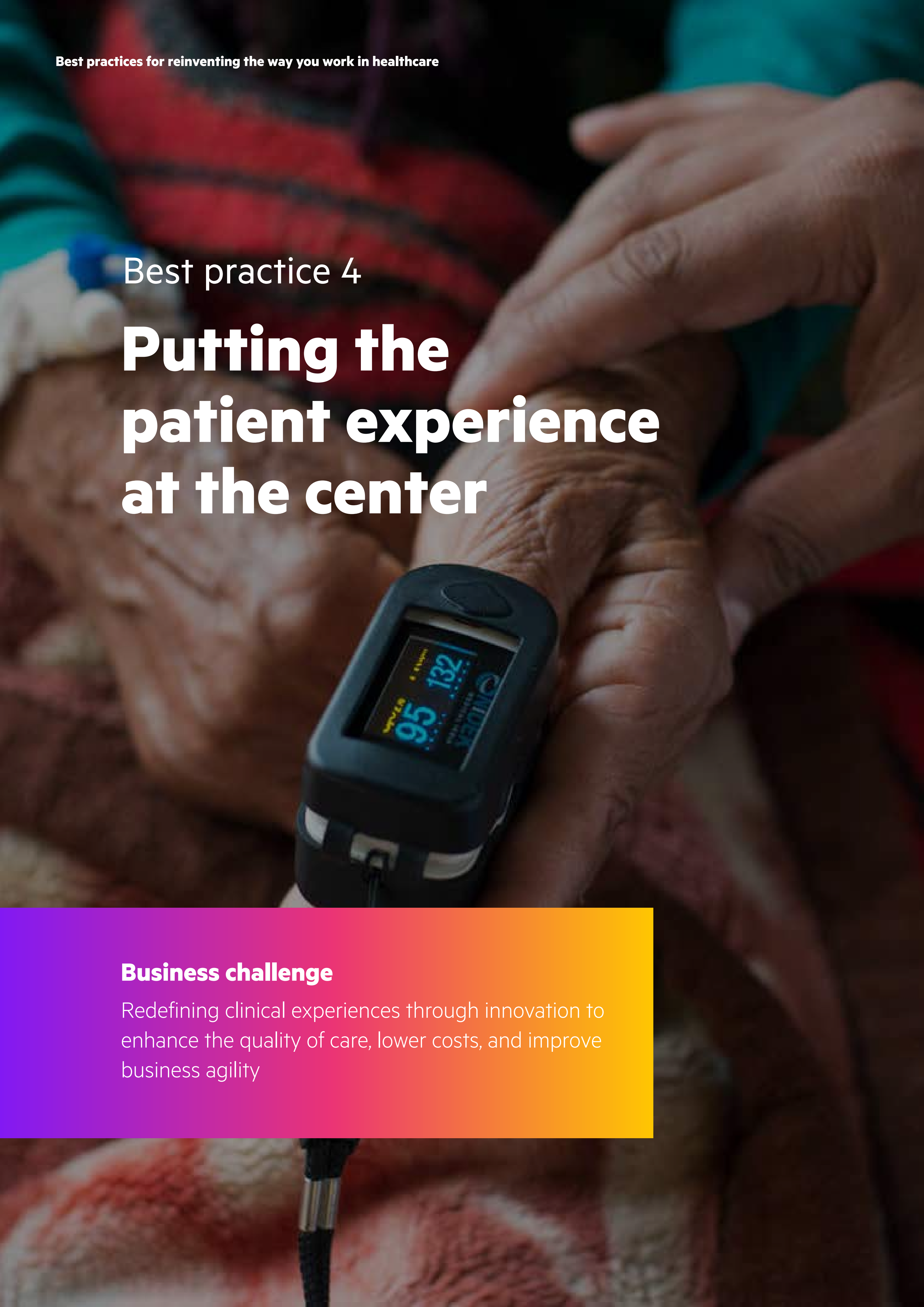
Increasing mobility has enabled new methods for delivering patient care. A growing number of healthcare workers want to use the same mobile technologies for work that they use in their personal lives. The challenge is to provide these users with seamless, secure access to health applications and data on countless unique devices. Addressing this problem is crucial to expanding the reach of healthcare organizations and providing timely and quality care.

Healthcare organizations know that accessibility can mean the difference between patients getting a quick diagnosis and receiving proper treatment or becoming a statistic. To achieve better outcomes, caregivers and patients must be able to communicate quickly and effectively, share critical health information, and send and receive feedback whenever and wherever it is required. Adopting virtual technology eliminates the constraints of traditional on-premises operations by enabling agile and highly connected virtual environments. This type of model accelerates real-time insights into health data so important decisions regarding patient treatment can be made instantly.

Organizations that adopt VDI solutions can streamline collaboration between disparate locations to maximize the impact of caregivers and uncover new possibilities for patient care. VDI offers nearly limitless access and productivity using remote devices without compromising personal health information (PHI). To strengthen IT security and reduce risk, VDI transfers images of the PHI to the device while the data itself remains safely in the data center. Because caregivers aren't carrying confidential data on a device that could be lost or tampered with, they have peace of mind to work with and care for patients in any location.

Many organizations are already reaping the benefits of VDI:

- Onboarding new devices and remote locations faster
- Ensuring always-on, connected users, medical devices, and equipment
- Enabling seamless connectivity to support and expand telehealth
- Doing more with real-time patient insights
- Improving patient flow and clinical efficiency
- Optimizing access to critical applications and patient health records



Best practice 4

Putting the patient experience at the center

Business challenge

Redefining clinical experiences through innovation to enhance the quality of care, lower costs, and improve business agility

Advances in VDI are taking healthcare delivery to new heights by putting patients first. Investing in the right technologies is key to bringing health services from the hospital bedside across remote locations and rural communities. When exploring options for your organization, consider user needs and application requirements, changing business needs, and deployment criteria.

A smart VDI strategy begins with the users. Organizations must consider what their teams need to work effectively and serve more patients. Variables such as the number of remote users on the network as well as the types of workloads they run impact your VDI requirements. To establish the scope and scale for VDI, analyze the number of simultaneous users you expect and the compute power their applications require. This will help to determine the right capacity and performance for servers, storage, and networking. It will also guide decisions regarding failure domain and processing power.

The ideal VDI solution is not based on the number of healthcare workers it can support, but on the types of healthcare workers. The three main types include:

- **Task workers:** Physicians, nurses, and staff who perform office functions and specialized tasks including telemedicine, database entry, market research, and client-server and browser-based applications
- **Knowledge workers:** Clinical, finance, customer service, and IT teams with specialized functions such as office automation, unified communications, remote learning, collaborative groups, and large-scale electronic health records (EHR)
- **Power users:** Medical and scientific researchers in management teams with graphic and data-intensive workloads

VDI enables productivity with seamless secure access for a diversity of workers and their unique workloads with reduced IT costs, so organizations can focus on outcomes that drive important advances in clinical outcomes and overall patient care:

- Real-time remote patient monitoring and management
- More widespread telehealth
- Transition to evidence-based medicine
- Expansion of precision medicine

HPE and Intel are uniquely positioned to help healthcare organizations deliver patient-centric care from around the world. By combining industry-leading hardware and software with trusted security by design, we help to accelerate life-saving insights by providing secure, reliable access to health data on countless devices. HPE ProLiant Gen11 servers powered by 4th Gen Intel Xeon® Scalable processors are the ideal combination to support a diverse mobile workforce and its data.

With better results in mind, HPE and Intel deliver a zero trust security approach to help protect healthcare networks from edge to cloud. The HPE ProLiant Gen11 is hardened at the core to defend sensitive data, armed with a unique silicon root of trust to protect, detect, and recover from attacks. Intel Software Guard Extensions (Intel SGX) helps protect health data in use with hardware-based controls. Intel SGX enables healthcare organizations to unlock the value within their siloed data and collaborate with other caregivers and outside organizations, while keeping all the data private—regardless of where that data sits.

Conclusion

VDI adoption is shaping the future of healthcare. Investing in the right technologies is key to modernizing healthcare operations from the ground up, allowing caregivers to harness the full power of health data when it matters most. The latest advances have the potential to satisfy the needs of the modern workforce and help them meet the rising demand for patient care.

HPE and Intel are empowering organizations to harness the full potential of VDI. We deliver the right technologies to build a future-proofed virtual environment including exceptional compute power and the most built-in accelerators, advanced security features, and unrivaled expertise. Our purpose-built VDI solutions are designed to speed time to value across hybrid infrastructure, making sure you are prepared for the increasing demands of virtualized care. Plus, we make transitioning to VDI simple, so healthcare workers can focus on patients and uncovering the next great medical breakthrough.

Let HPE and Intel help reinvent the way you work with virtualized healthcare workspaces. Contact us to get started.

Learn more at

hpe.com/us/en/solutions/desktop-virtualization-vdi.html

hpe.com/us/en/compute/hpc-hls.html

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