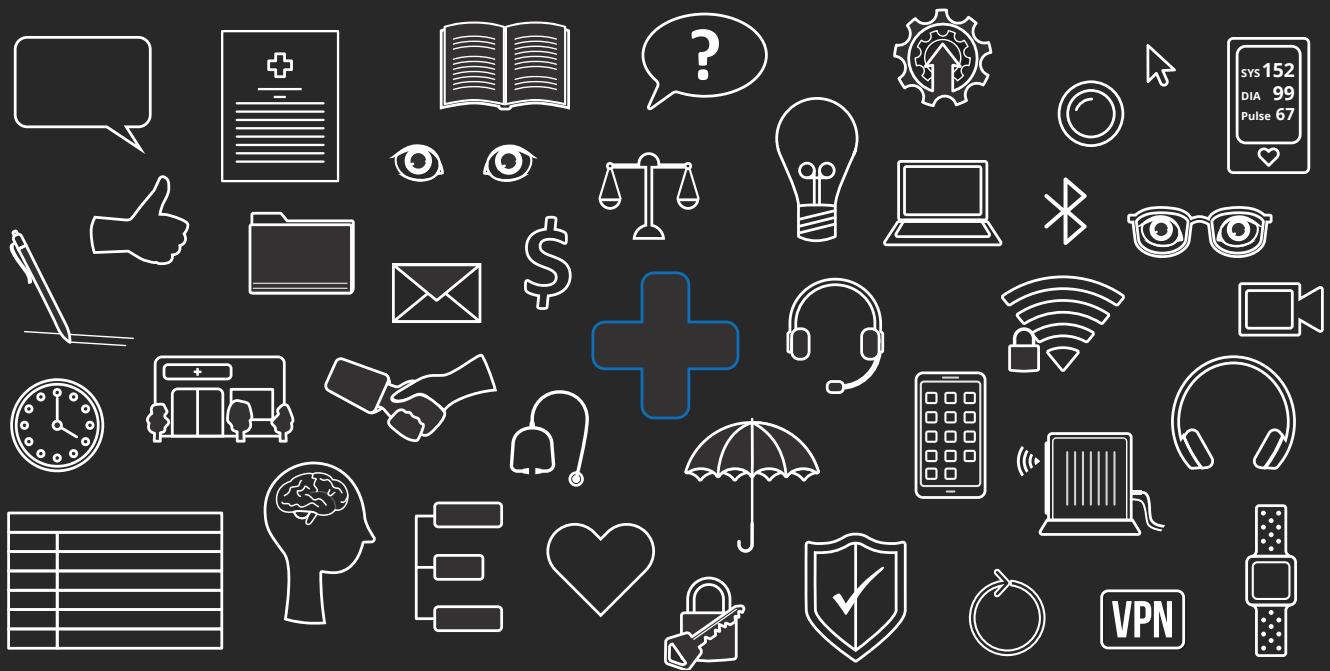


A HEALTHY BALANCE

Hybrid Virtual Care Models for Optimal Patient Experience

Considerations for California Healthcare Executives

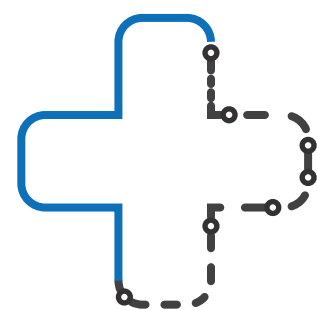


As virtual care solutions grow more sophisticated, fill crucial gaps, and receive reimbursement through extended PHE policy, now is the time to mold a hybrid virtual care program to your health center that will provide flexibility, satisfaction, and sustainability into the future.

A HEALTHY BALANCE

Hybrid Virtual Care Models for Optimal Patient Experience

Considerations for California Healthcare Executives



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ABOUT CTRC

The California Telehealth Resource Center (CTRC) offers no-cost, unbiased training, educational resources, and technical assistance to help California providers and patients get the most from telehealth. As the federally designated telehealth resource center for the region, we offer a long list of unbiased, no-cost tools and services based upon proven telehealth practices. We create lasting change and improvement by focusing on implementation, sustainability, reimbursement and policy, integration, workflows, and patient/provider adoption. As part of the National Consortium of Telehealth Resource Centers and the OCHIN family of companies, CTRC assists thousands of providers and patients annually. We have extensive experience supporting the health care safety net, rural and urban providers, and patients and families throughout California who would otherwise be unable to access quality health care due to geographic isolation, language/cultural barriers, lack of insurance, disability, homelessness, and more.

A NOTE TO CALIFORNIA HEALTH CARE EXECUTIVES

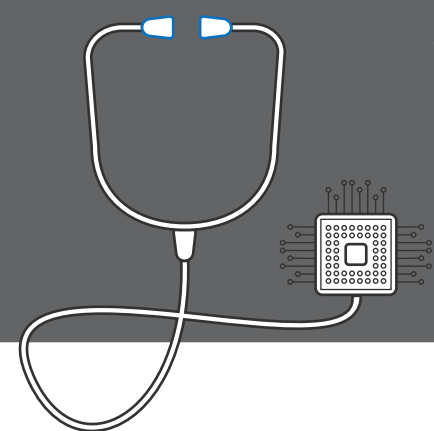
CTRC presents key considerations, divided into six sections, to guide California health care executives as you weigh the right balance of virtual solutions to complement in-person care for your health center and the patients you serve. In [Section 3](#), find a planning tool to help determine the right modality of care at the right time.

Health centers operate in a dynamic matrix. Systemic drivers include policy, payment models, emerging technologies, sociocultural factors, and market pressures among others. Whereas missteps can imperil a health center's sustainability, careful executive planning can create a more equitable health care system for all Californians.

- [Section 1](#): Introduction to Hybrid Virtual Care Models
- [Section 2](#): Economic Considerations
- [Section 3](#): Human Factors:
 - Patients and Health Equity
 - Provider Perspectives
 - Executive Planning Tool: When to Deliver Care In-Person? When to Offer Virtual Options?
- [Section 4](#): Technological Considerations
- [Section 5](#): Quality Metrics and Sustainability
- [Section 6](#): Resources and References

TABLE OF CONTENTS

1. Introduction to Hybrid Virtual Care Models	1
2. Economic Considerations	7
3. Human Factors.....	15
Part 1: Patient Experience & Health Equity.....	15
Part 2: Provider Perspectives.....	19
Part 3: A Hybrid Care Planning Tool for Executives	21
4. Technological Considerations	23
5. Quality Metrics & Sustainability	27
6. Resources	31



1. INTRODUCTION TO HYBRID VIRTUAL CARE MODELS

Your health center is part of a dynamic ecosystem. As an executive making daily choices that play into your organization's long-term strategy, it is imperative to understand the impact of systemic drivers ranging from political, economic, social, technological, and environmental on patient experience and quality of care.¹

- How might changes in federal or state policies impact telehealth utilization?
- What market competition or disruptors pose the greatest threat to your sustainability or survival?
- How do investments in infrastructure impact options for care delivery?
- How can a hybrid virtual care model optimize patient experience and reduce provider burnout?
- In what ways do virtual technologies impact your carbon footprint?

Abundant evidence supports clinical efficacy, patient preference, and value of virtual care options.^{2 3 4 5 6 7} Though many virtual technologies are still expensive, it is predicted costs will come down through economies of scale.

The COVID-19 pandemic provided a safety imperative for providers and patients to pivot to virtual options, accelerated by cooperation from payers and regulators. This public health emergency (PHE) offered an ideal test case to demonstrate the potential for virtual solutions to complement in-person care in ways that expand clinical capacity, improve continuity of care, and dramatically increase access to quality care—particularly for underserved populations. The experience also underscored the need to design future hybrid care models with an eye to health equity so as not to exacerbate the digital divide.⁸

“ Oftentimes our patients must choose between spending \$5 on gas to get to the clinic or using that money to eat dinner.

Our hybrid care model uses virtual technologies to create access for patients who would otherwise go without treatment.

At the same time, it has reduced no-show rates, generated positive revenue, and increased provider productivity.”

**Director of Integrated Health Services
Health center in San Diego, California**

As a general rule, states and private payers take their cues from the Centers for Medicare and Medicaid (CMS). Under the COVID-19 public health emergency, CMS lifted many burdensome restrictions on telehealth and expanded the number of allowable services that may be administered virtually. It is yet to be determined if these temporary provisions will be made permanent, but the prevailing thought is that CMS will extend parity through 2023.

NOW IS THE TIME FOR HYBRID VIRTUAL CARE

In California, telehealth parity is guaranteed for patients with private insurance or Medi-Cal coverage through December 2022, presenting a window of opportunity for California health care executives to demonstrate the profound benefits of virtual care technologies as part of a hybrid model of care. Once in place and effectively serving California's most vulnerable populations, payers and policymakers will have strong incentive to make these policies permanent.

WORKING TOWARDS A SEAMLESS CARE CONTINUUM

The ultimate goal for healthcare is a seamless patient experience that does not distinguish between care delivery modalities. Using clinical efficacy and patient preference as guideposts, patients and providers can choose the most appropriate modalities at any given point in the patient care journey as the new standard of excellence.

"We meet patients where they are using whatever modality works best for the patient."

**Director of Operations Behavioral Health
Health center in Escondido, California**

WHAT IS VIRTUAL CARE?

Virtual care uses cellular, broadband, or "plain old telephone" (POTS) technologies for remote clinical services connecting patient to provider or provider to provider.

Visits conducted in real time via telephone call or videoconference are examples of synchronous virtual care.

Asynchronous technologies include secure electronic messaging akin to email or texting, e-visits, surveys and questionnaires.

Remote patient monitoring is a third virtual care modality by which patients in their homes use digital devices or mHealth apps to self-collect and electronically transmit biometric data to providers.

WHAT IS HYBRID VIRTUAL CARE?

Hybrid virtual care models complement care delivered in person with an array of virtual care solutions designed to optimize patient experience across the entire care journey. There are countless ways practices can blend in-person and virtual care modalities.

For example, some practices may opt to fold minimal virtual features such as telephone check-ins and secure messaging via a patient portal into in-person care. Others may ask providers to pivot seamlessly between in-person and video visits. These providers also may also draw on a variety of virtual tools to engage patients between visits. Practices with multiple clinic locations and limited clinical staff may use virtual clinic-to-clinic connections to increase access and clinical capacity. For health centers that routinely provide care outside the clinic walls in mobile clinics, homeless shelters, schools, and work sites, hybrid virtual care models are essential.

Practices may elect to support hybrid modes of primary care in-house, and fold in virtual specialty care solutions as needed. Other hybrid models leverage home health aides or paramedics to make house calls and use virtual technologies to conduct co-visits involving

other members of the care team working remotely. Other practices may choose to forgo investment in in-house telemedicine equipment and IT staff, and contract with third-party virtual care vendors. Payers may support integration of specific "direct to consumer" virtual solutions with designated vendors.

FIND THE RIGHT BALANCE FOR EACH CLINIC, PROVIDER, & PATIENT

Though reimbursement policy for virtual care remains to be determined, there is fair certainty about the permanence of virtual care as a component of modern medicine. At the same time, the right balance of care delivered in person and virtually will be unique for every health center, every provider, and every patient. Further, that balance is not static. Over a course of treatment for an illness or condition, certain care delivery modalities may be more or less appropriate.

For these reasons, it is advisable to offer your patients and providers a flexible range of virtual care modalities to complement in-person care. A menu of offerings that support POTS, cellular, and broadband technologies will enable your health center to make nimble adjustments to changing conditions.

"Our providers feel empowered by having the flexibility to treat their patients using whatever modality they feel is in the best interest of their patients."

**Director of Integrated Health Services
Health center in San Diego, California**

WHEN TO DELIVER CARE IN PERSON? WHEN TO OFFER VIRTUAL OPTIONS?

To strike the right balance of in-person and virtual care offerings for your health center, there are many factors to consider. Healthcare executives must weigh pros and cons of hybrid virtual care models to solve immediate challenges and also position your health center for lasting viability into the future.

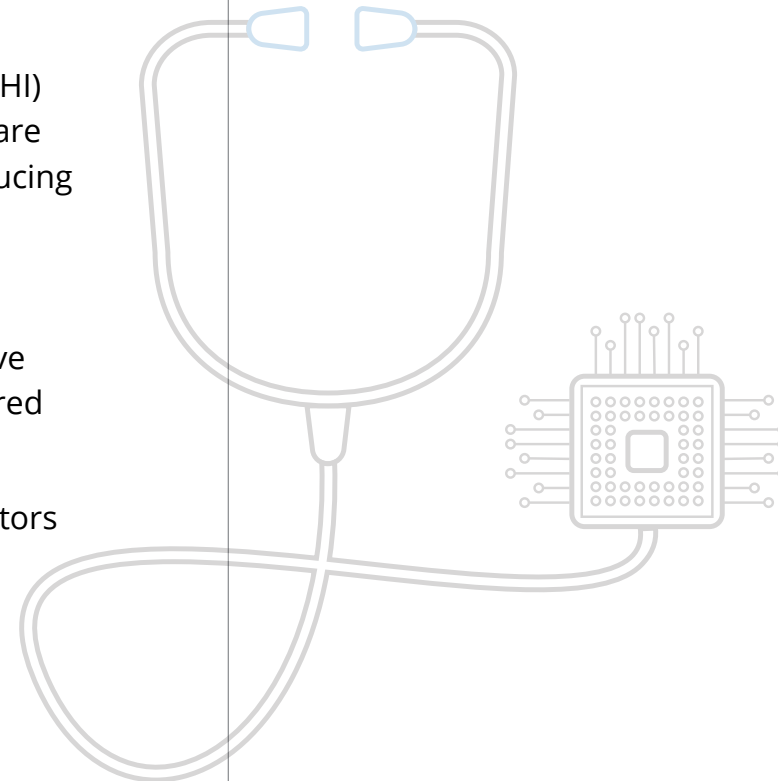
The planning tool in [Section 3](#) lays out key decisions to develop your health center's triage criteria for in-person and virtual care modalities. Once criteria are set, many health centers adopt a digital front door or virtual first approach that automates the triage process, directing patients to the appropriate care delivery mode on the basis of responses to simple questionnaires.

Health centers are increasingly leveraging virtual care solutions such as e-visits for follow-up care between visits as well as remote patient monitoring in the days following discharge home from the hospital or for longitudinal management of chronic conditions. Some health centers are hybridizing care modalities within the course of a single visit. Primary care providers may use virtual solutions in the exam room to consult with a specialist in another location. Yet another twist on hybrid co-visits is home health care that leverages virtual solutions to augment housecalls.

PROTECT YOUR HYBRID PROGRAM

Consult with your health center's legal counsel and IT security officer to ensure you have robust policies and safeguards in place to keep protected health information (PHI) secure. Cybercrime poses a growing threat to healthcare organizations, and virtual care can increase vulnerability. As part of your risk management plan, and prior to introducing virtual care features into your hybrid care model, ensure that your health center and its providers have adequate cybersecurity training and insurance coverage. The U.S. Cybersecurity & Infrastructure Security Agency (CISA) offers [support and resources](#). Consult with the [Medical Board of California](#) to ensure all health center providers have proper licensure to practice telemedicine, and processes are in place to collect required patient consents for virtual care.

Require [HIPAA Business Associate Agreements \(BAA\)](#) for all health center subcontractors that potentially handle PHI in the course of their work. BAAs hold subcontractors to the same HIPAA standards for PHI privacy and security that are required for your health center. ⁹





2. ECONOMIC CONSIDERATIONS

THE ECONOMICS OF VIRTUAL CARE IN YOUR HEALTH CENTER

Most California health centers have some previous experience with virtual care modalities, ranging from telephone visits to video visits and remote patient monitoring. These solutions were likely heavily used during the pandemic to safely deliver care. Even as virtual care utilization appears to be tapering (though new variants may alter this course), it will likely never return to pre-pandemic levels.¹⁰ Perceptions about virtual care are generally positive, interest in virtual care models is growing, and investments in telehealth continue to climb.¹¹

The specific needs of your health center and the patients you serve will largely determine your ratio of virtual to in-person care. Other factors in this dynamic system include quality, security, and financial implications—all which surely will change over time.

Reimbursement for virtual care is evolving, with major players such as CMS, private payers, tech companies, lawmakers, and patients/consumers all exerting influence.

THE FUTURE OF REIMBURSEMENT

Some payment models support virtual care solutions better than others, particularly for longitudinal care and chronic care management. Due to capitated/global payments, value-based payment (VBP)/alternative payment methods free the provider to combine the modalities of care that best fit the patient's needs rather than choose services with the highest reimbursement rates. However, until VBP is widely implemented, regulatory support for other payment methodologies is imperative to hold progress made around virtual care parity during the PHE.

Virtual care has often been at odds with the fee-for-service payment model, but as some regulatory exemptions become permanent, this is likely to improve. Prospective payment system (PPS) rate extensions may be well-suited for virtual visits, but may not

include coverage for virtual provider-to-provider consultations or remote monitoring without special carve outs.¹² Many states, including California, are building regulatory bridges to support virtual care delivery while analysis of efficacy, cost, and utilization are actively underway.

During the pandemic, behavioral health services adapted exceptionally well to virtual modalities. The outlook for individual and group virtual behavioral health services remains positive, with strong continued uptake.¹³ If your clinic currently offers mental health services, consider adding virtual behavioral health options to remain competitive with other health centers.

Payment parity—the equal reimbursement for virtual and audio-only visits as in-person visits—has transformed the healthcare landscape.¹⁴ Though payment parity is guaranteed in California through December 2022,¹⁵ securing a hybrid virtual care program in any proportion may seem daunting due to the uncertainties of future reimbursement. However, investing in your virtual care program now may pay dividends in the future. Through economies of scale, it is more effective and cost-efficient to flesh out and standardize your virtual care services.¹⁶ The flexibility of a hybrid care model allows your health center to remain nimble, increase access, reduce no-shows, improve health outcomes, and boost satisfaction.^{17 18 19}

REIMBURSEMENT BASED ON PAYMENT EQUITY

Some payers and lawmakers are setting sights on future payment equity rather than parity for virtual care. Payment equity is the concept of fair reimbursement determined by perceived effort, time, and resources needed to deliver care. Some proponents for payment equity argue that virtual visits and audio-only visits do not warrant the same reimbursement rates as in-person care due to reduced clinical effort, reduced value, and higher potential for overutilization.²⁰ Alternatively, other stakeholders believe equity is achieved through reimbursement according to complexity, risk management, and time spent rather than mode of care delivery.²¹ This perspective holds that care delivered virtually does not necessarily require less effort, offer lower value, or cost less to provide.

HYBRID VIRTUAL CARE HAS WIDE-RANGING ECONOMIC BENEFITS

Beyond direct reimbursement, a hybrid virtual care model offers several economic benefits.²²

For your staff: Flexibility for remote workdays reduces stress and increases safety; asynchronous modalities provide greater autonomy over time management, reducing a source of burnout

For your practice: As more components of care become virtual, there is opportunity to increase volume and reduce no-shows

For your providers: Capacity to provide tailored care delivery to their patients

For patients: Reduced barriers and costs to accessing care (e.g., less time off work, reduced burden of transportation, or childcare)

PROVIDER TURNOVER IS COSTLY

If virtual care can reduce provider stress and burnout, it may prevent unnecessary turnover and save health centers substantial costs. It is estimated health centers spend in excess of \$1 million with the loss of one provider.²³

PAYER MIX & VIRTUAL CARE CHOICES

The degree to which you provide virtual care services may depend on your payer mix.

For clinics that accept Medi-Cal—federally qualified health centers (FQHCs) in particular—California state policy decisions around payment methodologies and rates will greatly impact future virtual care services. The federal government has given states substantial decision-making power over covered modalities and rates—effectively allowing states to position virtual care within the landscape.

Private payers have remained amenable to reimbursement requirements for virtual care throughout the public health emergency. There are some concerns over whether that will continue, contrasted by calls to private payers to lead the charge for virtual care coverage and reimbursement rates.

To maximize revenue, it may make sense to tailor your health center's hybrid mix of offerings based on your payer mix as it relates to stances on reimbursement.

KEEP THE LIGHTS ON WHILE PLANNING FOR THE FUTURE

As an executive, it is critical to nurture a long-term vision for your hybrid care program while making ends meet day-to-day. This includes finding sources of funding to start up or expand your virtual offerings, leveraging in-house resources, and maximizing staff time through training and top-of-license performance.

Launching your hybrid virtual care program may consume up to 27% of operational costs.²⁴ This can be mitigated with available grants from certain payers or from regional funders. Rather than making a capital investment, consider leasing telehealth equipment or entering into cost-sharing arrangements with partners.

It may make financial sense to contract portions of your virtual care offerings to vetted third parties offering virtual health specialties or virtually-based providers—steps which may be critical if your organization is experiencing provider shortages and heavy workloads.²⁵

In this environment of rapid market consolidation, and little clarity and stability around telehealth policies and regulations, it will be vital to negotiate flexible contracts with third-party vendors that allow for separation with minimal penalties.

CHOOSE VIRTUAL OPTIONS FOR VALUE & QUALITY

As you embark on your hybrid program, note clinically effective offerings that generate revenue and increase access. Many California health centers are experiencing greater-than-anticipated success with virtual behavioral health, virtual group therapy, virtual dermatology, and virtual reproductive health services.²⁶ Consider adjusting your menu of services to expand virtual offerings that prove to be both clinically effective and preferred by your patients.

COSTS OF HYBRID VIRTUAL CARE

It may be wise to begin with a budget of line-item considerations for essential costs and revenue sources.

Include initial costs as well as ongoing maintenance, such as:

- Staff time and training
- Dedicated virtual care coordinator position
- Privacy and security measures
- Equipment (e.g. monitors, computers, tablets, headsets, devices, etc.)
- Technology (e.g. HIPAA-compliant videoconferencing software, increased bandwidth, custom EHR build, etc.)
- Third-party vendor contracting
- Patient education and support
- Equity resources (e.g. interpreters, device loaner program, social service resource locators/community partnerships)
- Marketing and communications
- Upgrades, refresher training, annual cost increases

Source of increased revenue may include:

- Patient retention and volume
- Reduced no-shows
- Improved outcomes/quality measures
- Public and private grants
- Incentive programs
- Cost-sharing partnerships

Once your health center secures funding sources, calculate how many virtual services are needed to cover the cost of the program. Factor in the time it may take time to generate full revenue.

REIMBURSEMENT VS. VALUE: SHIFT TO A VALUE-BASED MINDSET

Alternatively, your health center can conduct an analysis of value that looks at indirect costs and savings including patient experience, provider burden, and health outcomes.

Developing a hybrid virtual care delivery model is a strategic investment in your health center's long-term survival. Regardless of whether your practice participates in fee-for-service or value-based payment models, it is to your health center's benefit to calculate the value of virtual care in terms of indirect costs and savings rather than direct reimbursement.

FRAMEWORK TO ASSIGN VALUE TO VIRTUAL CARE

The American Medical Association partnered with Manatt to develop a framework to measure the value of virtual care on the basis of six value streams:²⁷

1. Clinical outcomes, quality, and safety
2. Access to care
3. Patient and family experience
4. Provider experience
5. Financial and operational impact
6. Health equity

Find the full AMA and Manatt framework in Resources on [page 32](#).

REALLOCATING RESOURCES

"We are looking to build a mechanism that makes virtual care cost-neutral, which would include looking at the reduction in the use of exam rooms, efficiency in paying for specialty consults as needed, rather than by salary—you pay for what you need, no more no less."

Development Director
Health center in Placerville, California

Once you determine the balance of modalities that are technologically feasible, medically appropriate, and culturally acceptable, examine ways to redistribute resources to enhance sustainability.

For example:

- How might a substantial increase in virtual visits change the way you allocate space within your health center's physical footprint?
- How might a hybrid model impact the way you schedule appointments? Providers might designate certain days of the week or blocks of time exclusively for virtual visits.
- How might a hybrid model impact staffing? Some practices might opt to hire a dedicated "virtualist" or contract specialists for e-consults on an as needed basis rather than keeping specialists on salary.

It is important to note that in a study of nine California FQHCs, the majority experienced substantial reduction in no-shows following the introduction of virtual care options.²⁶ In particular, several health centers report sustained no-show rates for virtual behavioral health services near zero.

WATCH FOR UNINTENDED CONSEQUENCES

Introduction of virtual care offerings may impact your workforce in unpredictable ways. For example, with fewer no-shows for virtual visits than in-person visits, some California health centers noted an uptick in burnout among providers who previously used the downtime to catch up on administrative work. Under the increased demand, these providers were burning out. To offset the increased stress levels, many opted to reduce clinic hours or increase hours worked from home.

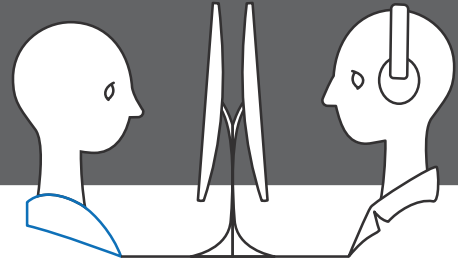
"An unanticipated effect of virtual care was provider burnout. Prior to expanding our virtual care offerings, our no-show rate was at 30%. Providers had breaks to write their notes and do charting. Now the no-show rate is only 8%. The lack of down time is creating provider burnout, resulting in providers reducing their clinic hours..."

Yet even in this case, remote technology can be part of the solution. Hybrid schedules for providers that enable them to divide time between the clinic and a home office help reduce burnout as working from home reduces the level of stress."

Director of Operations Behavioral Health
Health center in Escondido, California

Fears are circulating about future virtual care overutilization. Though these are concerns that are yet to come to pass, it may be important down the road to keep tabs on how often virtual care is utilized when an in person visit or no visit was more appropriate. Clear terms of use can help set patient expectations and curb potential for inappropriate use of virtual care technologies.





3. HUMAN FACTORS

PART 1: PATIENT EXPERIENCE & HEALTH EQUITY

SCREEN PATIENTS FOR VIRTUAL CARE

What specific patient factors might indicate promising or poor candidates for virtual care? Once your practice has developed a clinical protocol for triaging conditions to in-person or virtual care, consider creating a simple patient questionnaire to gauge whether virtual care is a good fit. Find digital literacy and health technology screening tools under the [Resources](#) section. Fold questions about technology preferences and barriers into patient intake forms or screenings to help identify patients who are:

- Good candidates for virtual care
- Could be good candidates with appropriate assistance
- Not recommended for virtual care at this time

If patients screen “positive” for barriers to using virtual care, be prepared to determine the root causes and have ready convenient solutions. A prime example comes from a community health center in San Diego that serves a population spread across a large, remote swathe of inland Southern California desert.

When this health center identifies patients struggling to access care, the Director of Integrated Health Services explains, *“Barriers for patients include transportation, low income, and childcare. A large portion of our patients are best served in a language other than English. Most work full time and can’t take time off work for regular follow up care. Some live in remote areas requiring a two-hour bus ride each way to see a doctor.*

We have support staff to assist them. In a single visit, staff can issue eligible patients a subsidized smartphone, register the patient with an account on the patient portal and offer

instruction on how to use virtual tools for their care. Providing virtual care direct to the patient’s home has eliminated many of those barriers and expanded access.”

On the other hand, some patients may face barriers that make virtual care a poor option to meet their needs. For example, a common issue for patients living in multigenerational households is difficulty finding a private, quiet space for a virtual visit. Patients with hearing or visual impairments may struggle with many virtual technologies. Virtual care options may not work well for patients with cognitive impairment, intellectual disabilities, severe mental illness or substance abuse issues.

Johns Hopkins Medical Center created an automated way to use information in the EHR to help identify patients likely to need additional support to use virtual care successfully. Those patients were offered assistance ahead of their appointments to ensure a successful connection.²⁸

USE VIRTUAL CARE TO SOLVE REAL PROBLEMS

Every health center is unique. To strike the right balance, it is vital to make choices that actively solve real problems faced by your patients and providers. Ideally, virtual care options expand patient options to connect to care when they need it.

EXPLORE ROOT CAUSES FOR NO-SHOW RATES

One good starting point is to target areas of your practice with high rates of no-shows. This can indicate a significant portion of patients are facing barriers to access that might be reduced with a virtual solution.

“With the introduction of virtual care options, we experienced a dramatic reduction in no show rates for primary care—especially for behavioral health.

Our no-show rate for virtual behavioral health appointments is now close to zero.

Our behavioral health patients probably benefit the most from virtual care. We will continue to offer it as long as we can.”

Development Director
Health Center in Placerville, California

STRATEGIES FOR HEALTH EQUITY

As you assemble your health center's virtual care offerings, it is important to develop an equitable strategy. A diversified array of POTS, cellular, and broadband-based virtual options will help to close the digital divide for your patients who face potential barriers.

Consider adding survey questions to patient intake forms or SDH screenings to ask patients about whether they own a smartphone with a data plan or have access to high-speed internet in their home. What is their level of comfort with digital technologies?

At our health center, barriers for patients include transportation, low income, and childcare. Over half of our patients are best served in a language other than English. Most work full time and can't take time off work for regular follow up care. Some live in remote areas requiring a two-hour bus ride each way to attend an appointment.

Providing virtual care direct to the patient's home has eliminated many of those barriers and expanded access.

For patients who may have issues with connecting remotely, we have support staff to assist them. In a single visit, staff can issue eligible patients a subsidized smartphone, register the patient with an account on the patient portal and offer instruction on how to use virtual tools for their care. We also have instructions and how-to guides on our website. Patients can opt for a phone visit if a virtual video visit isn't possible."

Director of Integrated Health Services
Health center in San Diego, California

By routinely collecting these data from all patients annually, your practice will be able to anticipate solutions to patient needs and make informed decisions about a balanced selection of virtual offerings.

FLEXIBILITY IMPROVES PATIENT EXPERIENCE

A flexible approach acknowledges that the right balance of telehealth and in-person care will be different for each patient—and that balance is not static. A patient's needs may change over the course of an episode of care. Take for instance ways in which the combination of in-person appointments and virtual prenatal care might shift over the course of a patient's pregnancy.

During the COVID-19 pandemic, many providers catering to underserved populations found video visits untenable. The telephone provided a superior alternative, enabling these patients to receive care in lieu of no care at all.²⁹ This underscores the importance of preserving audio-only visits as a virtual care option. For many California patients, the phone is often the most appropriate care modality.

Having the flexibility to use virtual care to see patients in their homes has been a game changer and filled a gap for many patients who were not accessing medical care and have chronic health conditions."

Director of Integrated Health Services
Health center in San Diego, California

PART 2: PROVIDER PERSPECTIVES

CLINICAL EFFICACY FIRST

When providers consider care modalities, clinical efficacy and patient safety take priority. Involve clinical stakeholders in discussion about virtual care as early as possible. Clinical efficacy is the greatest determining factor in identifying the types of patient care that must be delivered in person, those that could be delivered virtually, as well as services that might be accomplished without a patient visit.

IDENTIFY CARE THAT MUST BE IN PERSON

Apply these clinical considerations to develop triage protocols that identify symptoms, conditions, or care needs that must be attended to in person. Reference examples of criteria developed at UCLA and the Ontario College of Family Physicians.^{30 31}

IDENTIFY CARE THAT COULD BE DELIVERED VIRTUALLY

From a strictly technological standpoint, how much care can be delivered virtually? Further, what mode of virtual care is most appropriate? Asynchronous solutions enable secure communications between patients and their care team or between providers in consultation with one another. Synchronous audio or video solutions can be useful for a variety of individual and group appointments.

IS VIRTUAL CARE RIGHT FOR THE PATIENT?

Clinicians can also play a valuable role in developing a tool to screen patients for virtual care compatibility as part of the triage process. The previous section described screening tools to help identify which patients are good candidates for virtual care, or could use virtual care successfully with appropriate assistance. Most health centers will have some percentage of patients for whom virtual care modalities may not be appropriate.

CHOOSING THE VIRTUAL TOOLS IN YOUR KIT

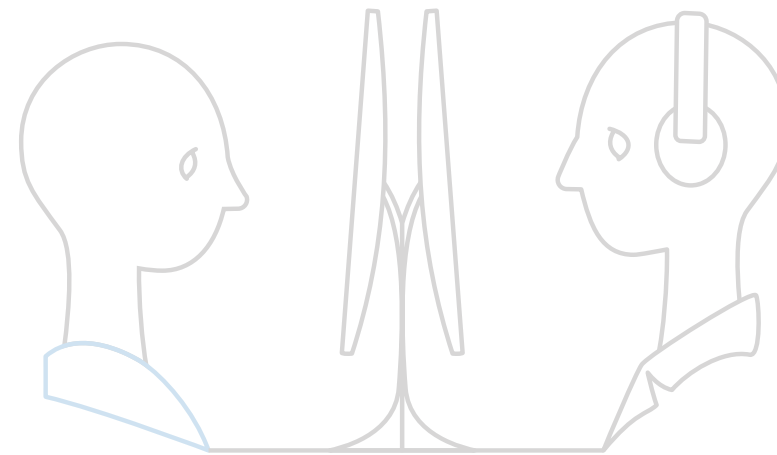
Finally, a staggering number of medical-grade and consumer-grade virtual care devices, tools and apps are available in the marketplace. Involve clinicians in selecting and testing the validated digital tools, devices, and apps your practice will use in clinical care. Clinicians who select the devices for your program are more inclined to use them in clinical care and champion their use among patients and colleagues.

WHAT IS THE RIGHT BALANCE FOR YOUR HEALTH CENTER?

A number of studies over the past year converge on an average of 50% when estimating the amount of care most health centers could potentially deliver virtually.^{32 33 34 35} There is some variation among medical specialties. For example, dermatology or psychiatry are specialties generally more suitable for virtual modalities than orthopedic surgery. There is also variation in telehealth utilization among patient populations. Medicare patients and those with low English proficiency are often less inclined to use virtual care.

COMBINE MODALITIES IN WORKFLOWS

Could your practice benefit from a virtual first approach or a digital front door as a means to triage patients to appropriate modes of care? Are there opportunities for hybrid workflows that sandwich an in-person exam with virtual options for intake before and follow up afterwards? Could your patients benefit from remote patient monitoring in the critical days following discharge home from the hospital?



PART 3: A HYBRID CARE PLANNING TOOL FOR EXECUTIVES

WHEN TO DELIVER CARE IN PERSON? WHEN TO OFFER VIRTUAL?

1 START HERE:

- Does your health center have:
- Adequate cybersecurity insurance coverage?
 - Licensures to practice telemedicine?
 - HIPAA Business Associate Agreements for all virtual care subcontractors?

2 IN-PERSON CARE SERVICES

- What services must be delivered **in person**?
- Draw on expertise of clinical staff and frontline workers. Reference examples of clinical criteria in Resources. Identify conditions treated in your clinic that require physical contact to provide care or make a diagnosis.
- Some symptoms can be addressed initially by virtual triage. Clinical staff routes patients to the emergency room, an in-person, or virtual visit. Examples include:
- Immunizations
 - Most new patient visits
 - Conditions that are complex or worsening
 - Well Child Checks
 - Cancer screenings
 - Methadone dispensing
 - IUD insertion/removal
 - Surgical procedures
 - Minor trauma
 - Seizure
 - Upper respiratory symptoms
 - Chest pain
 - Shortness of breath
 - Abdominal pain
 - Blood in stool
 - Suicidality
 - Inability to urinate

4 VIRTUAL SELF-SERVICE

Which types of patient services could be managed with self-service, asynchronous virtual care solutions?

3 VIRTUAL CARE SERVICE OPTIONS

Technologically, what services could be offered virtually?

5 MODES OF VIRTUAL CARE

What modes of virtual care might be useful for your practice?

Synchronous care solutions

- Audio-only telephone visits
- Videoconferencing
- Specialty consults delivered in real time
- Live chat

Asynchronous care solutions

- Store-and-forward akin to secure email messaging
- Text messaging
- Automated telephone messages

6 FLEXIBLE ACCESS

To maximize flexibility for patients and providers, how can you offer a menu of telephonic, cellular, and broadband technologies?

- Telephonic (POTS/landline)
- Cellular (smartphone with data plan)
- Broadband (Wi-fi enabled Bluetooth)

8 HYBRID WORKFLOWS

- How might workflows made up of hybrid care modalities be useful in your health center?
- Could a Virtual First/Digital Front Door approach of virtual triage and follow-up sandwich in-person or virtual visits?
- Could virtual co-visits optimize home health visits?
- How might virtual care improve patient experience following discharge home from the hospital?

7 VIRTUAL CARE PATIENT SCREENING

- Not all patients are good candidates for virtual care.
- How do you screen patients to assess them for virtual care compatibility?
 - Patient readiness or appropriateness for virtual care can fluctuate at different points in treatment. How can you use a mix of care modalities to meet the patient where they are at a given time?
 - How can you identify patients facing barriers to using virtual care who could be converted to good candidates **with proper support**? How do you efficiently connect them with appropriate solutions?

9 CONVERT NO-SHOWS

- Which types of appointments have the highest rates of no-shows?
- What are the root causes of no-shows?
- How might virtual alternative(s) address the problem?
- Could virtual alternative(s) convert no-shows to billable services?

11 VIRTUAL CARE OPERATIONS

- Once you identify virtual services, how will you structure operations?
 - Support virtual care in-house with equipment, space, and staff resources
 - Contract services to third-party vendors
 - Combination of in-house and contracted vendors
- How might you reallocate brick-and-mortar footprint?
- How might you adjust staffing?
 - Train providers to do both in person and virtual care
 - Hire dedicated “virtualist”
 - Outsource virtual care to a third party
- How will you schedule virtual and in-person clinics?
 - Reserve certain time slots/days for providers to do virtual visits
 - Mix in-person and virtual scheduling

12 CONTINUITY OF CARE

- How does your hybrid model support continuity of care?

13 EVALUATION

- How might you measure success?
- Which data informs continual improvement?
- How will you capture patient experience and provider satisfaction data?
- How will these data inform decisions?

10 PAYER REIMBURSEMENT

- What is your payer mix?
- Which payers currently reimburse for virtual care?
- Are there conditions for reimbursement tied to how virtual care is delivered?

14 ASSIGN VALUE

- How do you assign value to care? See the Resources section for a framework to assign value to virtual care.

4. TECHNOLOGICAL CONSIDERATIONS

LET CLINICAL EFFICACY, PATIENT PREFERENCE, & HEALTH EQUITY BE YOUR GUIDES

Use the planning tool in the previous spread to help your health center develop processes for choosing the right care modality for a given patient at the right time, supported with the right technology.

STRIVE FOR EQUITY IN TECHNOLOGY

Design your health center's menu of technologies to support your hybrid model with an eye to health equity. Though some patients do not have high-speed internet service in their homes or are unable to use Bluetooth-enabled wireless devices, **85% of American adults own smartphones which may be used for virtual care.**³⁶

For many underserved patients, audio-only telephone (POTS) visits are the only viable way to use virtual technology to overcome barriers to access. Though it is unclear how long California intends to support parity for audio-only virtual care, eliminating this option from the virtual care toolbox will have a profound impact on the state's most vulnerable populations.

ASYNCHRONOUS SOLUTIONS CAN EASE PROVIDER BURDEN

Whereas, synchronous virtual care is conducted in real time, most often via telephone or videoconferencing, asynchronous virtual care commonly takes a store-and-forward approach by which patients can initiate care at any time via an internet connection to securely upload screenings, questionnaires, biometric data, or images that providers can review and interpret as time permits.

By some estimates, **providers can resolve up to six asynchronous queries in the time it would take to complete one synchronous patient visit.**³⁷ In an environment facing serious provider shortages, this gain in efficiency can help increase capacity. Providers widely report that delivering asynchronous care is less stressful than real-time care and helps alleviate burnout. Further, California reimburses for asynchronous services, and prices for asynchronous solutions are often significantly lower than other virtual modalities such as videoconferencing.³⁸

To optimize asynchronous virtual care options, designate training time for staff to set expectations for patients around when these solutions are most appropriate.

VIRTUAL SPECIALTY CONSULTS BUILD CAPACITY & REDUCE PCP BURNOUT

Virtual consultations can help solve multiple challenges faced by health centers in remote geographic locations. El Dorado Community Health Center serves a rural population scattered throughout the Sierra Nevada foothills west of Sacramento. Since 2015, the health center has been using virtual care options to provide patients access to specialty care including dermatology, nephrology, neurology, gastroenterology, endocrinology and psychiatry. Development director Patrick Klein explains that the benefits are twofold, "It is a way to get our patients access to care that they normally would not have, due to their geographic remoteness and difficulties finding specialists willing to see our patients." The health center's providers also benefit. Klein adds, "Greater access to specialists through virtual care options has helped relieve the stress on our primary care providers. Our PCPs no longer have to manage our most complex patients by themselves. They have virtual colleagues to provide care and support for treating patients with specialty needs."

INVOLVE CLINICIANS IN CHOOSING YOUR VIRTUAL TOOLS

Studies find that involving health center clinicians early in the process of selecting validated devices and products are significantly more inclined to use these virtual tools in routine clinical care, improving the success of your hybrid program.³⁹

RPM TODAY: PREPARING FOR THE FUTURE OF MEDICINE

A paradigm shift in medicine is underway, predicated on continuous streams of patient biometric data captured in the natural course of everyday activity with wireless remote patient monitoring (RPM) devices and transmitted to the EHR for analysis.⁴⁰ In a shift away from episodic care in clinical settings, the new locus of care is wherever the patient happens to be.

A new kind of medical practice is emerging which applies predictive analytics and machine learning to biometric datasets to reveal new diagnostic phenotypes of disease as well as indicators of health. The goal is to automate data analytics to flag biometric changes, enabling interventions tailored to the individual, administered earlier in the disease process, in a lower-cost setting. The entire approach aligns with a movement towards value-based payment that rewards improved quality and better health outcomes.

California health centers that embrace virtual technologies as part of their offerings today will be well-poised to participate in these leading-edge technologies as they become available. Those that do not anticipate trends and adapt may be left behind.

In an increasingly competitive environment that offers patients more and more choices for how to access care, placing an informed bet on certain technologies such as RPM could make the difference in your health center's future.



5. QUALITY METRICS & SUSTAINABILITY



QUALITY IMPROVEMENT FRAMEWORKS FOR SUSTAINABILITY

A vital responsibility of the healthcare executive is to design feedback loops to serve up data for continual learning and improvement. This will help ensure the sustainability of your hybrid model into the future.

ESTABLISH BASELINE VALUES

First, establish baseline values for patient satisfaction, provider satisfaction, and metrics tied to health outcomes such as the percentage of patients with diabetes that have an HbA1c value less than 8% or the percentage of hypertensive patients with blood pressure in the normal range. Continue to track these measures as your hybrid program matures. Annotate when your health center introduces new virtual offerings on a large scale.

SET MEASURABLE GOALS

Borrow from quality improvement frameworks to set measurable goals for your program to meet within a certain timeframe.

For example, your health center might set a goal to convert 25% of all behavioral health visit no-shows to billable virtual visits over a period of 90 days.

Perhaps you have calculated that 50% of your health center's total services must be delivered in person, and given your patient population, roughly 25% of all other services could be delivered virtually. Set quarterly virtual care benchmarks of 5%, 10%, 15% and 20% over the next year.

If portions of your patient population have historically faced barriers to accessing specialty care, consider setting a goal of completing 15 virtual specialty consults over the next month.

Other examples of metrics to consider tracking include:

- Elapsed time between scheduling an appointment and the date the appointment is completed
- Length of in-person and virtual visits
- No-show rates for each department, specialty or provider
- Patient satisfaction rates
- Provider satisfaction rates

IF PROGRESS STALLS, INSTITUTE TESTS OF CHANGE

Collect data to track progress toward your goal. If the program is not making adequate strides, assign appropriate staff such your virtual care coordinator or virtual care champion to design small tests of change using Shewhart's Plan-Do-Study-Act cycles.⁴¹

USE DATA TO DRIVE CONTINUAL IMPROVEMENT

Compile trends and findings into a periodic recommendation to share with health center leadership. Use these data to inform decisions about how to adjust your hybrid balance of care delivery modalities, the array of virtual clinical offerings, allocations of physical space, and staffing models.

YOUR CARBON FOOTPRINT

What is your health center's stance toward responsible energy use? How might a greater emphasis on virtual care solution impact your carbon footprint? While a hybrid care model might have the effect of shrinking your physical office space and associated energy consumption, there is a carbon cost for storing and processing vast quantities of data.

NEXT STEP CONSIDERATIONS

Once you have committed to a hybrid virtual care program and have identified the right modalities and technologies for your health center, there are important steps to operationalize your plan.

Some next steps may include:

Address Organizational Culture and Change Management

It will be critical to align changes in your offerings with your organization's mission and strategic goals. Further, as a leader you set the tone for your organization. The program will be more likely to succeed by conveying confidence and optimism while acknowledging challenges and navigating changes. Virtual care is not a substitute for in-person care, rather a powerful supplement in care delivery at the right time for the right patients. Virtual care and in-person care are on the same journey to better outcomes and higher satisfaction.

Assess Staff Readiness and Engagement

While you may be ready to implement more robust virtual care offerings, it is critical to ensure your staff are ready and willing to accept these solutions. Investing in training and incorporating staff feedback may better position staff to fully buy-in.

Stay Ahead of the Curve

Be proactive in staying current around technology advancements, policy changes, and equity challenges.



6. RESOURCES

GENERAL

California Health Care Foundation

<https://www.chcf.org/>

Center for Care Innovation Virtual Care Learning Hub

<https://www.careinnovations.org/virtualcare/>

Centers for Medicare and Medicaid: From Coverage to Care: Telehealth for Providers: What You Need to Know

<https://www.cms.gov/files/document/telehealth-toolkit-providers.pdf>

The Commonwealth Fund

<https://www.commonwealthfund.org/>

HIMSS: The Rise of Hybrid Care Webinar

<https://www.himsslearn.org/rise-hybrid-care>

OCHIN HCCN Innovation to Impact Toolkit Collection

<https://bit.ly/39nrgTn>

Project ECHO

<https://hsc.unm.edu/echo/about-us/>

UCSF Center for Vulnerable Populations

<https://cvp.ucsf.edu/>

UCSF Social Interventions Research & Evaluation Network (SIREN)

<https://sirennetwork.ucsf.edu/>

ECONOMICS

Costs of Maintaining a High-Volume Telemedicine Program in Community Health Centers

https://www.rand.org/pubs/research_reports/RRA100-3.html

REIMBURSEMENT & POLICY

Center for Connected Health Policy State Telehealth Laws and Reimbursement Policies Report, Spring 2021

<https://www.cchpca.org/resources/state-telehealth-laws-and-reimbursement-policies-report-spring-2021/>

California Health Care Foundation Report: Remote Patient Monitoring in the Safety Net: What Payers and Providers Need to Know

<https://www.chcf.org/wp-content/uploads/2021/07/RemotePatientMonitoringSafetyNetNeedKnow.pdf>

PAYMENT MODELS

American Medical Association and Manatt Health Framework for Assigning Value to Virtual Care

<https://www.ama-assn.org/practice-management/digital/amas-return-health-telehealth-framework-practices>

EVALUATION & QUALITY IMPROVEMENT

Institute for Healthcare Improvement Science of Improvement: Tips for Testing Changes

<http://www.ihl.org/resources/Pages/HowtoImprove/ScienceofImprovementTipsforTestingChanges.aspx>

Institute for Healthcare Improvement PDSA Worksheet

<http://www.ihl.org/resources/Pages/Tools/PlanDoStudyActWorksheet.aspx>

The W. Edwards Deming Institute

<https://deming.org>

LICENSURE

Medical Board of California

<https://www.mbc.ca.gov/Resources/Medical-Resources/telehealth.aspx>

PATIENT VIRTUAL CARE SCREENING TOOLS

City of San Francisco SF Digital Equity Playbook

<https://sfmohcd.org/digital-equity>

UCSF Center for Vulnerable Populations Sample Questions to Screen Patient Digital Needs

<https://www.careinnovations.org/wp-content/uploads/UCSF-CVP-Questions-to-Screen-Patient-Digital-Needs.pdf>

Northstar Digital Literacy Screener

<https://www.digitalliteracyassessment.org>

PRIVACY & SECURITY

OCHIN HCCN Innovation to Impact: Data Breach and Ransomware Prevention and Recovery Toolkit

<https://ochin365.sharepoint.com/sites/HCCN/SitePages/Data-Breach-and-Ransomware.aspx>

U.S. Cybersecurity & Infrastructure Security Agency Cybersecurity Insurance Webpage

<https://www.cisa.gov/cybersecurity-insurance>

U.S. Department of Health & Human Services Health Information Privacy: HIPAA for Professionals

<https://www.hhs.gov/hipaa/for-professionals/index.html>

U.S. Department of Health & Human Services Health Information Privacy: Direct Liability of Business Associates Fact Sheet

<https://www.hhs.gov/hipaa/for-professionals/privacy/guidance/business-associates/factsheet/index.html>

U.S. Department of Health & Human Services Health Information Privacy: Business Associate Contracts

<https://www.hhs.gov/hipaa/for-professionals/covered-entities/sample-business-associate-agreement-provisions/index.html>

TECHNOLOGY

When Low Tech Wins

https://www.nejm.org/doi/full/10.1056/NEJMp2104234?query=recirc_artType_railA_article

HEALTH LITERACY & CLEAR COMMUNICATION BEST PRACTICES FOR TELEMEDICINE

Health Literacy and Clear Communication Best Practices for Telemedicine

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8330439/>

Federal Communications Commission Lifeline Support for Affordable Communications

<https://www.fcc.gov/lifeline-consumers>

<https://www.lifelinesupport.org>

Federal Communications Commission Emergency Broadband Benefit Program

<https://www.fcc.gov/broadbandbenefit>

UCSF Center for Vulnerable Populations Health Communications Program

<https://cvp.ucsf.edu/programs/health-communications-program>

UCSF Center for Vulnerable Populations Health Information Technology and the Safety Net Program

<https://cvp.ucsf.edu/programs/health-information-technology-and-safety-net>

UCSF Social Interventions Research & Evaluation Network (SIREN)

<https://sirennetwork.ucsf.edu/>



REFERENCES

1. Dorsey, E.R. & Topol, E. (2020). Digital medicine: Telemedicine 2020 and the next decade. *The Lancet*, 395, 859.
2. Rose, S., Hurwitz, H.M., Mercer, M.B., Hizlan, S., Gali, K., Yu, P., Franke, C., Martinez, K., Stanton, M., Faiman M., Rasmussen, P. & Boissy, A. (2021). A patient experience in virtual visits hinges on technology and the patient-clinician relationship: A large survey study with open-ended questions. *J Med Internet Res*, 23(6):e18488 doi:10.2196/18488PMID:34152276PMCID:8277398
3. Koma, W., Cubanski, J. & Neuman, T. (2021, May 19). Medicare and telehealth: Coverage and use during the COVID-19 pandemic and options for the future. Kaiser Health News. <https://www.kff.org/medicare/issue-brief/medicare-and-telehealth-coverage-and-use-during-the-covid-19-pandemic-and-options-for-the-future/>.
4. American Medical Association & Manatt Health. (2021). AMA's return on health report: Telehealth framework for practices. Retrieved August 30, 2021, from <https://www.ama-assn.org/practice-management/digital/amas-return-health-telehealth-framework-practices>
5. Ekeland, A.G., Bowes, A. & Flottorp, S. (2010). Effectiveness of telemedicine: A systematic review of reviews. *Int J Med Inform*, 79(11):736-71. doi: 10.1016/j.ijmedinf.2010.08.006. PMID: 20884286.
6. Nies, S., Patel, S., Shafer, M., Longman, L., Sharif, I. & Pina, P. (2021). Understanding physicians' preferences for telemedicine during the COVID-19 pandemic: Cross-sectional study. *JMIR Form Res*, 5(8):e26565. doi: 10.2196/26565. PMID: 34227993; PMCID: PMC8366754.
7. Chang, J.E, Lai, A.Y., Gupta, A., Nguyen, A.M., Berry, C.A. & Shelley, D.R. (2021). Rapid transition to telehealth and the digital divide: Implications for primary care access and equity in a post-Covid era. *Milbank Q*, 99(2):340-368. doi: 10.1111/1468-0009.12509. Epub 2021 Jun 1. PMID: 34075622; PMCID: PMC8209855.
8. Velasquez, D. & Mehrotra, A. (2020, May 08). Ensuring the growth of telehealth during COVID-19 does not exacerbate disparities in care: *Health Affairs*. Retrieved August 30, 2021, from <https://www.healthaffairs.org/doi/10.1377/hblog20200505.591306/full/>
9. U.S. Department of Health and Human Services. (2021, May 17). HIPAA for professionals. Retrieved August 30, 2021, from <https://www.hhs.gov/hipaa/for-professionals/covered-entities/index.html>.
10. Mehrotra, A., Chernew, M.E., Linetsky, D., Hatch, H., Cutler, D.A. & Schneider, E.C. (2021, February 22). The impact of COVID-19 on outpatient visits in 2020: Visits remained stable, despite a late surge in cases. The Commonwealth Fund. <https://www.commonwealthfund.org/publications/2021/feb/impact-covid-19-outpatient-visits-2020-visits-stable-despite-late-surge>.
11. Cordina, J., Levin, E., Ramish, A. & Seshan, N. (2021, July 01). How COVID-19 has changed the way US consumers think about healthcare. Retrieved August 26, 2021, from <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/how-covid-19-has-changed-the-way-us-consumers-think-about-healthcare>
12. Pacific Health Consulting Group. (2021, January 28). Reimbursing FQHCs for telehealth post-COVID-19 pandemic: Medi-Cal's options. Retrieved August 26, 2021, from <https://www.chcf.org/publication/reimbursing-fqhcs-telehealth-post-covid-19-pandemic-medi-cals-options/>
13. Busch, A.B., Sugarman, D.E., Horvitz, L.E., et al. (2021). Telemedicine for treating mental health and substance use disorders: Reflections since the pandemic. *Neuropsychopharmacol*, 46, 1068–1070. <https://doi.org/10.1038/s41386-021-00960-4>
14. Shachar, C., Engel, J., & Elwyn, G. (2020). Implications for telehealth in a post-pandemic future. *JAMA*, 323(23), 2375. <https://doi.org/10.1001/jama.2020.7943>
15. State of California Department of Health Care Services. (2021, August). Medi-Cal & telehealth. Retrieved August 30, 2021, from <https://www.dhcs.ca.gov/provgovpart/Pages/Telehealth.aspx>
16. Ravitz, N., Looby, S., Jordan, C. & Kanoff, A. (2021, April 26). The economics of a telehealth visit: A time-based study at Penn Medicine. Retrieved August 26, 2021, from <https://www.hfma.org/topics/financial-sustainability/article/the-economics-of-a-telehealth-visit--a-time-based-study-at-penn-.html>
17. Dickson, M. (2021, June 21). Why hybrid care starts with the patient. Retrieved August 26, 2021, from <https://www.medicaleconomics.com/view/why-hybrid-care-starts-with-the-patient>
18. Bestsenny, O., Gilbert, G., Harris, A. & Rost, J. (2021, July 22). Telehealth: A quarter-trillion-dollar post-COVID-19 reality? Retrieved August 26, 2021, from <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality>

19. Scott, J. (2020, September 24). #ATA2021: Telehealth can improve access to care in rural and urban communities. Retrieved August 26, 2021, from <https://healthtechmagazine.net/article/2021/06/ata2021-telehealth-can-improve-access-care-rural-and-urban-communities>
20. Mehrotra, A., Bhatia, .R.S. & Snoswell, C.L. (2021). Paying for telemedicine after the pandemic. *JAMA*, 325(5):431–432. doi:10.1001/jama.2020.25706
21. Ellimoottil, C. (2021, May 10). Understanding the case for telehealth payment parity: *Health Affairs blog*. Retrieved August 27, 2021, from <https://www.healthaffairs.org/doi/10.1377/hblog20210503.625394/full/>
22. Mann Jackson, N. (2020, November 12). Working from home: Is it possible for physician practices? Retrieved August 27, 2021, from <https://www.medicaleconomics.com/view/working-home-it-possible-physician-practices>
23. Shanafelt, T. & Sinsky C. (2017). The business case for investing in physician well-being. *JAMA Intern Med*, 117(12), 1826-1832
24. Zocchi, M., Uscher-Pines, L., Ober, A. & Kapinos, K. (2020, July 29). Costs of maintaining a high-volume telemedicine program in community health centers. Retrieved August 30, 2021, from https://www.rand.org/pubs/research_reports/RRA100-3.html
25. Ali, A. (2021, May 13). Telehealth ROI: Operationalizing the new normal. Retrieved August 26, 2021, from <https://www.medicaleconomics.com/view/telehealth-roi-operationalizing-the-new-normal>
26. Kharraz, O. (2021, July 06). Commentary: The pandemic boosted telehealth-but the future of health care is still in-person. Retrieved August 27, 2021, from <https://fortune.com/2021/07/06/covid-telehealth-virtual-health-care-therapy-in-person-doctor-visits/>
27. Barron, M., Mishra, V., Lloyd, S. & Augenstein, J. (2021, July 24). How to measure the value of virtual health care. *Harvard Business Review*. Retrieved August 30, 2021, from https://hbr.org/2021/06/how-to-measure-the-value-of-virtual-health-care?ab=at_art_art_1x1
28. Hughes, H. K., Canino, R., Sisson, S. D., & Hasselfeld, B. (2021, August 10). A simple way to identify patients who need tech support for telemedicine. Retrieved August 30, 2021, from https://hbr.org/2021/08/a-simple-way-to-identify-patients-who-need-tech-support-for-telemedicine?utm_medium=email&utm_source=newsletter_monthly&utm_campaign=healthcare_not_activesubs&deliveryName=DM146530
29. Baras Shreibati, J. (2021). When low tech wins. *New England Journal of Medicine*, 385(7), 581-583. doi:10.1056/nejmp2104234
30. Croymans, D., Hurst, I., & Han, M. (2020). Telehealth: The right care, at the right time, via the right medium. *NEJM Catalyst*, 30, doi: 10.1056/CAT.20.0564
31. Ontario College of Family Physicians. (2021, August). Considerations for family physicians: Balancing in-person and virtual care. Retrieved August 30, 2021, from <https://www.ontariofamilyphysicians.ca/tools-resources/timely-trending/novel-coronavirus-2019-ncov/considerations-for-in-person-visits.pdf>
32. Licurse, A., Fanning K., Laskowski K., & Landman A. (2020). Balancing virtual and in-person health care. *Harvard Business Review*. Retrieved August 20, 2021, from: <https://hbr.org/2020/11/balancing-virtual-and-in-person-health-care>
33. The Chartis Group & Kythera Labs. (2020). Telehealth adoption tracker. The Chartis Group. Available at: https://reports.chartis.com/telehealth_trends_and_implications/
34. Landi, H. (2020, September 2). Mayo Clinic’s Halamka: Telehealth boom slowing, but don’t expect it to go back to pre-COVID rates. *FierceHealthcare*. Accessed August 30, 2021, at <https://www.fiercehealthcare.com/tech/mayo-clinic-s-halamka-virtual-care-boom-created-a-sea-change-healthcare-here-to-stay>
35. Leventhal R. (2020). McKinsey analysis: Up to \$250B of healthcare could be virtualized: Researchers note that the shift is not inevitable, however, and the window for providers to act is now. *Healthcare Innovation*. Available at: <https://www.hcinnovationgroup.com/population-health-management/telehealth/news/21140444/mckinsey-analysis-up-to-250b-of-healthcare-could-be-virtualized>
36. Pew Research Center. (2021, April 7). Mobile fact sheet. <https://www.pewresearch.org/internet/fact-sheet/mobile/>
37. Roth, M. (2021, April 6). Telehealth: The journey from video visits to strategic business tool. *HealthLeaders*. Accessed August 30, 2021, at <https://www.healthleadersmedia.com/telehealth/telehealth-journey-video-visits-strategic-business-tool>
38. Lignell, O. (2020, October, 7). Asynchronous virtual health: 3 reasons it’s critical now and foundational for the future. *MedCity News*. <https://medcitynews.com/2020/10/asynchronous-virtual-health-3-reasons-its-critical-for-now-and-foundational-for-the-future/>

39. Shaw, R.J., Boazak, M., Tiase, V., Porter, G., Wosik, J., Bumatay, S., Michaels, L., Stone, J., Cohen, D. & Dolor, R. (2021). Integrating patient-generated digital health data into electronic health records in ambulatory care settings: An environmental scan. AHRQ Publication No. 21-0031. Rockville, MD.
40. May, A. (2021, March 12). Remote patient monitoring to be mainstream in 5 years. HealthTech Insider. <https://healthtechinsider.com/2021/03/12/remote-patient-monitoring-to-be-mainstream-in-5-years/>
41. The W. Edwards Deming Institute. PDSA Cycle. Accessed August 30, 2021 at <https://deming.org/explore/pdsa/>.

