

Chapter 11

An Implementation Roadmap for Virtual Care in Rural and Underserved Settings



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Telehealth is an effective model of care that had its beginnings as early as the 1950s (Caxaj, 2016; Deslich & Stec, 2013; Fortney et al., 2015; Frueh et al., 2000; Garcia-Lizana & Munoz-Mayorga, 2010; Hilty et al., 2013; Serhal et al., 2017; Shore et al., 2007). Traditionally, telehealth has been used as a means for those in underserved rural and remote locations to access specialized care, often from providers in urban locations within academic health centres (Serhal et al., 2017). Prior to the Covid-19 pandemic, rural and remote communities were typically on the receiving end of telehealth (Serhal et al., 2017). Since the emergence of Covid-19 in 2020, many rural communities also had to move to models of delivering care via telehealth within the community or region. For some rural communities, this presented a challenge, as many do not have the same number of resources to support implementation of telehealth, such as IT planning and support, privacy and technology assessments, policy development, or project management support.

While there is a significant amount of evidence demonstrating that telehealth is an effective modality for providing psychiatry and behavioural health care, there is less guidance about effective implementation and health systems approaches to telehealth, including within psychiatry (Hailey et al., 2009; Lambert et al., 2016; Meurk et al., 2016; Saeed et al., 2012). For example, a study from 2016 demonstrated that less than 7% of psychiatrists had adopted telehealth in their practices, and 1% of patients most in need of mental health services received care through telehealth. Additionally, the study identified that there was no clear system planning or integration to help guide the effective distribution of telehealth services (Serhal et al.,

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2017). With the emergence of COVID-19 and the resultant public health emergency, health care providers have been required to quickly adapt and implement virtual care, but for some it was largely reactive to the crisis with perhaps less consideration of important implementation processes that support sustainability and overall health equity.

This chapter provides a roadmap with steps to support evidence-informed implementation for telehealth and provides some strategies to help evaluate the overall implementation of new and existing telehealth programs and services.

Key learning objectives for this chapter include:

1. Examine implementation factors that relate to telehealth
2. Describe a roadmap that supports an evidence-based implementation of telehealth interventions
3. Identify implementation outcomes to help evaluate the implementation of telehealth interventions

Many existing implementation science frameworks are helpful to guide a comprehensive plan for the implementation of telehealth and virtual interventions. This roadmap leverages the Consolidated Framework for Implementation Research (Damschroder et al., 2009), because it is a comprehensive list of implementation outcomes that was developed by aggregating common taxonomy from various implementation frameworks (e.g., Roger's Theory of Diffusion of Innovation and the RE-AIM Framework). Fig. 11.1 adapts the constructs outlined in the CFIR, including five key domains for implementation which are applied to an implementation approach specific to telehealth: (1) the outer setting of the virtual care (e.g., patient needs and resources, rurality, external policy, remuneration); (2) the inner setting of the virtual care (e.g., organizational culture, learning climate, communications); (3) the characteristics of the virtual intervention (e.g., evidence strength and quality, cost, adaptability); (4) the characteristics of individuals involved in virtual care (e.g., knowledge and beliefs about virtual care); and, (5) process of virtual care intervention (e.g., planning, engagement of opinion leaders, execution, reflection, and evaluation).

Case Study

Dr. Snell is a busy psychiatrist providing care in a small regional city of 20,000 people, providing care to many surrounding rural communities. Prior to the Covid-19 pandemic you provided care to these outlying areas by driving and flying to conduct regularly scheduled in-person clinics. This worked well because Dr. Snell got to know the local communities, but often meant long wait lists for care, and fragmented continuity of care due to long gaps between visits. The changing conditions of the pandemic forced adaptations with the use of virtual care to conduct these outreach visits. Dr. Snell found that she was actually able to see more patients and provide coverage across communities. Now some of the communities are asking to continue virtual care. Dr. Snell has no idea what how to assess which aspects of this virtual model are working, and how to measure success into the future as the pandemic recedes.

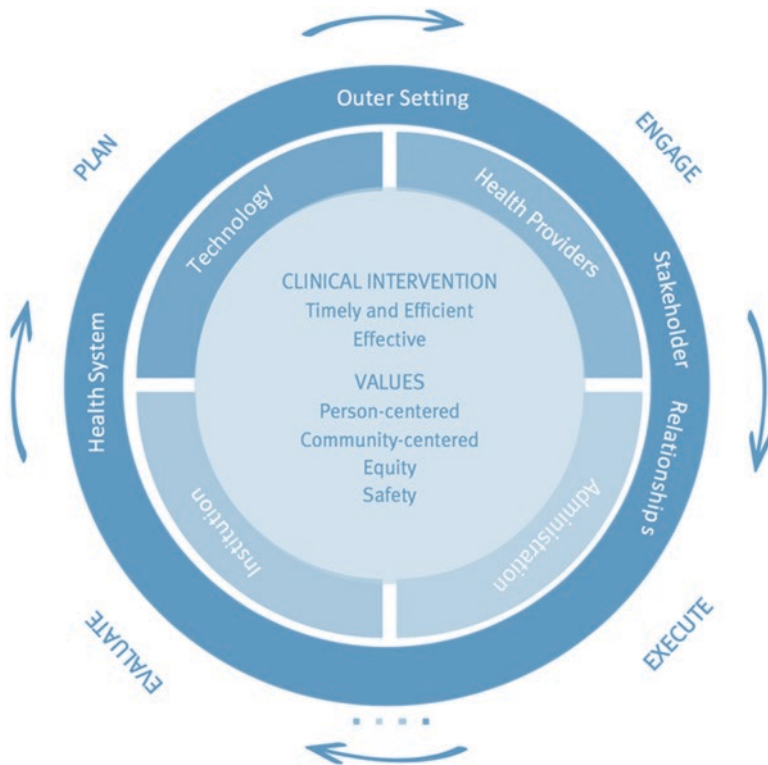


Fig. 11.1 An Implementation Roadmap for virtual care using the consolidated framework for implementation research (CFIR)

Implementation Roadmap for Telehealth Interventions

In order to appropriately implement telehealth, it is important to consider key aspects that will drive a successful implementation. These aspects fall within the five key domains characterized by the CIFR described above.

Ideally, Dr. Snell would have considered implementation from the outset, but it is not too late to assess current state and adopt a more planful approach to implementation and evaluation of implementation outcomes.

Below is a roadmap that describes key implementation characteristics in relation to virtual care. For ease, we have integrated the characteristics of individuals providing care to the internal setting dimension (e.g., providers and administrators), and end-users, patients, and other stakeholders to the external setting. Examples are provided in each that align with the case scenario.

1. Characteristics of the intervention: This includes the characteristics of virtual care and the interventions you plan to deliver via virtual care, such as assessment, interprofessional care, medication monitoring, psychotherapy, and

psychotherapeutic interventions, among other potential interventions. Key considerations in this domain include:

Quality

In alignment with the Institute of Medicine's health quality domains, telehealth interventions should be safe, patient-centred, efficient, equitable, timely, and effective. (Corrigan, 2005). Providers should consider how to engage patients in planning to ensure that the intervention supports patient need (Corrigan, 2005).

Cost

The intervention should be reasonably priced for patients, provide commensurate compensation to in-person care for providers, and it should not represent a real or perceived cost that is more than in-person services. Considered costs should include both direct costs, such as the cost of computers, screens, peripheral devices, headphones, microphones, network service provider fees, as well as indirect costs, such as time and money saved from travel, or other costs such as childcare, or forgone income if individuals must miss work.

Technology

The intervention should balance being easy to use, with meeting organizational or external requirements around security and privacy. The overall quality of the intervention and the experience of both the provider and patient will be greatly impacted if the virtual platform that is utilized to provide telehealth is cumbersome, low-quality, or unsafe.

For Dr. Snell, characteristics of the intervention that are most relevant are her proposed use of telehealth to provide follow-up care in-between in-person visits, in particular to those with severe mental illness to monitor medication response and side effects. So in the course of implementation she will have to consider implementation characteristics such as whether this is a safe and effective way to provide follow-up, and whether it meets patient interests and needs (quality of care). She will have to consider the cost of virtual care, compared to flying/driving to communities. She will need to consider her own set-up with technology, and whether she is able to access technology that ensures compliance with security standards. As well, she will have to consider whether the technology will enable an appropriate standard of care in medication monitoring (for example, how will she organize lab work, take vitals, and conduct physical examinations).

2. Inner Setting: This is often the setting in which virtual care is delivered or administered, such as an organization or institution (e.g., private clinic, community health center, hospital).

There are a number of key constructs related to the inner setting that are important to consider when planning the implementation of telehealth interventions. These include organizational factors, administration, technology, and infrastructure.

Organizational Factors

Many organizational factors can impact the success and quality of a telehealth intervention. Some key aspects include organizational culture, the tension for change, leadership's interest in telehealth, the presence of organizational champions, and staffing belief and competency with telehealth.

(a) Culture

The culture of an organization reflects an overall willingness to innovate and adopt new practices and procedures. Generally, organizations that successfully adopt telehealth interventions value innovation and have a moderate risk threshold in order to pilot and test new approaches to care. The main drivers of organizational culture include leadership and change champions, and staff (clinical and administrative). Leadership will set the values of the organization, and staff will either buy-into those values or not. Ultimately, individual beliefs, values, and competency relating to telehealth will drive how well an organization can implement telehealth interventions. Organizational leadership can try to influence beliefs through training and education that build staff knowledge of the intervention, and their self-competency to deliver virtual care.

(b) Tension for Change

The tension for change may also play a key role in the implementation of telehealth. The importance of this factor became evident in 2020, when the Covid-19 pandemic shifted the way that many healthcare organizations were able to provide care. Many organizations that did not previously prioritize telehealth as an option for clinical care identified a need to change because of external factors. This helped propel many organizational cultures to become more willing to innovate and implement telehealth.

(c) Administration

Organizational processes and administration include policy and procedure development, staffing, training and education, and technology and infrastructure.

(d) Policy and Procedures

An important factor to ensure that staff are delivering telehealth interventions in an appropriate, safe and effective way is the development of organizational policies and procedures that relate to telehealth. Telehealth policies and procedures should be created that outline terms of use, including clinical requirements (jurisdiction, assessment, documentation), safety and security considerations (emergency planning and confirmation of identity), and privacy (whether or not you will record the sessions, being in a private space or wearing headphones for the session).

(e) *Staffing*

With many virtual types of implementation, often there is a lack of recognition of the level of staffing that will be required to support the change, and the training that may be necessary to support the appropriate use of telehealth interventions. Ensuring the right number and mix of staff will support the sustained use of telehealth. Potential staff roles are the clinicians that will deliver the telehealth intervention, the administrative and support staff that will help schedule and coordinate the telehealth visits, and information and technology (IT) staff that will help with the technological infrastructure and technological support for providers and patients. A good approach to determining the right staffing mix is to map out the full process on a process map, and then associate the appropriate staffing to each step. This will help ensure the right types and number of staff are available to deliver the intervention.

(f) *Training*

In order to support the effective implementation of telehealth, appropriate training relating to the organizations policies and procedures, and technology are essential. Training can be completed in-person or virtually, synchronously or asynchronously, and can include approaches such as webinars, workshops, online portals, and videos. Some organizations might implement a post-competency test after training to ensure there is a standard understanding of the policies and procedures, or technology required to deliver a high quality telehealth visit.

Technology and Infrastructure

Selecting the appropriate technology platform for any telehealth intervention is essential. When selecting a platform, determine if it meets your organization or external system's security standards (for example, minimum encryption rate, data storage and residency, login or two factor identification, ability to control or disable functions), as well as other technological aspects such as the ease of use, speed and support of varying bandwidths, and interoperability. In addition, consider how support is accessed if people require assistance with their technology (does the clinician support the IT, or is there internal or external IT support for patients). A focus on digital health equity is important; consider factors that might limit people's

ability to participate in virtual care and plan appropriate support and contingencies (Crawford & Serhal, 2020).

In Dr. Snell's case, she works out of a regional hospital. There is tension about how much care she will provide in-hospital versus how much care will go to out-reach to surrounding communities. In implementing virtual care, she engages with the Physician in Chief and other decision makers in the organization to elicit their support for virtual care. They develop a virtual care policy and a staffing complement to ensure appropriate administrative and IT support. Dr. Snell was using her cellphone to connect with patients, but this new organizational approach highlights the need of the organization to adopt a secure virtual care platform.

3. **Outer Setting:** This includes the health system and stakeholders beyond the institutions that are involved in virtual care.

The outer setting refers to factors external to an organization that might affect the overall implementation of an intervention, for example, the health system, stakeholders and relationships, and patients. Quite often, the outer setting can have the largest impacts on an organization or an individual's ability to implement or adopt telehealth. Studies show that in areas where there are policies that are 'pro-telehealth' and support the overall use of telehealth in the system, there has been significantly more adoption of telehealth (Eddy, 2019). Important constructs within the outer setting include the health system (including policies, legislation and funding), stakeholder and external relationships, and patients.

Health System

The health system refers to factors that interact to support the delivery of healthcare services. These include healthcare legislation (including regulatory bodies), policies and administration, funding, and other healthcare organizations and associations.

Legislation

Legislation, with respect to telehealth, can describe items that govern how providers deliver virtual care, translated largely into policies developed and enforced largely by regulatory bodies. This can also take into consideration policies developed by medical insurance providers that outline what providers can and cannot do as it relates to medical coverage. Currently, regulatory bodies and medical insurance providers tend to have policies that govern how providers are able to provide care via telehealth, including factors like jurisdiction. Occasionally legislation can impact funding and reimbursement. Pre-Covid 19, many regions and countries with publicly funded healthcare systems did not have legislation that would allow physicians to bill for telehealth appointments, or restricted providers to specific

technology platforms (Kinoshita et al., 2020). Overall, legislation will set high level expectations for how providers are able to utilize telehealth, so play a major role in implementation.

Policies and Administration

External to the organization are policies that either support or prohibit telehealth, which might include the type of virtual platform that is appropriate for delivering care, how providers can bill for telehealth, and what sort of privacy and security is required. These policies are typically developed and put forward by governments and regulatory bodies at federal or regional levels. These policies should be understood and reflected in internal policy planning.

Funding

Funding can come in the form of funding to organizations for support of virtual care, or in publicly funded systems, can refer to funding to support clinician remuneration relative to telehealth. Without appropriate billing codes or funding to support telehealth, the adoption of telehealth will be limited.

Stakeholders and External Relationships

In order to implement telehealth, an important consideration is how the service will interact with external stakeholders, including government and funders, regulatory bodies and professional associations, and, importantly, patients. Ensuring engagement and buy-in from external stakeholders, as well as appropriately marketing your program, are essential steps to ensure that referring providers and patients are aware of your service.

For Dr. Snell, there is a lot of variability in the outer environment. Although there is temporary remuneration to support the delivery of virtual care, it is unclear if or how this will be sustained after the pandemic. There is a lack of regulatory oversight regarding medication management and prescription dispensing via telehealth. She has robust relationships with stakeholders, but some communities are keen to continue virtual care, while others are opposed.

4. Process

The fifth domain that makes up the CFIR is the implementation process. The process pulls from factors from all the domains identified above, and guides the implementation across domains. The process includes four iterative steps: plan,

engage, execute, and evaluate. It is comparable to other approaches for implementing such as the project planning process and quality improvement's Plan-Do-Study-Act approach. Whichever framework is used, it is essential that feedback from evaluation is incorporated into a learning system as part of the overall implementation approach. Below is a list of steps that organizations implementing virtual care can take in order to successfully implement telehealth.

Plan

This initial implementation process step integrates strategic and important considerations relating to the intervention. Below are some suggested planning steps for a telehealth intervention.

(a) Define End-User Needs

Conduct a needs assessment of patients, referring providers and stakeholder organizations to ensure that your intervention will truly meet the need of the individuals for whom it is designed. As part of this step, consider equity and co-design of the service by end-users, in particular those who are under-represented, or underserved.

(b) Develop Proposal and Project Plan

Get all of the implementation steps documented into a proposal and a project plan that includes project milestones and timelines. Once the approach is clear, and has considered feedback and needs of key stakeholders, including end-users, make sure to obtain leadership buy-in and support. This step can include items such as a scope of work, project charter, engagement strategy, evaluation strategy, and a RACI (responsible, Accountable, Consulted, Informed) table to outline key project responsibilities.

(c) Establish Internal Policies and Protocols

It is important to ensure that providers that are delivering telehealth interventions have clarity about how they are expected to use the service. This step is essential to support high quality visits that meet medico-legal and regulatory standards, and provider consistency to the end-user. Policies and protocols should include items such as:

- Clinical guidelines: It is important to consider what is different via telehealth visits compared to in person visits, through a clinical lens. There are certain jurisdictional considerations, as well as guidelines such as how to confirm a patient's identity, if the sessions can be recorded, if patients need to be in a fixed location, or they can be transit or multiple locations, and what process providers should follow.

- Privacy: Certain privacy standards should be outlined, such as if the patient should be in a private room or setting for the appointment, and if that is not possible, if it is sufficient for them to angle their screen away and wear headphones. Privacy also has numerous additional items to consider if virtual groups are being implemented, for example, gathering confidential information (validating identity) is more difficult in a group setting.
- Technology: In order to help support ongoing use and adoption of telehealth interventions, technology guidelines are essential, because they will help ensure that both providers and patients know how to use the technology, as well as what to do if it does not work. When there are computer glitches, or patients and providers do not know how to log on, or who to contact in order to troubleshoot issues, general satisfaction with the appointment goes down, as does overall satisfaction with the appointment. Ensuring there are clear policies and procedures in place can help alleviate this issue. Additionally, there should be clarity around the technology being used and if it meets any internal or external requirements that would govern acceptable clinical use.

(d) *Identify Resources and Infrastructure*

Identifying what technological equipment (laptop, webcam, speaker, etc.), networking and connectivity, and IT support is required to deliver a high quality telehealth session is another important planning step. It is important to reach out to providers and assess the quality of the technological aspects of the intervention, and if there are issues, resolve these issues as quickly as possible. Additionally, it is important to consider health equity; some end-users will not have access to appropriate technology, so having a plan for how to support those individuals is essential (e.g., using a virtual interpreter, ability to take visit outside of home, or use headphones).

(e) *Establish Governance Model*

It is important to know who makes what decisions about telehealth. Make sure that organizationally, there is clarity around who is able to make which decisions relating to telehealth, and that people know who to approach if they have questions. There are numerous different organizational models for telehealth, which generally fall into two categories; centralized and de-centralized. Both options have pros and cons, but ultimately, having a centralized resource to help ensure consistency with the delivery of telehealth.

(f) *Determine Cost and Funding Needs*

Depending on the size of your organization, you may have to determine how to fund telehealth. For some, this is just a change in the modality of care, while for others, this might make up a full department within the organization that requires significant new infrastructure such as staffing, equipment, and overhead costs. For the latter, generally it will mean that you will have to appeal to funders for financial support. Another factor is physician and clinician remuneration; understanding how

telehealth can be billed (by public payer or private payer), or if it is a central funder, who will pay for a salary is essential.

Engage

This step can happen after the planning phase or concurrently. Generally, there is a significant amount of engaging stakeholders required to support a sustainable implementation of telehealth. Internal and external stakeholders can be engaged through various approaches including one–one meetings, small groups or committees, or surveys with questions to understand stakeholder needs and perspectives. These factors should be considered when designing the telehealth intervention, and should be collected regularly during the implementation process. As part of the engagement process, it is also important to understand how the intervention fits with other stakeholder services or interventions that will support your telehealth intervention on a continuum of care.

Execute

This step involves the process of carrying out the implementation of the telehealth intervention according to plan and to fidelity. It includes the execution of important implementation strategies such clinical care policies and procedures, training, administration and operations, and marketing.

(a) *Clinical Care*

Ensure that organizational policies have been developed and are translated into training material for clinicians. Ensure that providers are clear on their clinical scope as it relates to their own clinical regulatory body’s guidelines. Additionally, recruit providers that are willing and interested to deliver care via telehealth, and consider how to integrate a plan for provider wellness to ensure that providers have the support they need to avoid burnout or computer fatigue.

(b) *Training*

Develop training tools and a training strategy to help translate the policies and protocols developed in the planning phase for providers, patients, and administrative personnel. This can be done through print, video or online media, via in-person or virtual training, synchronously, or asynchronously. These can include tips on how to deliver and participate in a successful virtual care visit, policies, and protocols to ensure safety and security, and appropriate etiquette to ensure professionalism and quality of care. It can also provide some IT support and troubleshooting tips.

(c) *Operations/Administration*

Confirm all milestones created in the project plan are completed, including the launch of the telehealth intervention. Ensure that all infrastructure, including technology, is in place and has been tested. Ensure that administrative support staff and clinicians are clear on processes such as scheduling and documenting virtual visits, and have completed all necessary training. Once all milestones have been met, and you have received organizational approvals, launch the telehealth service.

(d) *Marketing*

Prior to, and during implementation, promote and market the use of telehealth so that end-users are aware that it is an option. Create promotional material that clearly articulates inclusion/exclusion criteria. Reach out to primary care, other relevant healthcare organizations, and healthcare associations to market the service.

Reflecting and Evaluating

In order to measure the success of the intervention, a multi-pronged approach to evaluation should be considered, including the development of an evaluation strategy, which can include a logic model, or evaluation framework. First, it is important to consider if the intervention itself has been implemented the way that it was intended. This is an important intermediary assessment, prior to assessing service or health outcomes, because it will ensure that the service or health outcomes that exist relative to the intervention can truly be attributed to the success or failure of the intervention, not the success or failure of the *implementation* of the intervention. Proctor's implementation outcomes are commonly used to assess implementation and are based on a common taxonomy (Proctor et al., 2011). These implementation outcomes are acceptability, appropriateness, adoption, cost, feasibility, fidelity, penetration, and sustainability, each outlined in Table 11.1, below, along with possible measures that will allow for evaluation of these outcomes. While it is not always possible to assess all of these outcomes with a telehealth intervention, a comprehensive list of outcomes, along with measures and potential research questions has been included below so assessment can be conducted where possible.

Best Practices and Lessons Learned

A high level approach of key steps in the implementation of virtual care is summarized in Fig. 11.2, a Readiness Checklist for Implementing Virtual Mental Healthcare

In relation to our case, Dr. Snell has identified the key factors of the intervention, inner setting, and outer setting that are applicable to her implementation of virtual care. She could map these out as part of a plan-engage-execute-reflect-evaluate cycle of implementation. For example, choosing one key aspect central to her work

Table 11.1 Implementation outcomes, measures, and research questions

Outcome	Definition	Measure	Possible Questions
Implementation Outcomes			
Acceptability	Satisfaction	Patient/provider experience survey	What was overall patient/provider satisfaction?
Appropriateness	Perceived fit/suitability	Survey/qualitative	Did patients/providers feel that their care was as good via virtual vs. in-person?
Adoption	Uptake	Administrative data	What was the change in adoption and how does this relate to a normal diffusion of innovation curve?
Cost	Cost of the intervention to patients, providers, and health systems.	Economic or cost analysis	Is telehealth more or less expensive than other options? (consider direct and indirect costs)
Feasibility	Actual fit/suitability	Survey, self-report, administrative data	Is virtual care feasible for patients, and easy for them to access?
Fidelity	Delivering the intervention as intended	Observation, self-report, checklist	Are providers delivering virtual care in the way in which they were trained to do?
Penetration	Integration or spread.	Observational data.	Has this intervention been used widely with diverse populations?
Sustainability	How the intervention is maintained or institutionalized.	Observational data, survey, or self-report.	Has this intervention been routinely utilized and adopted in an ongoing way? Is it supported organizationally with adequate resources and funding?

is medication monitoring via virtual care. See Table 11.2 for a synthesis of an implementation approach to Dr. Snell's case.

Summary

- Make sure to assess the external factors that relate to the implementation, such as legal, technological, or funding implications, to help guide organizational planning.
- Consider important internal factors, such as organizational champions, resources, and staffing when planning the implementation of a telehealth intervention.
- Try to understand attitudes, behaviours, and competencies of key stakeholders involved (end-user/patient, providers, organizational leaders), and ensure that they understand the benefit and use of telehealth interventions.

a

STEP 1: PLANNING

The degree to which a structure or method and tasks for implementing virtual health programming are developed in advance, and the quality of those methods.

- Define needs of end users**
 - Conduct needs assessment of patients, referring providers and stakeholder organizations
 - Consider: co-design; underrepresented groups; cultural safety
- Develop a proposal & project plan**
 - Obtain leadership buy-in and support
 - Reach out to established organizations to inform planning
 - Scope of work; project charter; recruitment strategy; evaluation strategy
- Establish a governance model**
 - What is the leadership model?
 - Centralized versus decentralized?
 - Consider alignment / integration with other services in your organization
- Determine funding needs and sources**
 - For infrastructure and administration
 - Clinical allied health and physician remuneration model
- Develop a communication strategy**
 - Conduct needs assessment
 - Consider co-design

STEP 2: ENGAGING

Involving appropriate individuals – internal providers, departments, leadership, external stakeholders, end users - in the implementation and use of your virtual health program, through role-modelling, education, marketing, etc.

- Initiate stakeholder conversations**
 - Small focus groups, surveys
 - Understand preferences for service and consider needs and integration with local community resources
- Confirm project leads**
 - Identify senior leadership who can champion
 - Who has relevant expertise? Consider administrative and clinical expertise
- Establish project team**
 - Includes executive and operations
 - How does this fit into the org chart of your organization
- Engage end users**
 - Engage patients and families, including under-represented groups
 - Engage community and regional stakeholders to

Fig. 11.2 A Readiness Checklist for Implementing Virtual Mental Health care

- Ensure that an appropriate process is used to implement the telehealth intervention that includes steps such as planning, engaging, executing, and evaluating.
- Assess implementation at the same time or prior to assessing service or patient level outcomes to ensure that what you are measuring is truly the effect of the intervention itself, and not related to the success or failure of the *implementation* of the intervention.
- Continue to complete quality improvement cycles on the intervention. Technology and the systems around it continue to change quickly, so an ongoing quality improvement cycle will help ensure that the intervention remains relevant and high quality.

b

STEP 3: EXECUTING

Carrying out the implementation of your virtual health program according to plan.

<input checked="" type="checkbox"/>	Operations	<ul style="list-style-type: none"> Execute project plan and track spending and milestones Identify appropriate technology to support – check IT / privacy/ legal requirements Create referral and flow processes; Create documentation templates
<input type="checkbox"/>	Recruitment	<ul style="list-style-type: none"> Invite end-users (consider emailing relevant associations and organizations) Confirm end-user participation Scope of work; project charter; recruitment strategy
<input checked="" type="checkbox"/>	Provide Training	<ul style="list-style-type: none"> For clinicians, administration and operations Consider areas: technology, processes, legal, clinical, communications, documentation, compassionate virtual care
<input checked="" type="checkbox"/>	Clinical Care	<ul style="list-style-type: none"> Ensure licensing of clinicians Provide administrative support Provide ongoing mentorship and coaching
<input checked="" type="checkbox"/>	Evaluation and research	<ul style="list-style-type: none"> Plan which measures are required to track outcomes and integrate into clinic flow Consider measures that support real-time improvement in patient outcomes (i.e., measurement-based care) – such as PHQ9, measures of functioning, etc.

STEP 4: REFLECTING & EVALUATING

Quantitative and qualitative feedback about the progress and quality of your virtual health program implementation with opportunity for regular feedback and iterative program improvement.

<input checked="" type="checkbox"/>	Measure quality of implementation	<ul style="list-style-type: none"> Adoption, Penetration, Fidelity, Cost, Sustainability Satisfaction of patients, referring providers, services
<input type="checkbox"/>	Analyze outcomes based on evaluation strategy	<ul style="list-style-type: none"> Develop multi-level strategy – provider, patient, organization, health system level outcomes Quality of care: equitable; safe; timely; effective; efficient and patient-ctred
<input type="checkbox"/>	Consider provider outcomes	<ul style="list-style-type: none"> Do providers have the required competencies to deliver best practices in telecare? Are referring providers satisfied with the service?
<input checked="" type="checkbox"/>	Consider patient outcomes	<ul style="list-style-type: none"> Do patients experience their virtual care as safe, person-centered, timely, and effective? Are clinical outcomes measured / improved?
<input checked="" type="checkbox"/>	Ongoing quality improvement based on cycles of measurement	<ul style="list-style-type: none"> Deploy rapid cycles of this process, using data and reflection, along with ongoing engagement to iteratively enhance the quality of your virtual care service

✓ = most important for rapid implementation

Fig. 11.2 (continued)

Exercise

What implementation outcomes would you use to assess your organizational implementation of telehealth? What data or measures would you use to assess these outcomes?

What key internal implementation factors would you focus on to ensure a successful telehealth implementation?

Table 11.2 Dr. Snell’s implementation approach

	Plan	Engage	Execute	Reflect and evaluate
Intervention Characteristics	Determine evidence for medication monitoring via telehealth Ensure that safety is a key outcome measure of quality	Literature review Plan for how to monitor safety Plan for how to engage interprofessional team on patient’s end to support lab work and physical exam	Use patient safety checklist and database to ensure that medication monitoring is up-to-date Train staff Hold regular meetings with collaborating sites to ensure monitoring practices are followed	Monitor for adverse events; rates of medication monitoring; rates of medication adherence Ongoing quality improvement and reviews
Inner Setting	Gain leadership and administrative support for program Adopt secure platform for virtual care	Internal stakeholder meetings Liaise with IT	Ongoing leadership engagement within organization	Seek stakeholder feedback (e.g., survey, interview, informal)
Outer Setting	Determine patient acceptance of virtual care for medication monitoring Understand if this model is able to meet the needs of diverse patient groups (digital health equity)	Involve diverse patient partners in co-design of service	Offer intervention	Service utilization data Demographic data to see whether diverse users and/or equity gaps Patient experience surveys.

CE/CME Questions

1. Which of the following is not a CFIR implementation domain that should be considered when planning your implementation?
 - (a) The outer setting
 - (b) The inner setting
 - (c) Characteristics of individuals involved
 - (d) Cost savings

2. What are the four steps that make up the process domain of the CFIR?
 - (a) Planning, Engaging, Executing, Reflecting and Evaluating

- (b) Plan, Do, Study, Act
 - (c) Planning, Funding, Implementing, and Evaluating
 - (d) Understand, Inform, Review, and Act
3. Which is not an implementation outcome described in this chapter:
- (a) Acceptability
 - (b) Feasibility
 - (c) Fidelity
 - (d) Achievability
4. In what stage would you define end-user needs?
- (a) Execute
 - (b) Engage
 - (c) Plan
 - (d) Reflecting and Evaluating
5. At what stage would you initiate stakeholder conversations?
- (a) Execute
 - (b) Engage
 - (c) Plan
 - (d) Reflecting and Evaluating

Answers

- 1. (d)
- 2. (a)
- 3. (d)
- 4. (c)
- 5. (b)

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