Harvard
Business
Review

Health And Behavioral Science

# A Framework for Designing Excellent Virtual Health Care

by Anaeze C. Offodile II, Leonard L. Berry, Manjit S. Yadav, and Rebecca L. Kaul

April 19, 2022

Hispanolistic/Getty Images

**Summary.** The pandemic heightened awareness of the promise of virtual care but realizing it is proving challenging. A framework developed by the University of Texas MD Anderson Cancer Center and Texas A&M University's Mays Business School can help. It prioritizes the... **more**

Ler em português

Covid-19 has sped the adoption of virtual care, or the provision of health services remotely in a synchronous or asynchronous fashion. No longer just a convenient enhancement to in-person clinical care, virtual care is needed by patients, clinicians, care teams, and health systems alike. But the gap between the promise

and the reality of virtual care is substantial: The stakeholders often don't get what they need while trying their best to navigate a new paradigm.

We aim to close this gap by helping health systems refine and reimagine their virtual care journey while prioritizing the needs of the people who get and give the care. Our guiding principle is a needs-based approach that retains the best practices of in-person visits while sensibly adapting to the unique characteristics of a virtual setting.

The recommendations presented here are the result of a collaborative effort by University of Texas MD Anderson Cancer Center (MDACC) and Texas A&M University's Mays Business School. We integrate insights drawn from our experience implementing a broad suite of virtual care services at MDACC with operating procedures and virtual care guidelines identified at other institutions, such as the University of Pittsburgh Medical Center and Jefferson Health. We also leverage our collective expertise in health care innovation, health services research, digital transformation, and clinical care — and did informal interviews with telehealth experts.

The result is a framework we call DIBS for "Documentation, Integration, Best Practices, and Support." All four of our DIBS categories have potential benefits, to varying degrees, for all stakeholders in virtual care. Everyone gets "dibs" on optimal design, and no one gets overlooked.

## Documentation

Health systems should identify and document in detail the activities and interdependencies of everyone directly or indirectly involved in providing, receiving, and designing virtual care. Toward that end, we recommend that health systems create a service blueprint that reflects all the unique activities of health care personnel for a typical virtual care encounter (see the exhibit "A Blueprint of an Outpatient Clinic Visit at MD Anderson Cancer Center"). Health systems should tailor blueprints to reflect their specific strategies for implementing virtual care.

# A Blueprint of an Outpatient Clinic Visit at MD Anderson Cancer Center

A comparison of the in-person and virtual processes allows a health system to identify the elements of a care encounter that should be reproduced, removed, or enhanced in the virtual environment and helps plan the transition of key processes.

## In-person health care process

| | **Before the visit** | **During the visit** | **After the visit** |
|---|---|---|---|
| **Patient actions** | Before the visit<br>• Request appointment, if needed | During the visit<br>• Fill out patient-screening form and check in | After the visit<br>• Press Ganey survey on clinic experience |
| **Staff actions with clinical patient contact (MA/RN/APP/MD/trainee)** | Before the visit<br>• Review chart | During the visit<br>• Peripheral nervous system/vitals (MA)<br>• Chart review (RN)<br>• History, exam, and treatment (APP/MD) | After the visit<br>• Document visit in electronic medical record (MD)<br>• Order labs, referrals (APP) |
| **Staff actions with nonclinical patient contact (patient services coordinator)** | Before the visit<br>• Schedule visit | During the visit<br>• Check in the patient<br>• Apply wristband<br>• Collect copay | After the visit<br>• Schedule labs, future studies, and follow-up visit |

| | Before the visit | During the visit | After the visit |
|---|---|---|---|
| **Technology systems actions (Epic)** | Before the visit<br>• Facilitate order for visit<br>• Deploy previsit questionnaires | During the visit<br>• Generate copay based on insurance<br>• Check labs, imaging results that aid decision-making | After the visit<br>• Facilitate order entry (labs, imaging, and referrals)<br>• Facilitate documentation in the medical record<br>• Facilitate bill for visit |

## Virtual health care process

| | Before the visit | During the visit | After the visit |
|---|---|---|---|
| **Patient actions** | Before the visit<br>• Request appointment if needed<br>• E-register for the visit<br>• Log in 15 minutes prior<br>• Ensure that audiovisual devices and Wi-Fi work | During the visit<br>• Engage with care team<br>• Use at-home technology to recreate physical exam | After the visit<br>• Press Ganey survey on virtual clinic experience<br>• Correspond with care team via patient portal |
| **Staff actions with clinical patient contact (MA/RN/APP/MD/trainee)** | Before the visit<br>• Place order for virtual visit (APP/MD)<br>• Phone prescription review (RN)<br>• Patient teaching on telehealth platform (RN) | During the visit<br>• Log in for visit (MD/APP/trainee/RN)<br>• Reproduce physical exam using camera and other devices<br>• Workarounds in case of interruption | After the visit<br>• Document visit in electronic medical record (MD/APP)<br>• Order labs, referrals (APP/MD) |

| | Before the visit | During the visit | After the visit |
|---|---|---|---|
| **Staff actions with nonclinical patient contact (patient services coordinator)** | Before the visit<br>• Schedule visit; confirm patient's originating location is permissible under state telehealth law<br>• Technical (audiovisual) staff call patient to troubleshoot | During the visit<br>• Monitor for no-show<br>• Change timing as needed if >1 hour early or late | After the visit<br>• Schedule labs, future studies, and follow-up visit<br>• Identify modality of the next visit (virtual or in-person) |
| **Technology systems actions (Epic)** | Before the visit<br>• Check that all relevant technologies and devices for a visit are integrated<br>• Ensure that videoconferencing platform is operational | During the visit<br>• Check labs, imaging, and notes<br>• Use chatbots and algorithms for decision support | After the visit<br>• Facilitate order entry (labs, imaging, and referrals)<br>• Facilitate documentation in the medical record<br>• Facilitate bill for visit |

Note: APP: advanced practice provider; MA: medical assistant; MD: medical doctor; RN: registered nurse.

Source: University of Texas MD Anderson Cancer Center

A comprehensive service blueprint should directly compare and contrast in-person and virtual care contexts, which can differ substantially according to the reason for a patient's visit. This side-by-side presentation can help uncover process complexities that may arise unexpectedly when health systems transition from in-person to virtual care. This will allow a health system to identify those elements of a care encounter that should be reproduced, removed, or enhanced in the virtual environment. The blueprint should categorize care-related activities temporally (i.e., before, during, and after the visit) and guide the technical assistance process for patients who have specific visual, auditory, language, technology literacy, or technology infrastructure needs.

At a nuts-and-bolts level, the blueprint should describe each element of the care infrastructure, such as technology for remote patient monitoring, software for patient scheduling, screening tools for assessing patients' needs, and educational materials for patients and caregivers. It also should identify the billing and reimbursement mechanisms that may differ for virtual care visits, if any. A well-developed service blueprint can facilitate implementation by naming accountable departments and individuals within them and anticipating potential barriers to and facilitators of adoption. To monitor the trajectory and success of virtual care, leaders should develop key performance indicators (KPIs).

MDACC, for example, implemented a remote monitoring program for patients undergoing immunotherapy. The program was associated with significant reductions in emergency room (ER) visits and improvements in patient satisfaction.

The dissemination and scale of this initiative was guided by KPIs that reflected three areas of strategic focus: stakeholder buy-in ("traction"), operational efficiency, and improvements in health-resource utilization. Measures of traction included utilization by eligible clinicians, percentage of approached patients who consent to participate, and patient-satisfaction scores. Operational efficiency was quantified by volume of patient calls on the platform, rates of patient adoption, and clinical satisfaction with workflow. Health resource utilization focused on patients' rates of avoidable emergency room (ER) visits and length of hospital stays. Year-end performance, relative to preintervention baseline measures, guided decisions about scale and program iteration.

### Integration

Optimizing the virtual visit means making the overall patient-clinician experience as seamless as possible by integrating its component parts. Start by preparing patients and clinicians to use the required technology. Specifically, educate them on how to look at the camera during conversations, choose appropriate lighting and audio equipment, identify a secluded space with

minimal distractions, and select a virtual background (if desired). These features, while seemingly minor, can greatly influence the overall experience of this relatively new way to deliver service.

Integration also means streamlining all ancillary logistics that complement a virtual visit, including but not limited to making future appointments, facilitating prescription refills, and incorporating personal health information captured on in-home devices (vital signs, medication administration history, and patient reported outcomes). Health systems also should design a suite of services that can be combined, as needed, for a given patient (in-person, remote monitoring, hospital-at-home, video visits). The entire service continuum should be modular, when feasible and appropriate, so that patients get care from the right person at the right time in the right modality.

For example, the University of Pittsburgh Medical Center (UPMC) encourages virtual care use among health plan members by offering $0 copays for virtual visits, compared with a higher cost share for an in-person encounter. The health plan app also facilitates digital onboarding for a broad range of integrated virtual services, including virtual primary care, behavioral health, wellness checks, and urgent care.

Continuity of care is key. Prepare patients and their home caregivers for self-monitoring and self-care with educational materials (tip sheets, links to training videos) on the proper use of in-home devices (blood pressure cuffs, pulse oximeters, tablets). To gain trust and buy-in, ensure that all communication is culturally and linguistically competent and clear.

Clinicians and support staff should also be taught how to use broad-based communication platforms (“omnichannel”) to engage patients (e.g., correspondence via online patient portals, text messaging, phone calls) to proactively initiate contact (to remind, inform, and encourage), not merely to react to patient-initiated messages. Ideally, this platform should be unified such that all communications are integrated and visible across the different modalities to optimize patients’ and clinicians’ experiences.

## Best Practices

Ensure that virtual care visits and systems make full use of prevailing best practices for in-person care, sound principles of clinical engagement, and sensible goals for organizational alignment. First and foremost, use evidence-based decision criteria to guide the appropriate use of remote care — for example, lower-complexity and lower-emotion visits. Virtual care is simply not appropriate for all visits.

Best practices for executing the visit itself are essential. Encourage clinicians to become familiar with patients and their health records *before* virtual encounters — and ensure, to the degree possible, that records and notes from other treating clinicians are available before and during the visit.

In addition, like a health system does for in-person visits, it should involve the whole care team (e.g., nurses, medical assistants) in preparing for the virtual visit (gathering records, prepping the "virtual room"), connecting during the visit, and closing at its end (e.g., scheduling next appointments). This step minimizes the additional work ("friction") associated with virtual care that can be time-consuming and frustrating for physicians and below their level of training; it also enhances team coordination and cohesion.

Jefferson Health established the National Center for Telehealth Education and Research (NCTER) to "advance the use of virtual health services." Clinicians can receive certificate-level training on all aspects of optimizing a virtual care encounter, including an overview of the technical, clinical, and operational aspects of common telehealth technologies, instruction on how to conduct a telehealth physical exam, coaching on how to serve as a telemedicine facilitator within the context of an inter-professional team, and general trouble shooting tips.

Prioritize best practices that enable clinicians to adopt and sustain virtual care. Ideally, virtual care should substitute for, not add to, in-person encounters on clinicians' schedules. Benefits to clinicians may include greater efficiency, improved outcomes and patient experience scores, and an intrinsic sense of mastery or

autonomy. To preserve these benefits, codify virtual care workflows, when feasible, and refine them as new service-line-specific needs emerge.

Systemwide best practices also matter. Use clear institutional and professional society standards to inform infrastructure and technology design, expectations for patient and provider conduct, and clinical workflows. The American Society of Clinical Oncology has issued practical guidance on integrating virtual care into clinical practice such as outlining appropriate care encounters where telehealth can substitute for an in-person visit, specifying the supporting documentation that is necessary for a virtual visit, and advocating for the use of standard operating procedures to guide a care team's response to symptoms and side effects reported by patients virtually.

Health systems should establish a governance and reporting structure for virtual care, tailored to the organization's size and needs. This structure must include 1) a data integrity group focused on reducing hacking risks while optimizing privacy protections and patient access to their data and 2) appropriate oversight committees with representation from legal, regulatory, clinical operations, quality and safety, research, patient advocacy, and physician education.

The structure also might have a vice president of digital health or connected care, tasked with overseeing the broader transition to virtual care, who works alongside an administrative director who provides operational support. This vice president should report to a chief operating officer or a chief medical officer to ensure the necessary C-suite support. Prominent health systems that use such an approach include Washington University in Saint Louis, Highmark Health, Mass General Brigham, and CommonSpirit Health.

### Support

Real-time and other timely support for virtual care visits and the surrounding infrastructure are essential for serving all stakeholders' needs effectively. That starts with investing in ready-to-serve technical assistance for patients, clinicians, and clinical teams. Ensuring adequate supply-chain redundancy to

solve potential device or connectivity glitches (e.g., backup charging stations, replacement devices, mobile Wi-Fi hotspots) strengthens trust in the service.

Think more broadly about support systems for patients. Involve in the virtual visit others who can help the patient (such as family members and caregivers) or contribute to the diagnosis or treatment plan (such as other physician specialists, with attention to the reimbursement structure for such visits). Leverage self-monitoring technologies and digital platforms to engage and empower patients with respect to self-care. (MDACC's remote monitoring platforms contain short, easy-to-follow educational modules on the recognition and early intervention for chemotherapy-related side-effects.) Explore using artificial intelligence (chat bots, virtual nursing assistants, clinical decision support algorithms) to aid both patients and clinicians as they seek evidence-based guidance. For example, Houston Methodist health system implemented CareSense, a digital platform for surgical patients that offers guidance throughout all phases of a surgical journey in a format (text, email, phone calls) tailored to a patient's preferences and level of health literacy.

Minimize the digital divide and disparities in access to care by, for instance, installing a telehealth center with private cubicles in low-income housing complexes, community centers, or other locations (with onsite technical help as needed). Equip low-income patients with chronic medical conditions (who require frequent care) with a dedicated device (such as an inexpensive tablet) that becomes a one-stop interface for their virtual care.

Texas A&M Health Science Center, in collaboration with the telehealth company OnMed, has deployed kiosks in Milam County, a rural community in Texas. These booths comprehensively measure patients' vital signs (blood pressure, heart rate, oxygen saturation, and temperature), contain a dispensary with common medications, and can facilitate on-demand video visits with a nurse practitioner.

As a complementary feature to the support network, consider creating new facilitative roles such as a digital health navigator. Responsibilities might include assessing patients' digital health

literacy, tracking patient satisfaction with virtual care, maintaining documentation for regulatory compliance, providing patient and caregiver education, and troubleshooting technical issues.

Our DIBS recommendations are not intended to be a one-size-fits-all prescription or a comprehensive checklist for designing and implementing virtual health care. They are a set of guideposts organizations can use as they dynamically scale up the telehealth systems that are becoming inevitable, integral components of delivering high-quality care efficiently and equitably. Embedding the needs of all stakeholders — patients, clinicians, care teams, and health systems — into the fabric of virtual-care design and implementation is key to the long-term success of any health organization and of all the people it serves and employs.

**Anaeze C. Offodile II**, MD, is executive director for clinical transformation and an assistant professor in the Department of Plastic Surgery at the University of Texas MD Anderson Cancer Center. He is also a non-resident scholar in health policy at Rice University's Baker Institute for Public Policy.

**Leonard L. Berry** is University Distinguished Professor of Marketing, Regents Professor, and the M.B. Zale Chair in Retailing and Marketing Leadership at Texas A&M University's Mays Business School. He is also a senior fellow at the Institute for Healthcare Improvement. His books include *Management Lessons from Mayo Clinic*, *Discovering the Soul of Service*, and *On Great Service*.

**Manjit S. Yadav** is a professor of marketing

and head of the Department of Marketing and holds the JC Penney Chair in Marketing and Retailing Studies at Texas A&M University's Mays Business School.

**Rebecca L. Kaul** is the chief innovation officer at University of Texas MD Anderson Cancer Center.