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Ace These Proof Points to Create a Sustainable Virtual Care Strategy

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Initiatives: Healthcare and Life Science Digital Optimization and Modernization

Creating and executing a sustainable enterprise strategy for virtual care requires cultural, process and architectural changes. CIOs in healthcare delivery organizations can use this research to drive stakeholder commitment to, and consensus on, an evidence-based roadmap.

Overview

Key Challenges

- Globally, healthcare delivery organizations (HDOs) have accelerated their adoption of virtual care in response to the COVID-19 pandemic. HDO leadership is now challenged with transitioning these solutions from a tactical response to long-term strategic models of care that deliver improved patient outcomes and competitive advantage.

- The clinical imperative to move to virtual models of care created by COVID-19 temporarily overcame many barriers to adoption. However, further work is required on long-term funding models, clinician and patient acceptance, and legal, regulatory and technical barriers to achieve sustainable models of virtual care.

- Without a clear understanding of the clinical and cost-effectiveness of various forms of virtual care that are translated into clear statements of value and benefit to the HDO, virtual care initiatives are unsustainable.

Recommendations

Healthcare provider CIOs advancing digital care delivery as part of healthcare and life science digital optimization and modernization should:

- Drive sustainable adoption of virtual care by addressing the cultural, financial, technical and policy barriers to virtual care with key stakeholders within the HDO along with external stakeholders, such as purchasers, payers and consumers.

- Create the strategic imperative for virtual care by highlighting its value and power to differentiate the HDO from competitors in the market.

- Deliver ROI from your virtual care initiatives by creating a localized value proposition of what will work in the form of an enterprise vision and strategy. In addition, include a compelling set of capture benefits that are specific, attributable and measurable over the life of the roadmap.

Introduction

Prior to COVID-19, adoption of, and interest in, virtual care was increasing, driven by value-based care models, consumer expectations and an increasing shortage of clinicians (see Note 1). In the face of the pandemic, HDOs across the globe rapidly adopted technologies, such as video, remote monitoring and virtual health assistants, to support new business capability requirements. These requirements were driven by the need to move care outside of the hospital in order to:

- Minimize the risk of virus spread to clinicians and COVID-19-negative patients.

- Preserve personal protective equipment (PPE).

- Free up bed capacity to cope with the significant volume of acutely unwell COVID-19-positive patients.

This impact of the pandemic on the global adoption of virtual models of care was unprecedented. This rapid scaling was fueled by the absolute clinical need, which served to address clinician and patient resistance to adoption. In addition, temporary changes to legislation and reimbursement models addressed other barriers associated with clinician licensing, credentialing and supervision, technology requirements, and funding for these services.

The hype around the potential for virtual care to digitally transform healthcare in the long-term is now at its peak. However, the transition from virtual care as a tactical response to COVID-19, to a strategic initiative driving ongoing improvements in clinical outcomes and sustained value delivery for the HDO, is not a fait accompli. The current drivers for change will abate and temporary changes in legislation, and regulation will be reviewed and tightened.
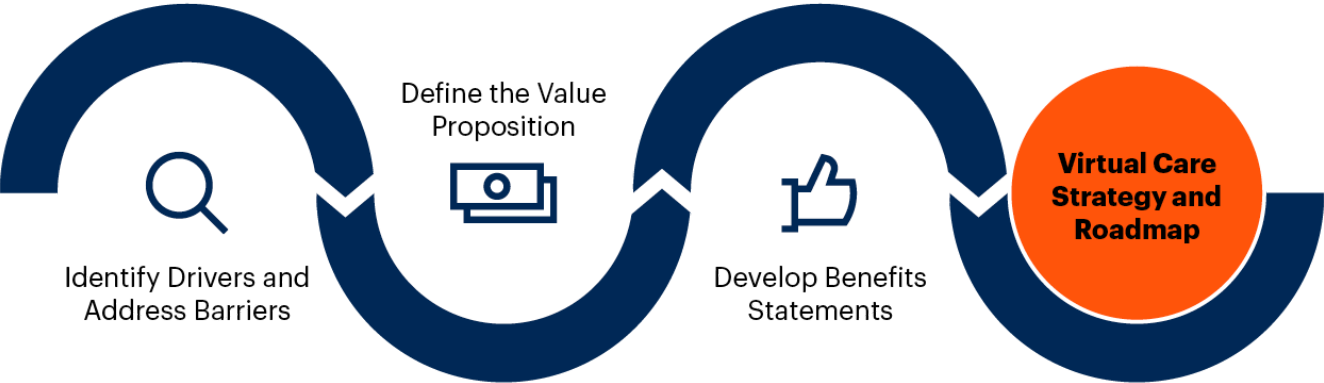
As CIO, you must work with your chief medical informatics officer (CMIO) and chief nursing information officer (CNIO) to craft a vision, strategic plan and roadmap for virtual care (see Figure 1). Consensus must be obtained on the clinical and cost-effectiveness of various virtual care forms your HDO will adopt. And needs must be translated into a set of HDO benefits that are observable, measurable and attributable to new business, clinician and consumer-facing virtual care processes.

When creating the investment case, you must identify the risks and barriers to long-term adoption. This requires a strong evidence base in order to protect and ensure that patient safety, quality and experience are not adversely affected. The HDOs strategic approach to virtual care benefit realization and change management will need to involve quantitative and qualitative methods for

tracking and quantifying the outcomes, and challenge the variety of stakeholder attitudes that act as barriers to change.

Figure 1: Critical Steps in Developing Your Virtual Care Strategy and Roadmap

Critical Steps in Developing Your Virtual Care Strategy and Roadmap

Define the Value Proposition

Identify Drivers and Address Barriers

Develop Benefits Statements

Virtual Care Strategy and Roadmap

Source: Gartner
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Analysis

Identify Drivers and Address Barriers Early

As the fight against COVID-19 continues, and the impact on the global economy and HDO profitability and sustainability worsens, there has never been a stronger imperative to improve healthcare provider productivity and efficiency. Sustained transformation of clinical service provision through virtual care increases efficiency and reach of healthcare services such that consumers can access care services in a more convenient and efficient manner without the loss of quality, safety and outcomes. There is evidence that this has been successfully delivered at both regional and national scales (see Table 1 and Evidence section).

Table 1: Successful National and Regional Virtual Care Initiatives That Are Evidence of Clinical and Cost-Effectiveness

Initiative ↓	Program Description and Summary Evidence ↓

Initiative ↓	Program Description and Summary Evidence ↓
Denmark	Denmark has invested strategically in virtual care since 2011. Small- to large-scale projects are carried out across the Danish healthcare sector. The most successful approaches are developed to enable dissemination at a national level. For example, the TeleCare North project provided regionwide remote home monitoring to patients with chronic obstructive pulmonary disease (COPD). Patients with severe COPD experienced improved quality of life and reduced number and length of hospitalizations by 11% and 20%, respectively. Building on the success of this project, the initiative is being rolled out to all municipalities in Denmark and has been extended to include heart failure patients. Source: Denmark: A Telehealth Nation
Finland — Digital Health Village	The Digital Health Village is a national program based at Helsinki University Hospital (HUS), which aims to improve care equality by increasing the availability and quality of healthcare services through digital care and e-health. The digital platform is accessible to all Finns and is supported by almost 2,000 healthcare professionals, who lead the development of disease pathway management, patient and health professional education, and predictive medicine. Digital services produced for patients are either care packages with digital components or entirely digital care programs. There are currently 115 digital care pathways in use in Finland through the platform, with four of these currently, or soon to be, available to international organizations. Key value drivers are treatment calls, revisits and treatment visits. The average national predicted annual potential healthcare capacity freed through the Health Village is approximately €261 million, or approximately €1.3 billion over the first five years. Source: Finland's Digital Care Network: Why is it Working So Well? HealthManagement, Volume 20 — Issue 1, 2020
Ontario Region, Canada	OTN is a not-for-profit organization funded by the Government of Ontario, operating with the goal of improving access to healthcare for Ontario citizens by enabling virtual care services. Its reach spans 3.700 sites and over 33,000 providers, and programs include eVisit, eConsult, virtual emergency services, telehomecare and mental health. In the 2018-19 financial year, they supported over 1 million clinical video events and 45,000 eConsults. There was an estimated $34 million saved through reduced travel and 2,792 hospital admissions avoided through in-home monitoring. Source: Telemedicine in Ontario. Progress to data and strategic imperatives

Initiative ↓	Program Description and Summary Evidence ↓
U.S. Veterans Health Administration (VHA)	The VHA has implemented a major virtual care program using a combination of synchronous and asynchronous visits and remote patient monitoring to enhance access to care and improve the health of consumers, with a particular emphasis on those in rural and remote locations. Services are grouped across seven categories: 1. Consultative and evaluative telehealth services. 2. Disease- and illness-specific telehealth services. 3. Gender-specific telehealth services. 4. Preventative telehealth services. 5. Rehabilitative telehealth services. 6. Rural-specific telehealth services. 7. Wellness telehealth services. In the 2018 fiscal year, 13% of veterans who received care in the VHA utilized a virtual care service. Providing more than 2.29 million episodes of care to more than 782,000 patients via the three virtual care modalities, including: ■ Over 28,600 veterans received a virtual visit. ■ Over 319,800 veterans accessed asynchronous store-and forward virtual care. ■ Over 136,700 veterans enrolled in remote patient monitoring. Outcomes reported include: ■ Veterans enrolled in remote patient monitoring had a 53% decrease in VHA bed days of care and a 33% decrease in VHA hospital admissions. ■ Mental health services provided via synchronous telemental health reduced acute psychiatric VHA bed days of care by 40% and VHA hospital admissions by 34%. ■ High levels of patient satisfaction across all three modalities. Sources: Fact Sheet: VHA Telehealth Services; Department of Veterans Affairs (VA): A Primer on Telehealth, July 2019

Source: Gartner (September 2020)

In many cases, the pandemic has provided the conditions to support successful delivery of tactical virtual care initiatives implemented to support the HDO's response. However, you should be under no illusion that all the traditional barriers to virtual care that have previously impeded adoption have been permanently addressed. For example, globally, there remains a lack of clarity around permanent funding and reimbursement models and requirements; this uncertainty could threaten the long-term viability of many services. In addition, while adoption scaled at a rapid rate, the maturity of the underlying technology remains essentially unchanged. Issues with EHR interoperability remain acute. While clinicians have accepted workarounds in the clinical workflow

in the short term, if these issues are not addressed in the longer term they will further contribute to clinician burnout and threaten both scalability and sustainability of these services.

You, as CIO, need to focus on reviewing and identifying these potential long-term barriers to your strategic planning and roadmap development stages to create an investment case that will lead to a sustainable new digital care model. Incentives need to be realigned to ensure that those investing in virtual care are not adversely affected by the improvement in cost-effectiveness. These barriers are summarized in Table 2.

Table 2: Barriers to Virtual Care

Barrier ↓	Description ↓
Financial disincentives	■ Fee-for-service models do not encourage virtual care consultations. Doctors will likely resist per-unit reductions in fees, where virtual care means doing more for the same block fee or for a reduced per-unit fee. ■ Benefits are often not accrued in the same organization that provides the virtual care program (for example, attendance or admissions). For instance, fee-for-service payments do not adequately reward those HDOs that invest in virtual care or reduce admissions or attendance (and revenue). They are not able to retain or refocus "lost" income to drive further benefits. ■ Capitation, or bundled, payment models that do not permit virtual care (for example, due to licensing or the lack of "bundled tariffs") are, in effect, acting as resistors to change.
Shift in clinical culture toward a virtual care model	■ Lack of belief in the efficacy of virtual care. ■ A belief that it will lead to more work per shift or session due to productivity improvement. ■ A concern that the shift to value-based care will result in loss of revenue. ■ Technology skills barriers or impacts on workflow are resisted. For example, the need to learn new skills to operate a virtual care platform or telemedicine unit. ■ Safety or privacy concerns are raised that are not properly risk assessed. ■ A lack of recognition of patient convenience and experience as a valuable differentiator in the HDO marketplace.

Barrier ↓	Description ↓
Availability of upfront funding for initial investment or difficulties in releasing revenue for operating expenditure models	■ The investment case requires upfront investment or a quick ROI. ■ The cost-effectiveness benefits are not clearly and realistically articulated in the investment case, and there is a lack of rigor or commitment to releasing cash through an organizational restructure.
Legal and regulatory issues (for example, licensing)	■ State, regional and national barriers to cross-border provision can often be linked to regulations within member states and municipalities that are not reflective of the benefits of virtual care and patient or consumer expectations. ■ Legislation is often not configured for virtual care delivery models.
Poor information integration	■ Lack of integration with electronic health record systems, poorly designed and executed interoperability within vendor systems. ■ Cost of integration is prohibitive between vendors.
Patient expectations and ethical considerations	■ Perceived technical difficulties in using virtual care. ■ Perceived threat to individual users' privacy, autonomy and control. ■ Perceptions of lower quality service versus in-person care.
Technical challenges	■ Difficulty with identity and access management for patients. ■ Need to ensure adequate bandwidth on the patient side of virtual care. ■ How to provide adequate technical support for patients.

Source: Gartner (September 2020)

Recommendations:

Recognize and plan to address the barriers to virtual care from the outset by:

- Conducting a formal evaluation of virtual care services implemented in response to COVID-19. Identify critical success factors and ongoing challenges, ensuring you build these lessons learned into your strategic roadmap moving forward.

- Establishing virtual care governance that includes clinical and business leadership. Work through the list of barriers and identify the strength and location of resistors in the business and wider macro health economy.

- Ensuring engagement with senior leadership and influential stakeholders by undertaking a broad evaluation of stakeholders' views and interests to determine attitudes, beliefs, fears and hopes in regards to virtual care.

- Adopting a formal change management approach that focuses on winning hearts and minds, and presents a strong evidence foundation. Undertake risk assessments under a transparent governance framework.

- Using scenario planning to account for funding and legislative uncertainties to identify potential barriers and to take timely risk-aligned actions across different scenarios (see Introduction to Scenario Planning)

- Negotiating gain-share terms or new tariffs for virtual care initiatives to overcome payment systems barriers. Involve payers when formulating strategic plans. Equip contracting leaders with the data they need to negotiate favorable virtual care payment rates.

- Evaluating revenue models with the virtual care vendor community. The market is evolving rapidly, creating competition between vendors and providing opportunities for buyers to dictate favorable terms.

- Revisiting enterprise architecture to determine which vendors are not able to provide cost-effective APIs for virtual care and electronic health record (EHR) integration. Set clear expectations of your vendor community to avoid brittle or closed integration using proprietary standards. Revisit contract terms that are not favorable for virtual care integration.

Define the Value Proposition

Table 3 illustrates the clinical and cost-effectiveness of various virtual care services. In presenting the clinical and cost-effectiveness evidence, we have categorized the "strength of evidence" (SOE) for virtual care as follows:

1. **High benefit rating** — Strong SOE for clinical effectiveness means there is a large proportion and number of systematic reviews that demonstrate statistically significant improvement in clinical outcomes, in addition to real-world evidence from case studies and national reports. The same rating applies to cost-effectiveness and the positive impacts on care utilization and patient experience.
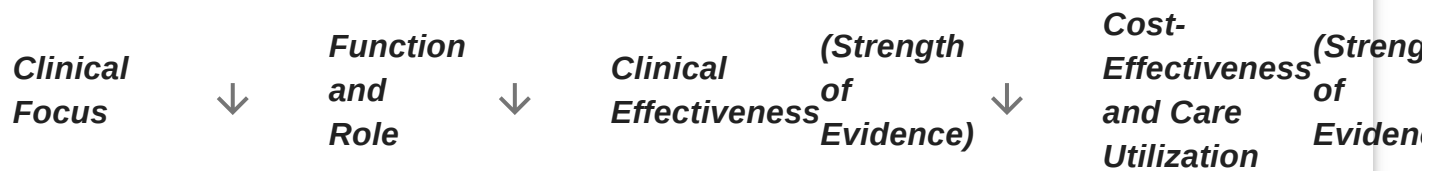
2. **Medium benefit rating** — This means that evidence of benefits has clearly been found in some systematic reviews, but the evidence is not as clear in other reports. Medium benefit indicates relative potential benefit overall.

3. **Low benefit rating** — This means that the benefit is unclear or not evident from systematic reviews and other forms of research.

4. **Rating not available (N/A)** — This is where the evidence is not available. N/A is limited to measures of cost-effectiveness and positive impacts on utilization.

Table 3: Evidence of the Benefits of Virtual Care by Clinical Application and Function/Role

Clinical Focus ↓	Function and Role ↓	Clinical Effectiveness	(Strength of Evidence) ↓	Cost-Effectiveness and Care Utilization	(Strength of Evidence)
Cardiovascular disease/Cardiology	Remote patient monitoring (RPM)	High		Medium	
	Communication and counseling	Medium		High	
	Consultation	High		Medium	
	Telerehabilitation	Medium		High	
	Telemedicine*	High		Medium	
Diabetes	Communication and counseling	High		Low	
	RPM	High		N/A	
	Telemedicine*	High		N/A	
	mHealth	High		N/A	
Mixed chronic conditions	Communication and counseling	High		Low	

Clinical Focus ↓	Function and Role ↓	Clinical Effectiveness ↓	(Strength of Evidence)	Cost-Effectiveness and Care Utilization	(Strength of Evidence)
	RPM	High		Medium	
	Other multiple functions	Medium		Medium	
Behavioral health	Communication and counseling	High		Medium to High	
	RPM	Medium		N/A	
	mHealth	Medium		N/A	
	Telemedicine*	High		N/A	
	Specialist consultation (provider to provider)	Medium		N/A	
Respiratory disease (including COPD)	RPM	High		Medium to High	
	Telemedicine*	Medium		Low	
eICU	Specialist consultation (provider to provider)	Medium		Low	
	RPM	High		Low	

Clinical Focus ↓	Function and Role ↓	Clinical Effectiveness	(Strength of Evidence) ↓	Cost-Effectiveness and Care Utilization	(Strength of Evidence)
Acute stroke	Specialist consultation (provider to provider)	Unclear		N/A	
Burn care	Consultation	Low		Low	
Palliative care	Telemedicine*	Medium		Medium	
Preterm birth	RPM	Low		Low	
Physical rehabilitation (for example, stroke or postsurgery)	Telerehabilitation	Medium		Medium	
Emergency and urgent care	Specialist consultation (provider to provider)	High		High	
Inpatient care	Specialist consultation (provider to provider)	High		High	
Dermatological care	Consultation	Medium		N/A	
	Specialist consultation (provider to provider)	Unclear		N/A	

Clinical Focus	↓	Function and Role	↓	Clinical Effectiveness	(Strength of Evidence)	↓	Cost-Effectiveness and Care Utilization	(Streng of Eviden

*Telemedicine in this context refers to any combination of remote monitoring, store and forward or direct synchr communication between the patient and caregiver

N/A: not available in the literature reviewed (that is, this question was not answered by the researchers)

Adapted from various sources:

Effect of Telehealth on Use of Secondary Care and Mortality: Findings From the Whole System Demonstrator Clu Randomised Trial, BMJ.

The Whole System Demonstrator Programme, Department of Health Policy Research Programme.

Telehealth: Mapping the Evidence for Patient Outcomes From Systematic Reviews, Agency for Healthcare Resea Quality. Publication No. 16-EHC034-EF.

Mapping the Evidence on the Effectiveness of Telemedicine Interventions in Diabetes, Dyslipidemia, and Hyperte An Umbrella Review of Systematic Reviews and Meta-Analyses, Journal of Medical Internet Research.

Bringing Healthcare to the Patient: An Overview of the Use of Telemedicine in OECD Countries, OECD.

Telehealth for Acute and Chronic Care Consultations, Agency for Healthcare Research and Quality.

Effectiveness of Mobile Health Interventions, Journal of Medical Internet Research.

Telemedicine in Palliative Care: A Review of Systematic Reviews, Ann Ist Super Sanità.

2018 The Impact of Telehealth Remote Patient Monitoring on Glycemic Control in Type 2 Diabetes: A Systematic and Meta-Analysis of Systematic Reviews of Randomised Controlled Trials, BMC Health Services Research.

Source: Gartner (September 2020)

Recommendations:

Use evidence on clinical and cost-effectiveness to:

- Prioritize virtual care initiatives by establishing a decision-making framework that is evidence-based and transparent to clinical stakeholders.

- Take a strategic approach to developing virtual care services by ensuring that wider clinical service redesign initiatives include the roadmap for virtual care.

- Ensure your technical capabilities support your virtual care roadmap by evaluating vendor capabilities against the virtual care functions required to deliver on your roadmap.

- Achieve efficiencies of scale in your virtual care services by integrating with existing functions that have been deployed for current services and pilots. This should form part of the roadmap, using lessons learned for new functions when appropriate.

Translate Value Into Benefits Statements

When defining a virtual care strategy, it is important that you articulate clinical and cost-effectiveness in terms of a quantifiable benefit. Through review of published evidence and our

many interactions with HDOs, we have identified five domains — clinical, safety and quality, service utilization, experience, and economical, across which virtual care has delivered demonstrable value.

Table 4 summarizes the proven benefits associated with the range of clinical applications and functions of virtual care.

Table 4: Virtual Care Benefits Framework

Value Domains ↓	Representative Measures of Benefit ↓
Clinical	▪ Reduced mortality rate ▪ Improvement in condition specific measures (for example, blood pressure, HbA1c and weight) ▪ Reduced frequency of disease exacerbations ▪ Improved quality of life ▪ Improved functional outcomes
Safety and quality	▪ Reduced number and severity of adverse events ▪ Improved treatment compliance (for example, medications) ▪ Reduced complications ▪ Improved timeliness of care
Service utilization	▪ Decreased number of hospital admissions ▪ Decreased number of emergency presentations ▪ Decreased number of ambulatory visits ▪ Reduced length of stay ▪ Improved access to care (for example, reduced time from referral to appointment)

Value Domains ↓	Representative Measures of Benefit ↓
Experience	■ Improved patient satisfaction ■ Patient time savings ■ Improved family/caregiver satisfaction ■ Improved clinician satisfaction
Economical	■ Reduction in direct unit costs of providing virtual care versus in-person care ■ Increased referrals ■ Reduced service utilization costs ■ Reduced travel costs (HDO and patient) ■ Reduction in carbon dioxide emissions (associated with reduced travel) ■ Reduced costs for patient, family, or caregiver ■ Increased HDO revenue (including downstream revenue) ■ Increased clinician productivity

Source: Gartner (September 2020)

Justifiably, a key clinical concern when transitioning in-person care to virtual care is the potential for suboptimal clinical outcomes, resulting from the loss in face-to-face contact. As a result, benefits plans must also consider and monitor for "dis-benefits," particularly in relation to adverse events, and establish an associated process to address causes of "dis-benefits" as soon as they are identified.

Ensure that your business and clinical peers consider these value domains and measures of benefits, and that the evaluation features explicitly in the localized strategic plan and roadmap. Without measurement, it is difficult to create a sustainable model, as benefits cannot be understood and issues cannot be addressed.

Recommendations:

Ensure your virtual care strategy delivers a clear ROI and value on investment (VOI) by:

■ Creating a set of benefit profiles associated with each form of virtual care that is being proposed. These benefits should be aligned to the strategic goal of the virtual care service and be specific, measurable, attributable and quantifiable.

- Capturing the associated likely costs and risks, drawing from an analysis of stakeholders' views, to create the compelling case for change.

- Providing the right conditions and governance in which clinical and business leaders can debate and agree on a clinical service portfolio that will be the focus of transformation in the HDO.

- Working with the HDO communications and marketing team and payers to educate patients and other external stakeholders as to why virtual care will help achieve the quadruple aim.

- Working with your CMIO and CNIO to coordinate all the above, and bring this together in the form of a vision and compelling investment case. Use the benefits in the decision-making framework to determine the optimal HDO roadmap for achieving ROI and VOI.

Evidence

In preparing this research, Gartner used a combination of information from interactions with clients, real-life case studies and open access and academic publications to create a map of definitions, evidence and trends in virtual care.

Note 1: "Virtual Care," "Telehealth" or "Telemedicine"

While recognizing that definitions often overlap and that the terms are very interrelated, Gartner makes a distinction between "virtual care," "telehealth" and "telemedicine." Historically, telemedicine and telehealth have been considered as stand-alone services and technologies that are delivered as an adjunct or parallel to regular face-to-face care. Virtual care, on the other hand, is fully integrated into the overall care delivery process and, whenever possible, leverages the same systems used in in-person care.

The definition of virtual care is: The process of connecting a patient and a care provider for the purpose of delivering healthcare services when the two are not in the same location.

Virtual care may be synchronous or asynchronous, and uses information and communication technologies for the exchange of valid information for the diagnosis, treatment and prevention of diseases and injuries to advance the health of individuals. It represents one side of the care delivery spectrum, with in-person care on the opposite side.

Document Revision History

Master These Proof Points to Create a Sustainable Virtual Care Roadmap - 23 February 2017

Recommended by the Authors

Hype Cycle for Digital Care Delivery Including Telemedicine and Virtual Care, 2020

Best-Practice Exemplar: Palvelukeskus Helsinki Scales Innovation in Virtual and Digital Care Delivery

Healthcare Provider CIOs: Bridge the Virtual Care Divide Between Provider- and Consumer-Directed Care

Scaling Virtual Care Requires a New Look at Its Enabling Architecture

Prepare for Aging Epidemic by Extending Your Virtual Care Strategy to Support Aging in Place

Healthcare Business Driver: Medical Innovations in Therapy, Diagnosis and Care Delivery

Recommended For You

Prepare for Aging Epidemic by Extending Your Virtual Care Strategy to Support Aging in Place

Create Connected Care Pathways That Bridge Consumer and Healthcare Provider Activities

Real-Time Health System Vision

Healthcare Provider CIOs: Bridge the Virtual Care Divide Between Provider- and Consumer-Directed Care

7 Critical Domains of a Successful Healthcare Provider Interoperability Strategy

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