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Virtual Mental Health Care for Rural and Underserved Settings

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Our foundation for life, leisure, work, and community involvement is our families and extended families, who have been a great source of inspiration and provided much support and guidance. This book is dedicated to our families, and to mentors and colleagues, as well as to current and future partners in rural health and digital health.

Preface

Rural health care settings are challenged to provide timely and evidence-based care, particularly for patients and clients with mental or behavioral health concerns. Care provided via technology can improve access to quality care, including access to specialist care which may be missing in underserved areas, when technology is integrated into systems of care that meet the needs of rural patients, communities, and health providers, and leverage the strengths and resources available in these communities.

In this book, we focus on the use of telehealth to provide behavioral health care. A range of terms have been employed to describe the provision of behavioral or mental health care through video- and audioconferencing, including telebehavioral health (TBH), telepsychiatry, telemental health, and virtual mental health care. We chose virtual mental health care or TBH as broad and inclusive terms for mental health, behavioral health, and substance provided through videoconferencing technologies.

We appreciate the effort of those who have helped us, forged the roads before us, and extended a hand to help underserved settings – through service, advocacy, and empowerment.

We situate the chapters in this book at the intersection of two important areas, the unique strengths and needs of healthcare in rural and other underserved settings, and the continuously developing area of telebehavioral health.

Rural Behavioral Health Care

Rural health care systems have 25% of the population, yet face disproportionate rates of mental health and substance use challenges, and higher rates of socioeconomic adversity, such as poverty and lower educational attainment, compared with urban and suburban areas. This is compounded by challenges in access to health services. Poor access to care, particularly specialty care, workforce shortages, and inadequate health funding are chronic systemic issues in rural healthcare.

Primary health care is crucial to meeting behavioral health needs and care delivery in the United States and worldwide, particularly given reduced access to specialists. This requires primary care specialists to work to the full range of their scope of practice, often with high patient volumes. These systemic barriers can lead to lack of treatment and under treatment, and can contribute to poor outcomes for patients, such as lack of health prevention, mental health crises, and poor follow-up and medication monitoring, and also having to seek care at a distance. It can also place a great burden on the health system with overreliance on (e.g., high rates of suicide) and high utilization of emergency and hospitalization services.

Models have emerged that take leverage of the strengths of primary care in rural contexts to best meet the needs of local health systems, and address the lack of specialty care. Collaborative and integrated models of care, for example, use team-based approaches to support interprofessional primary care providers in meeting the mental health needs of patients and families. Educational and continuing professional development programs can also extend the skills of primary care providers.

There is great diversity across rural geographies and communities, with many racial and linguistic groups contributing different strengths and resources, and also having unique values, preferences, and needs. This necessitates that providers, particularly those providing care from outside of a community, engage with local communities and partner to deliver care that meets the needs and fits with the values of a community. For providers, developing competence in the delivery of compassionate and culturally safe care is essential. Rural providers who would like additional support can team up with specialists using technology, making referral, consultation, and the collaborative care options more accessible. This is a welcome way to learn and develop skills for primary care teams (physicians, nurses, managers/coordinators, and others).

Telehealth and TBH Contributions to Care

Videoconferencing, secure e-mail, and telephone interventions have been used to link psychiatric specialists at urban and academic health centers with rural underserved areas for decades. Technology has extended models of collaborative care, so that specialists from urban centers can be virtually co-located with primary care teams in rural areas, taking advantage of innovations in both models of care and technology

Telehealth has additional benefits, such as reducing provider isolation, providing opportunities for engagement and community of practice, and providing education and support. Telehealth can also avail help to those serving rural populations by identifying needs, building partnerships and support for implementation.

Providers at rural sites and those consulting to these sites via technology can benefit from practical tips on how to provide effective behavioral health care. For clinical care, adjustments can be made for therapeutic skills based on the patients' needs, model of care, and technology used. This book focuses on *outcomes* for

readers – in the form of behaviors, skills, and processes – more than ideas or knowledge. The authors use short chapters, learning objectives, cases, and summaries for the "what to do and how to do it."

This book will help readers reflect on a foundational question, "What are the components of good behavioral health care for rural patients and communities, particularly via TBH?" Additional questions are explored through each chapter, including:

1. What approaches have clinicians and systems taken to assess needs, and implement and evaluate service delivery of TBH?
2. What steps have researchers, organizations, and clinicians taken to integrate technological solutions and services into care?
3. What competencies been emphasized for behavioral health, telehealth, culture, and teamwork?
4. What administrative/organizational approaches and competencies can facilitate clinical care, education/training, and quality improvement/evaluation in order to overcome/prevent obstacles/barriers and promote sustainability?

Audiences and Sections of the Book

We have designed this book to be applicable to a wide, interprofessional audience, including:

- Health/behavioral health across professions and cultures, along with medicine/psychiatry
- Behavioral health, primary care, rural system, implementation, and technology teams and organizations
- US, Canadian, British, and international providers, researchers, and leaders, including those serving low- and middle-income populations
- Partnering organizations: behavioral health organizations, National Rural Health Association, Office of Rural Health, and American Telemedicine Association (including telemental health group)

The first section of the book, from Chaps. 1 to 5, focuses on the foundations of TBH for rural and underserved communities, including practical chapters that cover key clinical and administrative skills. The reader will learn how to take a person-centered approach to TBH, including an overview of competencies required for rural TBH. Chapter 4 emphasizes compassion, equity, and safety in care, and Chap. 5 focuses on the well-being of those who provide TBH.

Part 2, Approaches to Technology-Based Care, Teamwork, and Special Populations, Chaps. 6, 7, 8, 9 and 10, builds upon this foundation to consider the unique needs and competences across settings and technologies, exploring the integration of technologies into care, and the use of technologies both synchronously and asynchronously to provide care.

The final section, Implementation, Regulatory, and Leadership Issues, sets out an implementation roadmap to ensure that TBH has the highest likelihood of successful uptake, and introduces considerations for evaluation and quality improvement. Issues related to administration, legal factors, and organizational and leadership perspectives are also discussed.

Keywords and Themes

- Technologies: video, synchronous, consultation, management, training, education, app, care, distance, e-, health, mobile, phone, quality, rural, sensor, telebehavioral, telehealth, telemental, telepsychiatry, wearable.
- Concepts, outcomes, and themes

  – Synchronous telepsychiatry and telebehavioral or telemental health (Internet, online, store-and-forward, video, web-based)
  – Behavioral health, psychiatry, and psychology (behavioral, clinician, care, diagnosis, health, medicine, mental, patient, services, psychiatry, psychology, treatment)
  – Therapeutic relationship (alliance, boundaries, communication, engagement, empathy, intimacy, satisfaction, therapy, trust)
  – Competency (behavior, cognition, curricular, didactic, education, learner, methods, pedagogy, skill, teaching, training)
  – Culture competence, safe(ty), humility, indigenous, equity
  – Mobile technologies (Android, app, asynchronous, device, e-, e-behavioral, e-consult, e-mental, health, mhealth, mobile, phone, sensors, smartphone, social media, tablet, text, wearables)
  – Informatics (artificial intelligence, clinical decision-support, clinical decision-support system, electronic health record, information systems, information technology, machine learning, patient portal)
  – Outcomes, tools, quality improvement/ evaluation, and an approach to data
  – Needs assessment, workflow change, and administrative documentation
  – Privacy, safety, legal and regulatory tips, procedures, and policies
  – Resources on funding, and economic/cost assessment and reimbursement
  – Health systems perspectives on integration, planning, and leadership

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We are grateful for partners in rural health, telehealth, and leadership.

- Rural health

  - The rural communities where we were born, raised, and have worked
  - Persons, patients, families, health providers, leaders, and others from rural communities in California
  - Communities in Northern Ontario, through the Ontario Psychiatry Outreach Program at the Centre for Addiction and Mental Health, and in Nunavut, Canada

- Telehealth

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  - Foundations: California Endowment, Robert Wood Johnson

- Leadership

  - Academic: University of Cincinnati College of Medicine; UC Davis School of Medicine; and Department of Psychiatry, University of Toronto
  - Behavioral health: University of Cincinnati and California Pacific Medical Center
  - Business administration: University of Cincinnati Lindner College of Business and Lean Enterprise
  - National and international organizations

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About the Editors

Donald M. Hilty is a scholar in psychiatric and medical education, health services, and telemedicine. He works with the Northern California Veterans Administration Health Care System and UC Davis. His current role is in healthcare administration and service delivery, post MBA training in 2018. He speaks internationally and researches models of care, health economics, and a variety of technologies (e.g., synchronous and asynchronous telepsychiatry, mobile health, and informatics). Dr. Hilty is also active with pedagogy, faculty development, and publishing work (e.g., telepsychiatry, telebehavioral health, social media, and mobile health competencies). Dr. Hilty serves as editor of both the *Journal of Technology in Behavioral Science* and *Psychology and Cognitive Science*. He is on the APA-IOM and APA-ATA Guideline Writing Groups.

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Matthew C. Mishkind is a scholar and administrator in the Department of Psychiatry at the University of Colorado School of Medicine, Anschutz Medical Campus. He currently serves as deputy director of the Johnson Depression Center, director of the community engagement service, and director of strategic facilitation for the Office of Telehealth and Technology Implementation for Behavioral Health Practice and Science. His current role focuses on healthcare administration, the development of innovative telehealth programs, and the development and implementation of community-based behavioral health training initiatives. He serves on the editorial boards of the *Journal of Technology in Behavioral Science* and *mHealth*, and is a lead for the APA-ATA Guideline writing groups. Dr. Mishkind speaks internationally about the use of technology to improve access to and quality of behavioral health care, and has published over 40 peer-reviewed papers and chapters primarily focused on improving access to behavioral health care.

Tania S. Malik, JD   is a lawyer by trade and an entrepreneur by practice. She is the chief executive officer of the Virtual Medical Services (VMS) and Virtual Benefit Management Group, Inc (VBMS). VBMS is a management services company that builds telehealth technology. VMS is the first use case of that technology and provides independent medical opinions to veterans after a telehealth consultation. As a result of the Iraq and Afghanistan Wars, she started COPE Today, which is a tele-mental health company. Ms. Malik is the former ATA Telemental Health Special Interest Group Chair and ATA2020 Telehealth Woman of the Year, and has been elected to the College of Fellows for ATA in 2021. She also serves as an executive advisory consultant within the broader area of healthcare technology, which includes areas of mental health, telemedicine, telepsychiatry, remote patient monitoring, and physician/provider recruitment. She brings a wealth of experience in C-suite and board governance roles. Ms. Malik graduated from University of North Carolina at Chapel Hill and Georgia State University School of Law and a is member of the bar in North Carolina and Georgia.

Allison Crawford   is a psychiatrist and an associate professor in the Department of Psychiatry, University of Toronto, where she is the director of the Northern Psychiatric Outreach Program and Telepsychiatry at the Centre for Addiction and Mental Health. She is also co-Chair of ECHO Ontario and co-Chair of ECHO Ontario Mental Health. Through these roles, Dr. Crawford advances health systems and the integration of technology into the provision of remote healthcare. Dr. Crawford has worked as a psychiatrist in Nunavut for over 10 years, and coordinates psychiatric services for the Government of Nunavut. She has consulted on suicide prevention and wellness to Inuit Tapiriit Kanatami, the Mental Health Commission of Canada, and the Inuit Circumpolar Council and the Arctic Council. Her clinical expertise is in psychological trauma, including trauma-focused cognitive behavioral therapy and narrative exposure therapy. Dr. Crawford's PhD in English literature adds arts-informed approaches to community engagement, clinical work, and education.

Part I
Foundations

Chapter 1
Introduction to Rural Telebehavioral Health: Key Clinical and Administrative Issues

Donald M. Hilty, Matthew C. Mishkind, Tania S. Malik, and Allison Crawford

Case Study

Theme: The interface of depression, psychosis, culture, and telebehavioral health in a rural emergency department.

HPI: A.B. is a 23-year-old English-speaking Hispanic American male who presented to the emergency department (ED) of a regional, rural (population 3000) hospital due to depression, hopelessness, and auditory hallucinations (AH) with commands to kill himself. He was admitted to the medical floor for unstable diabetes (i.e., glucose 311), but downplayed the AH or thoughts of suicide. His primary care provider (PCP) noted a superficially bright mood that did not fit with the previously described restricted and flat affect.

Telepsychiatric Consultation: The patient chose to speak English when offered this or a Spanish interpreter. The telepsychiatrist started with routine questions, but shifted to social questions after noting disinterest and/or resistance to discuss the symptoms. Using the Diagnostic and Statistical Manual Cultural Formulation

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Interview (CFI, American Psychiatric Association, 2013) as a guide, questions were asked about the patient's culture, heritage, experiences, and expectations for help. He was born in Mexico and the family immigrated to the USA at age 4, so he grew up in California and became the first of his family to speak English along with siblings. He had past periods of "depression," but stated, "We never talked about it much… they thought I was just being lazy." He was encouraged to push through school, go to church, and keep busy. He recalled a depression in his late teens. He reported trouble getting and staying asleep.

MSE: The patient was anxious and aloof, but warmed up over the first 15 minutes of the interview. English appeared to be very well spoken. Mood was "a little depressed" and affect restricted. Thoughts were linear and the content included worry and disbelief about the AH. His insight/judgment was fair, despite his initial hesitance to talk/share. He reported SI due to the intensity of AH, but not a preference to die; no HI. Cognition was intact.

PE/Lab/Imaging: Glucose lowered to 202; other laboratories were unremarkable except for cholesterol at 229; no head imaging was completed.

A/P: A.B. met the criteria for a recurrent, depression, severe with psychotic features. He was agreeable to start an antidepressant sertraline 50 mg AM or fluoxetine 10 mg AM and an antipsychotic Abilify 5 mg AM or olanzapine 5 mg HS. The consultation built in the PCP attending the last 5 minutes to discuss the findings and select medications (sertraline, fewer drug interactions, olanzapine due to concurrent insomnia despite metabolic risk). It was suggested that the term "worry" be used with family instead of depression, and A.B. was discharged 2 days later. When asked about telehealth, he stated, "I hardly noticed it… it's fine… we could really talk." A.B. also stated he had a preference seeing this telehealth provider again rather than seeing a new provider in person, if given the option.

Analysis
1. Telebehavioral health provided access to a specialist trained in mood and cultural issues.
2. Telehealth may offer a wide range of services and be augmented with interpreters and/or cultural consultants, depending on a patient's needs.

Introduction

The challenge to deliver appropriate rural behavioral health (BH) care has attracted national and global attention from all professions (Hilty et al., 2015b). Rural communities around the world face chronic shortages of medical, nursing, and allied health professionals that contribute to serious inequalities between urban and rural residents. Three concepts have been identified as relevant for health workforce recruitment and retention: sense of place (i.e., emotive bonds or experiences in particular locations and environments), place attachment (i.e., ongoing relationships), and belonging in place (Gillespie et al., 2022). Rural depressed patients have three times more hospitalizations and higher suicide rates (Rost et al., 1995, 1998). Rural

PCPs would like to help with consultation and in developing skills to manage BH issues (Geller, 1999; Geller & Muus, 2000). The Hispanic population in rural and frontier America is the most rapidly growing segment of the population in non-metropolitan countries since 2005, according to the US Department of Agriculture studies (US Department of Agriculture, 2015).

The delivery of BH services via video and technology requires "good" clinical, cultural, *and* technology skills for providers, clinical staff, and technology staff (Yellowlees et al., 2008; Hilty et al., 2020a). Culture itself and its components include race, ethnicity, spirituality, religion, sexual preference, gender identity, geography (urban, rural, global), special populations (e.g., incarcerated), and language (Lim & Lu, 2008); others add socioeconomics, education, and other parameters to this list. Cultural and language differences were initially believed to be more challenging for telebehavioral health (TBH) compared to in-person consultations (Shore et al., 2006), but descriptive studies have shown effectiveness in many culturally diverse populations including Hispanics/Latinos, Asians, Native American, and other populations (e.g., sign language) (Hilty et al., 2013). In this case, TBH specialist care to a rural setting allowed A.B. the opportunity to express his symptoms once culture concerns were addressed.

This chapter focuses on the three areas: (1) the intersection of rural health, telebehavioral health, and culture; (2) process improvement, teams, and sustainability; and (3) overview of key clinical and administrative topics based on book sections and chapters.

Rural Clinical Landscape: The Impact of Telebehavioral Health and Culture

The Role of TBH in Rural Health Care

PCPs in rural areas also report having inadequate skills to manage these mental health issues, and they would benefit from assistance (Geller, 1999). Video is a high-intensity model and it is the best-studied option, with collaborative and consultative care showing effectiveness. Low- and mid-intensity technology options, like telephone, e-mail, mobile health (e.g., text), and e-consults, may provide better access for patients and more timely provider communication and education. They are also probably more cost-effective and versatile for health system workflow (Hilty et al., 2018).

New models of psychiatric and behavioral intervention have improved the accessibility and quality of mental health care in the primary care setting, particularly in rural areas. This includes telehealth innovations like videoconferencing, telephone, e-mail, and other technologies, often with consultation-liaison service to primary care rather than direct clinical care (Hilty et al., 2018). Synchronous telepsychiatry or TBH – a term inclusive of other disciplines and used rather than telemental health

to be inclusive of addiction care – leverages care for diagnosis/assessment, consultation, and a range of treatments. It has been used in many populations (e.g., adult, child, geriatric), cultures, and settings (e.g., primary care).

TBH providers need familiarity and dexterity with a range of technologies (Table 1.1). The goal with technology is to simulate real-time experiences related to feelings, perception, images, and interaction. Even low-cost systems facilitate engagement and a "social presence" for participants to share a virtual space, get to know one another, and to discuss complex issues (Hilty et al., 2020c). For example, with asynchronous consultation, the specialist develops a treatment plan for the PCP to implement a brief psychotherapy (e.g., problem-solving therapy) and/or to prescribe a psychotropic medication. The PCP has the option of asynchronous or phone follow-up as needed.

Culturally Competent Care: Foundations, Approaches, and Challenges

Cultural issues include, but are not limited to, symptoms, presentation, meaning, causation, family factors, coping styles, treatment seeking, mistrust, stigma, immigration, and overall health status; likewise, the culture of the clinician affects the interaction, particularly the inability to speak the patient's language (Office of the Surgeon General, 2001). BH disorders in minority populations are often difficult to recognize and diagnose due to complex beliefs, differences in help seeking, and stigmatization. All of these factors affect access and/or treatment initiation/completion. A study of illness beliefs among Chinese Americans also showed that many patients with depression were reluctant to refer to their illness as psychiatric in nature for fear of being stigmatized (Yeung et al., 2004). A foundation in cultural humility, safety, and competency appears essential for patient assessment, triage, and treatment (Hilty et al., 2021).

Patients gain a sense from providers and clinics if culturally sensitive treatment is available (Shore et al., 2006). Patients may shy away if staff and providers do not "look like" them. In addition, some prefer alternative approaches (e.g., shaman, natural remedies, traditions). The patient-centered medical home (PCMH) (Rosenthal 2008) focuses on access, patient, and family engagement (Cené et al., 2016) – the gap there is the PCP clinic may not be the destination for help seeking. Socioeconomic factors that affect technological access include poverty, educational level, and geographic location. Poverty has been shown to be a significant barrier to receiving culturally appropriate psychiatric care, both in person and by telecommunication. Furthermore, rural ethnic minority groups have about twice the poverty rate of the white rural populations (Yellowlees et al., 2013).

Since the ability to communicate with less English proficient patients is essential in clinical care, it is a common practice to use "interpreters" on site; however, sometimes family members or untrained interpreters may miscommunicate medical complaints, de-emphasize information, and miss cultural metaphors (Hilty et al.,

Table 1.1 E-health continuum for behavioral health interventions for primary care

Tier	Source	Initiator goals/aims	Liabilities	Approaches
1	Website information	Health information: gain perspective, obtain standard and updated info Refer patients for somatic symptom disorders	Quality of information and lack of regulation, less of an issue if referred to site	Help patients, families, caregivers, and colleagues in medicine/surgery
2	Support/chat groups	Patient: education Caregivers: tips and perspectives on coping	Peer compatibility? Information quality	May help with adjustment to common medical problems
3	Social media (SM) one or two way	Easy and convenient Likely more convenient for one-time use Good option for patient and clinician prefer	Not privacy compliant Busy clinicians may not have time; see if "value added"	Important to set expectations, limits, and boundaries around time and content of matter
4	Informal education for self-assessment	Person/patient: education, tips Caregiver: education, supports, and advice Clinician: give assignments	Not as good as in person Use a team and give good sites for quality	Refer to sites that focus on longitudinal skill development
5	Resources for self-care decision-making	Person/patient/ caregiver: additional options Clinician: skepticism unless known source; best within electronic health record (EHR)	Good for options, though, what if it depends on… should do A or B?	Information on topics Good for team members
6	E-consult between primary care provider (PCP) and specialist in EHR	PCP (pediatrician, family medicine, obstetrician): timely to visit and sent in time Specialist: simple questions (e.g., facts, steps to do) can be answered	May not work for difficult patient cases These take time to clarify question and review chart	Monitor timeliness, follow-up, and quality Build into care workflow and culture of care
7	Assisted self-care assessment and decision-making	Person/patient/ caregiver: empowering as customized and supported Clinician: effective to distribute skills	Without help, may make decisions lacking context? Stay within scope of practice	Link with social work, hotline, and/ or clinic, if needed

Table 1.1 (continued)

Tier	Source	Initiator goals/aims	Liabilities	Approaches
8	Asynchronous, between-session patient-clinician contact (e.g., wearable, app text)	Person/patient/caregiver has minor question or needs a detail ➔ e-mail/text; tracking symptoms ➔ app Clinician: e-mail/text for quick, simple advice; apps good for monitoring disorder	Align one to two apps with one to two purposes to focus Errors, miscommunications Time, documentation, and privacy issues	Provide training for faculty and team EHR integrative power Need evidence-based app and evidence-based approach
9	Synchronous, telepsychiatry (TP)	Person/patient: it really works and is much more convenient Clinician: if patients like it, it is a good option	It always has to be scheduled (and paid for)	A great option; not always needed due to lesser, easier options
10	Hybrid care: in person and e-option, TP and e-option	Person/patient: connect in different ways Clinician: ad hoc to planned	Requires discussion, prioritization, and feedback Takes willingness to change, time, and $	Folks will shift if health-care financing shifts? Paradigm shift is needed

2020a). This is potentially very significant in psychiatric care and led to a call for credentialing of interpreters (Carlson, 2010; Hilty et al., 2015b). In one TBH study, PCPs and staff rated the importance of valuing cultural differences and being able to speak (or use an interpreter) in the patient's primary language at 5.4 on a Likert scale from 1 to 7 (not important to very important); this overshadowed ratings of quality of care at 4.9 and availability of a competent trained interpreter at 4.4 (Hilty et al., 2015b). Subanalysis of PCP versus staff ratings did not differ.

Telebehavioral Health Programs and Sustainability

The overall goal with technology is to create value for patients, providers, staff, and leaders – for TBH care, that should include simple steps for users, ease of scheduling, good communication, and assistance (e.g., clerical, administrative, technical) when needed. Process improvement (e.g., lean) considers the users' experiences, needs, and expectations and includes all members of the organization in working together to improve (Table 1.2). While patients are the center of the system's approach, providers and staff are equally important as part of the Quadruple Aim, which includes: patient satisfaction; implementation research to further population-centered health; increase service delivery effectiveness; and reduce clinician workload burden, fatigue and burnout (Bodenheimer & Sinsky, 2014).

Table 1.2 Reasons for telehealth program failures and dos to ensure success

Assessment of need and planning
1. Inadequate or unavailable data in the region that the program is planning to serve
2. Inadequate overall and financial support of the program from senior leadership of the organization
3. Telemedicine and outreach are not consistent with overall mission of the organization
4. Inadequate attention up front to the appropriate policy and procedures (e.g., consent process)
5. Failing to build in adequate resources and procedures to document benefits of the program for both the service area and the provider organization (may be key for grant or organizational support)
6. Use clinically proven technology
7. Inadequate time to develop the program (e.g., time to develop financial stability after start-up funds)
8. Evaluate options, implementation, and maintenance of telebehavioral health with a team of clinicians, technicians, and administrators in both the hub and the spoke sites
Key contributions from users/participants
9. Unreliable or inconsistent service from specialists providing the consultations
10. Lack of a physician champion
11. Inadequate technical support or unreliable telecommunications
12. Beginning with too complex cases – in other words, doing cases that fail at the beginning so that you lose your referring physician support
13. Point person to evaluate satisfaction and outcomes for each consultation (patient, referring physician, and consulting physician) and the program (coordinator, technical staff, and administration); adequate feedback mechanisms of this information to telemedicine staff and providers
Additional steps for delivering quality services
14. For each consult, be certain that the technical quality equipment is appropriately matched to the service and needs of the patient and their condition
15. Adequately train the hub site coordinator and spoke site coordinator in the technical and procedural aspects of the service
16. Provide adequate training for the telepsychiatrist with the technology, work with them to adapt clinical practice to fit its use, and be certain that they are aware of its limitations
17. Ensure the telepsychiatrist has general and specific expertise (e.g., consultation-liaison for consults to primary care, geriatric psychiatry for a geriatric patient)
18. Develop referral and/or consultation guidelines, as well as adequate procedures for getting the key component(s) of the record to the consulting physician
19. Ensure satisfactory telecommunication by regular technical maintenance and prompt troubleshooting
20. Coordinate timing of consults (i.e., patients are there at the right time, telepsychiatrist has adequate time, and/or referring physicians or staff stop in if desired).

Hallmarks of "Good" Programs: Evaluation and Effectiveness

The premises for the good evaluation of outcomes begin with program fitness: organization, function, leadership, the "right" members/workforce, experience, and many other parameters. Thinking more broadly, the approach to evaluation may

start with how to set up a "good" team, program, organization, or other body – or in assessing its overall fitness in general and its ability to change. Ultimately, responsible, conservative implementation is safer than doing too much at once. A basic plan with an option or two for expansion works well. Timelines are crucial for the sake of urgency, to keep focus and be productive. It is prudent to expect the unexpected.

There will be layers of complexity, problems, complications, and other untoward events that are not foreseen. Resolution of the specific problem is key, but the "dos" of evaluation almost always include monitoring, gaining input, and ongoing improvement. Using existing, well-developed methods or procedures (e.g., standardized measures that have undergone multiple iterations, levels of review, and psychometric testing) is helpful. In addition, specific measures and generalized measures, accounting for confounding events, and accurate and time-efficient self-report/user completion are helpful. When possible, prospective data collection and someone with training (e.g., academic, statistics, process improvement) involved earlier rather than later are helpful. This requires planning and funding for evaluation.

Clinical and Administrative Outcomes

Strategic planning necessitates evaluation of external and internal factors that affect the organization, and ethnic attitudes and behavior influence program utilization and steer communications, hiring and training, and program structure. The current rapidly evolving health-care environment adds urgency to assessment and its effectiveness, in order to better define the value of TBH interventions to patients, communities, leaders, funding organizations, and other decision-makers in health care. TBH research has moved beyond general satisfaction to implementation, cost/economics, and other outcomes (Hilty et al., 2020c, 2022). For underserved populations, though, important information is gleaned when evaluation is properly designed, administered, and analyzed (Nelson, 1985).

For specifics of evaluating outcomes, the American Telemedicine Association TBH expert consensus produced a lexicon for outcomes in the following areas: patient satisfaction (i.e., access, distance to service, use of), provider satisfaction, process of care (e.g., no shows, coordination, completion of treatment), communication (e.g., rapport), reliability/validity (e.g., assessment, treatment vs. in person), specific disorder measures (e.g., symptoms), cost (i.e., length of service, travel, hardware and software), and other administrative factors (e.g., facility management, team staffing) (Shore et al., 2013).

Culture of Teamwork and Improvement

Team-based care with technology ideally offers a variety of options: learning by patients and clinicians (e.g., curricula), levels for low- to high-experienced members, attitudes and skills in addition to knowledge outcomes, explicit activities for teams to communicate (e.g., huddles), teaching methods with case/practice in addition to lecture/didactic, and perhaps, most-importantly, supervision for feedback, reflection, and developing good habits (e.g., text to supervisor in time for help). For example, care coordinators/managers can manage secure mail, nurse practitioner/ physician assistant can initiate e-consults, and BH professionals may evaluate less complex cases – each of these options preserves physician time for analysis of data, complex cases, and supervision. Teamwork is facilitated by a shared mental model of expectation, roles, and outcomes (Ross & Allen, 2012). Physical (e.g., schedules, huddles), virtual (i.e., on-site and distant member), and other training interventions may substantially improve team-based care – coordination, communication, and teamwork (Hilty et al., 2020b).

There are a variety of reasons that TBH programs fail to succeed (Table 1.3). This may be divided into assessment of need/planning, key contributions by participants, and other steps for improving quality. A developmental approach to rural telepsychiatry emphasizes stages of needs identification, infrastructure survey, partnership organization, structural configuration, and pilot implementation (Shore & Manson, 2005). Alignment of the missions of partners, collection of data for needs, and prioritization of steps are essential. Key contributors are the team champions, providers, and those doing program evaluation. Interprofessional teams – and particularly mid-level practitioners – will play a role, as high-level trained clinicians are not best used for doing it all. BH practitioners may need to gain experience working alongside PCPs, getting "warm" handoffs, or dealing with emergencies. Providers with combined psychiatry/family medicine or psychiatry/internal medicine training can facilitate integration naturally. Physicians are a crucial leverage point in these systems, complemented by interdisciplinary teams and stepped care models (Hilty et al., 2018). This shift also requires faculty development for teaching, supervision, and evaluation (Hilty et al., 2015a).

Overview of Key Clinical and Administrative Issues

The book is informally organized into three sections: (1) foundations for TBH in rural health; (2) approaches to technology-based care, teamwork, and special populations; and (3) implementation, regulatory, and leadership issues. This book focuses on *outcomes* for readers – in the form of behaviors, skills, and processes – more than ideas or knowledge. The authors use short chapters, learning objectives, cases, and summaries for the "what to do and how to do it." Direct living, clinical, research, and organizational (i.e., health system, policy, military) experience with rural, remote, and otherwise isolated populations is the foundation of this approach.

Table 1.3 Creating value for patients, providers, staff, and leaders via process improvement

All
Ease of scheduling, rescheduling
Openness of program/participants for input or feedback
Ease of communication with each participant (i.e., patient, provider, staff, technical support)
Ease of integration into daily life or clinical workflow vs. disruption
Cultural acceptability
Simplicity/ease of use
Sense that telehealth empowers: patient in general, provider to help others
Availability of technical help
Patient's overall subjective satisfaction
Ability of telehealth services to meet specific health needs
Would patient use telehealth services again?
Would patient refer others to this service?
Preference for this or in-person in follow-up
Fit of or readiness for the telehealth modality
Clarity of transmission signal and volume and/or interruptions in transmission
Ability to establish personal connection with provider
Comfort of clinical space and modality
Missed work time and/or miles of travel avoided
Improved access and/or quality of care
Provider satisfaction with telehealth modalities
Ratio of negatives vs. positives regarding the modality
Therapist recruitment
Therapist retention
Sense of efficacy as a provider
Positive endorsement of patients' experiences (i.e., that patients like the telehealth modality)
Ease of physical transition between in-person and telehealth modes of care during work day
Degree of valuing telehealth encounters when interacting with patients
Aspects of in-person care missed when doing telehealth
Satisfaction with plan for handling clinical emergencies
Technical competency
Perceived value of improving care to remote side (e.g., diagnosis, treatment, and/or disease management)
Sense of isolation during workday
Reports of telehealth/technology burnout (e.g., increased "screen time")
Support staff satisfaction
Comfort with operating in a more clinical realm than normal (i.e., walking patients to rooms)
Comfort/satisfaction with plan for handling clinical emergencies
Avenues of communication to providers and technical staff

The first section which serves as a foundation starts with "Rural Telebehavioral Health Competencies, Models of Care, and Sustainable Administrative Approaches" as a reminder for participants – both on site with the patient and at a distance – that clinical and administrative or institutional competencies are needed to ensure

therapeutic engagement, quality of care, and sustainable practices. Purposeful selection of learning activities, models of care, and outcome monitoring guide the effort. The chapter "Person- and Patient-Centered Care Turns '30': Being Informed by Person and Patient Experience in Virtual Care" helps us to apply the patient-centered clinical method to the virtual care environment, while appreciating the potential challenges to the therapeutic relationship in doing so. "Digital Compassion, Health Equity, and Cultural Safety – from the Therapeutic Relationship to the Organization of Virtual Care" helps explain digital compassion and consider its manifestations at individual and organizational levels. It also defines digital health equity, cultural safety, and cultural humility as an approach for patients or people to best get help when they are suffering or in need. Likewise, "Self-Care and Well-Being for Providers, Teams, and Systems" provides principles for reflection and practice, which are important for in-person and virtual care, particularly for the latter as daily life presents challenges and workflows shift with a variety of technologies in health care.

The section on approaches to technology-based care, teams, and special populations provides approaches for nontraditional interventions, special populations, innovative treatment (e.g., computer-assisted cognitive behavior therapy and mobile applications), and service integration with in-person, synchronous, and asynchronous care. "Telemental Health Delivered to Nontraditional Locations and for Special Populations" provides tips for implementing nontraditional services, how to capitalize on the flexibility of TBH, adapting it to children/adolescents and geriatric patients, and processes to ensure quality and safety. The chapter "Approaches to Virtual Care in Underserved Communities and Settings: Bridging the Behavioral Healthcare Gap" emphasizes setting quality outcomes, efficient processes for evaluation, and alignment of provider, system, and institutional goals. Low- and middle-income countries have challenges, though in order to scale up community mental health programs, the processes above are essentially the same. Though video is most widely known in primary care and rural settings, "Practical Considerations for Emerging Types of Telebehavioral Health Care: Computer-Assisted Cognitive Behavior Therapy and Mobile Applications" offers other technological options for patients to seek help, which is particularly helpful for younger generations and technophiles. "Integrating In-Person, Video, and Asynchronous Technologies" emphasizes integration of in-person, video, and asynchronous options like mobile health into workflow. This requires patient, primary care team, and BH provider skill sets and team-based care for service delivery.

The last section focuses on implementation, regulatory, and leadership issues for providers, systems, and administrators. "An Implementation Roadmap for Virtual Care in Rural and Underserved Settings" outlines steps and approaches to facilitate acceptability, adoption, feasibility, implementation, cost, and sustainability factors that govern design, evaluate, and change in health-care services with technology. "Technology, Business, and System Implementation: Getting the Right Care to the Right People in the Right Place" adds to that approach with more rural emphasis, a useable and targeted reference guide, and illustrative case examples. While most providers and administrators have learned by building and refining systems,

"Implications of Legal and Regulatory Issues in Telebehavioral Health" covers a landscape systematically and with new changes to enhance outcomes. Likewise, "Resources on Funding, Economic/Cost Assessment, and Reimbursement" provides a real-life, nuts-and-bolts, lessons-learned approach to find and use resources to create a business approach based on economics of health care, compare estimated versus real costs, and maximize reimbursement. Finally, "Health Systems Perspectives on Integration, Planning, and Leadership" looks at infrastructure requirements for audio/video therapy in primary care or in a home environment, walks through challenges and solutions in building or improving care, and applies a case example to apply the material.

Conclusions

Rural health-care settings are challenged to provide timely and evidence-based care, particularly for culturally diverse patients with behavioral health disorders. Telepsychiatry and telebehavioral health improve access to care and leverage scarce resources. National organizations are beginning a shift to attitudes and *skills* in addition to *knowledge* – consistent with the competency-based medical education movement – and advocate for cultural skill development. A key issue is identifying the degree of alignment of providers and patients, at least in terms of linguistic, cultural, *and* racial concordance, which facilitates patient and provider satisfaction, as well as patient adherence to treatment (Hilty et al., 2020a).

Culturally competent care has shifted from knowledge to skills, from individual to team approaches, and from a specialization in a single culture (e.g., matching his/her own culture or training) to an approach that provides flexibility/versatility to help many diverse populations. More recently, there is a shift from cultural competence to cultural humility and/or cultural safety (Fisher-Borne et al., 2015; Curtis et al., 2019). A positive care and work environment, training, and "good" administration can address this to a large degree – particularly by importing expertise via telehealth.

There are a variety of TBH service delivery options available, but the key ingredients of a "good" model are fairly consistent: easy access, low cost, in-time help to the user (e.g., person, patient, consultee), and meaningful outcomes. While high-intensity models have substantially better outcomes, mid- and low-intensity models also have many benefits like building relationships and complementing in-person services. They may also be more sustainable (e.g., provider-to-specialist consultations by telephone, e-mail, and other modes). Regardless of the model, health-care organization and administration systems try to promote clinical responsibility and decision-making, co-location of services, integrated funding, integrated program evaluation, and integrated outcome measurement. When it comes to TBH, an e-platform for technologies and adjustments in reimbursement approaches are also necessary.

The overall administrative approach should attend to process, procedures, policy, and evaluation of telehealth – there are many dos and don'ts related to planning, implementing, and managing a program. Flexible basic and advanced approaches may require a fundamental shift in philosophy – from seeing what happens with planned services – to advanced planning of outcome targets and then subsequent design of the services. This book's "what to do and how to do it" – based on direct living, clinical, research, and organizational experience – shapes the approach. The three sections of TBH in rural health, approaches to technology-based care and teamwork, and implementation and leadership issues will help readers focus on *outcomes* – in the form of behaviors, skills, and processes – more than ideas or knowledge.

CE/CME Questions

1. Health workforce recruitment and retention for rural settings takes into account provider

   (a) Sense of be
   (b) Attachment to the setting or people
   (c) Belonging in place
   (d) Workflow steps and barriers
   (e) All of the above

2. Which of the following technologies are being applied to rural health care with the help of specialists?

   (a) Video
   (b) Telephone
   (c) E-mail and e-consults
   (d) Mobile health (e.g., text)
   (e) All of the above

3. Rural depressed patients have approximately what proportion (i.e., _ times) higher hospitalizations and higher suicide rates than urban counterparts?

   (a) 2
   (b) 3
   (c) 5
   (d) 10
   (e) 20

4. Teamwork and team-based care (i.e., coordination, communication, and teamwork) among professions – between on-site and virtual team members – is best facilitated by

   (a) Regular work hours

(b) Division of tasks
(c) A shared mental model of expectation, roles, and outcomes
(d) Regular pay increases
(e) Extra meetings

5. Which of the following best predict patient satisfaction and adherence to treatment, in terms of the relationship to the provider?

(a) Belief concordance
(b) Cultural concordance
(c) Linguistic concordance
(d) Racial concordance
(e) Cultural, linguistic, and racial concordance

Answers

1. (e)
2. (e)
3. (b)
4. (c)
5. (e)

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Chapter 2
Competencies, Models of Care, and Systems-Level Considerations for Rural Telebehavioral Health

Donald M. Hilty, Matthew C. Mishkind, Tania S. Malik, and Allison Crawford

Case Study

Theme: The interface of bipolar disorder, agitation, and telebehavioral health in a rural emergency department.

HPI: C.D. is a 42-year-old English-speaking Caucasian male who presented to the emergency department (ED) in a rural (population 8000) hospital due to "feeling great... I am fine" but had been up most of two nights and was brought in by his wife. The primary care provider (PCP) on duty noted an elevated, agitated mood with fast speech and thoughts that changed topics. The patient reported grandiose ideas of discovering "new things" at work. Wife reported several purchases the day before that were outside of his usual spending practices and budget. The PCP referred him for assessment by a psychiatrist who was available via telehealth.

Telepsychiatric Consultation: The telepsychiatrist started with routine questions about social issues and work, but shifted to mood questions after noting trouble focusing due to manic symptoms. He reported extra energy, excitement, and less

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need for sleep for 4–5 days, but great work productivity – boss had called wife, though, as the patient was intrusive, could not focus, and was going off on non-work issues.

MSE: The patient was agitated, engaged, and talkative. Mood was "really good" and affect labile. Thoughts were tangential, circumstantial, and with flight of ideas; some ideas were linked in his mind but not others' minds. There was no clear paranoia or auditory hallucinations. His insight/judgment was poor to fair. He reported no suicidal or homicidal ideation. Cognition was intact.

PE/Lab/Imaging: Laboratories were unremarkable except for cholesterol at 178; no head imaging was completed.

A/P: C.D. met the criteria for a bipolar, manic, severe with psychosis episode. He was agreeable to start Depakote ER, lithium, and an antipsychotic/mood stabilizer like olanzapine or Seroquel. The consultation built in the PCP attending the last 5 min to discuss the findings and selected Depakote ER 500 mg BID and olanzapine 5 mg HS due to concurrent insomnia, despite metabolic risk, and long-term once-a-day dosing. The plan was to keep C.D. kept overnight to stabilize and consider discharge home in the morning, along with follow-up in the PCP office in 2 days. When asked about his experience of telehealth, he stated, "It's great… we could really talk." C.D also stated he would see this telehealth provider again rather than going into the hospital, if given the option.

Analysis

1. Telebehavioral health provided access to a specialist trained in mood and agitation issues, hopefully preventing a hospitalization to a distant, urban community.
2. Telehealth may offer a wide range of services and can create an interprofessional team virtually and allow for consultation to meet a patient's needs.

Introduction

Rural health is identified as a key priority for health reform across the United States, Canada, the United Kingdom, Europe, Asia, and Australia due to complex access and equity issues associated with geographic distance, socially determined disadvantage, maldistribution of health professionals, scant resources, and poorer health outcomes across key indicators (Kenny et al., 2013). Health inequalities vary and communities align approaches with local population health needs, and they need help with health-care planning, design, delivery, and evaluation rather than a "one size fits all" approach that may be ineffective. As of 2017, 62% of designated mental health shortage areas in the United States were rural, and compared to urban counterparts, rural respondents are more likely to describe their mental health status as poor (Jensen et al., 2021). While rates of psychiatrists per capita rapidly decrease as levels of rurality increase, the rate of family medicine physicians providing mental health care significantly increases in rural settings (Xierali et al., 2013).

Rural health practitioners appear to have the same basic needs for patient care information and support as their urban counterparts, though rural practitioners, however, tend to make less use of journals and online databases (Hilty et al., 2007). Physicians described a lack of quality behavioral health services and challenges for integrating and collaborating with those that do exist (Jensen et al., 2021). Telebehavioral health (TBH, inclusive of substance disorders and services) connects psychiatrists with rural primary care offices with a variety of clinical and/or educational models that have been employed (Hilty et al., 2018a). Systems of care employ traditional video/synchronous and asynchronous (e.g., mobile health) options (Hilty et al., 2020a). In the case of C.B., a telebehavioral health (TBH) specialist provided video care to a rural setting, which allowed the patient to receive care in the community and hopefully avoid hospitalization elsewhere.

Administrators, staff, and other team members must face and overcome obstacles to behavioral health care to primary care and rural settings, including diverse cultural and language needs (Hilty et al., 2020b). Academic health centers (AHCs), federal/governmental (e.g., veterans affairs), and statewide/provincial networks often employ telebehavioral health (TBH, inclusive of substance disorders and services) to connect with rural primary care offices (Hilty et al., 2018a). A variety of clinical and/or educational models have been employed, including traditional video/synchronous and asynchronous (e.g., mobile health) options (Hilty et al., 2020a). For patient-centered care (PCC) to work, consideration of culture helps providers understand patients' illness or suffering, the reason(s) for it, how it is viewed in their social group, and how they seek help in terms of the doctor-patient relationship (Office of the Surgeon General Report, 2001; Hilty et al., 2020b).

This chapter focuses on the three areas for medical settings: (1) provider clinical skills or competencies on site and via telehealth, (2) telebehavioral models for improving rural clinical care, and (3) administrative and systems-level approaches for implementation and sustainability (i.e., leadership competencies, workflow improvement, funding, reimbursement, cost analysis).

Telehealth Competencies for On-Site Rural Teams and Telebehavioral Providers from a Distance

The Competency Movement in Medicine

Competency-based medical education (CBME) focuses on skill development more than knowledge acquisition (Frank et al., 2010; American Psychiatric Association Council on Medical Education and Lifelong Learning, 2014). In medicine, the most common frameworks used for organizing competencies are from the CanMEDS (Royal College, 2005), the American Association of Medical Colleges (AAMC, 2015), and the ACGME (2013). Similarly, the AAMC for medical students outcomes are evidence based, including the domains of medical knowledge, patient

care skills and attitudes, interpersonal and communication skills and attitudes, ethical judgment, professionalism, lifelong learning and experience-based improvement, and community and systems-based practice (AAMC, 2015). The evidence-based CanMEDS competency framework describes the knowledge, skills, and abilities that specialist physicians need for better patient outcomes, based on the seven roles that all physicians play: (1) medical expert, (2) communicator, (3) collaborator, (4) manager, (5) health advocate, (6) scholar, and (7) professional (Royal College, 2005).

Teaching telehealth competencies successfully benefits from a range of methods that can address a multiplicity of learner and faculty needs and expertise, as well as system factors, so methods should be layered and adjusted for increasing skill level over time (Hilty et al., 2015). These methods follow the path of in-person training, but require adjustments for each of the domains. For patient care, regardless of the technologies (e.g., email, text messaging, telephone, videoconferencing, apps, instructional videos, machine learning, affective computing, wearables), professionals are expected to therapeutically engage patients, communicate clearly, attend to boundaries, and adjust to TBH technology-mediated options as needed to optimize care and safety. Supervision with observation, role modeling, and feedback are key to determine if the competencies have been achieved and to provide formative feedback (Hilty et al., 2015; Maheu et al., 2019).

TP and TBH Competencies

Competencies for clinicians/faculty, trainees, and other providers are now available for telepsychiatry (Hilty et al., 2015; Crawford et al., 2016), social media (Hilty et al., 2017; 2018b), mobile health (Hilty et al., 2020a), and across BH professions (Maheu et al., 2019). Most of the competencies followed the ACGME domains and were organized on (1) novice/advanced beginner, (2) competent/proficient, (3) and expert levels; andragogical methods to teach and evaluate skills were also suggested (Hilty et al., 2015). Similarly, competencies have been organized by CanMEDS domains (Crawford et al., 2016); see Fig. 2.1 for an overview. Interprofessional competencies considered varying scopes of practice, training differences, and faculty development priorities – but common clinical skill needs – and all professions and organizations involved with TBH need to consider certification/accreditation to ensure quality care (Maheu et al., 2019) (Table 2.1).

A review of asynchronous technologies: (1) compared in-person, synchronous telepsychiatry, and asynchronous telehealth care delivery; (2) outlined patient, PCP, and BH clinician skillsets (i.e., competencies); and (3) provided a conceptual approach to integrate asynchronous methods into team-based, service delivery model and system workflow (Hilty et al., 2020c). These consultations take place by email, text, e-consultation (within the electronic health record, EHR), and other modes. Technology may change the nature of interaction for participants and communication related to exchange of information, clarity, responsiveness, and comfort.
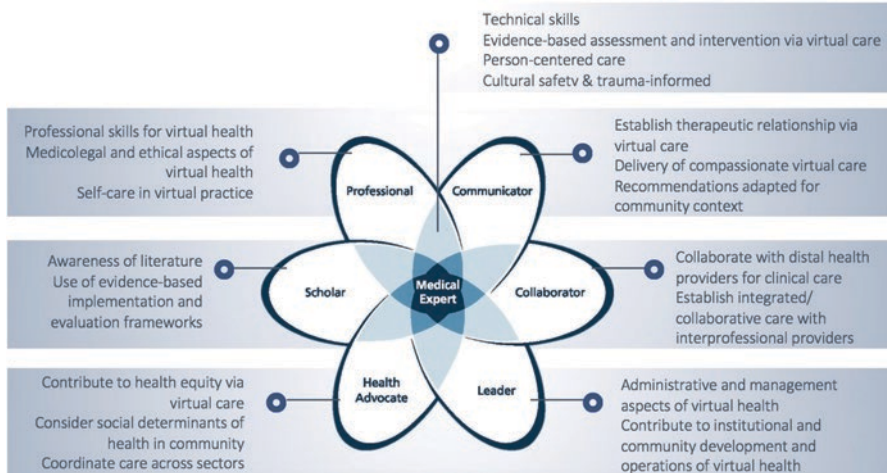
Fig. 2.1 Competencies for virtual care organized by CanMEDS roles. (Adapted from Crawford et al. 2016)

Telebehavioral Models for Improving Rural Clinical Care

TBH Models for Rural Primary Care

Successful TBH intervention models and modules in telehealth have some common denominators, according to work in the United States, Australia, Canada, and England: (1) mutual incentive for primary care and specialty partners (e.g., improved quality of care); (2) commitment from physicians, staff, and administration to pursue telemedicine and alternate modes of consultation; (3) systematic or multiple interventions, which meet the needs of the site; (4) a system approach for the primary care system to monitor the flow of patients and measure outcomes; and (5) consultants who are able to bridge the differing philosophies that may be unique to rural primary care and urban academic settings and to specific cultural groups (Hilty et al., 2007, 2018a).

The choice to employ a consultation model appears well advised, since other models (e.g., direct patient care) are time intensive for the psychiatrist and are less apt to develop skills for the PCP (Katon et al., 1997). Low-intensity video care service interventions may or may not involve seeing patients directly, but it may involve regular contact and an ongoing relationship between a psychiatrist and one or more PCPs (Hilty et al., 2018a). Examples are in-person and telephone doctor-to-doctor "curbside" consultations, telephone or email doctor-to-doctor "curbside" consultations, oversight of PCP for patient-centered medical home, case review with PCPs, one-time cultural consultation, and distance neurocognitive assessment. These interventions emphasize the liaison portion as the psychiatrist provides training to PCPs.

Table 2.1 Telebehavioral health competencies for patient care

Area/topic	Novice or advanced beginner (e.g., early trainee/technology new)	Competent/proficient (e.g., advanced resident/provider/faculty/attending)	Expert (e.g., advanced faculty/experienced provider/attending)
Patient care			
History taking	Standard history	Informed consent for telehealth Contextualized history (e.g., aware of geographic and cultural specificity)	Help with informed consent problems In-depth, well-paced, and concise interview
Engagement and interpersonal skills	Establishes therapeutic alliance Builds trust and rapport	Identify and manage problem(s) with alliance/trust/rapport Adjust interview to needs/preferences	Determine best appropriate assessment adjustments based on the setting (in-person versus video)
Assessment and physical examination	Stratify risk and protective factors based on epidemiology (e.g., suicide, homicide risk) Administer tools (e.g., MMSE) from a distance Ascertain need for literal PE	Assess risks for suicide/harm to others and develop follow-up plan Ensure identification of significant exam findings (e.g., movement disorders, intoxication/withdrawal) Examine and administer tools with adjustments (e.g., use staff to complete or do part of PE)	Synthesize information (including risk versus protective factors and collateral information) Administer tools contextually (e.g., substitute score item for non-reproducible task at distance) Teach staff/others how to do parts of PE and troubleshoot PE problems far end
Management and treatment planning	Participates in providing summary and recommendations Medical decision-making on safety, need for treatment, and other interventions Follow-up with PCP or video by note	Able to provide summary and recommendations to patient and interprofessional team Awareness of treatment continuum Follows in-person recommendations and provides specific instructions for PCP by video or phone Formulate plan for calls, Rx, and such	Tailors plan to available resources, cultural issues, and patient preference Engages patient, referring doctor or other providers succinctly Select "best" mode: email, telephone, or others (and if it changes the process) Considers safety and adherence factors; plan for follow-up and monitoring

Prescribing	Learn consultation versus management roles Learn prescribing manually and by computer in-person and apply to video Prescribe within skill set (e.g., adult) and seek help (e.g., child/adolescent)	Advise prescriber (e.g., PCP) with more than one option Plan for prescribing electronically: request patient, pharmacy, and other information Anticipate likelihood for regular versus controlled medication and check state and federal requirements	Teach roles within consultation, collaborative, and stepped care Evaluate administrative barriers and solutions, with consideration of state and federal aspects for best practices Teach on legal standards and management of emergencies; research on validity of exceptions or so-called workarounds
Documentation	Draft note hard copy or rudimentary EHR	Initial/revised draft primary or other specialty care modification Complex EHR (e.g., Cerner, Epic)	Provide implementation plan over time and within local context/resources Phone, email, and asynchronous notes
Billing	Learn billing practices and how it is configured	Identify diagnoses for billing	Consideration of health advocacy issues related to billing, access to care
Privacy and confidentiality	Learn in-person basic regulations	Translate in-person principles to video and adjunct regulations Be aware technologies encryption	Practice within in-person and video standards and avoid pitfalls (e.g., cellular phones are not private)
Communication[MS-IPSC]			
Cultural, diversity, and social determinants of health	Consider diversity of patients, families, and communities: language fluency; customs Consider one's culture, values, behaviors, and preferences[CM] Learn how social determinants affect in-person care[CM]	Adjust in consideration of patient culture and preference Language fluency: double-check/confirm Ways to elicit cultural meaning of illness/wellness Be aware that social determinants may affect interest in, using of, and experience with telemedicine	Follow cultural formulation frameworks Ask if culture affects using video (general exploration) or explanation of illness Consider patient-doctor relationship in context of culture, values, behaviors, and preferences Adjust interview, assessment, and treatment per social determinants; consider in-person care if critical need
Language/interpreter ability	Use the interpreter	Time management and preferred types (e.g., professional > family)	Verbal and nonverbal dimensions

(continued)

Table 2.1 (continued)

Area/topic	Novice or advanced beginner (e.g., early trainee/technology new)	Competent/proficient (e.g., advanced resident/provider/faculty/attending)	Expert (e.g., advanced faculty/experienced provider/attending)
Communication	Clear communication with patient and teams	Clarify and amplify communication	Troubleshoot communication difficulties
Systems-base practice [MS-SBP]			
Outreach to community	Participates and engages	Visits community in-person Identifies relevant resources and needs	Establishes and maintains relationships with communities
Interprofessional[MS-IPSC,CM] education (IPE)	Practices different roles, works effectively	Works with interprofessional team and familiar with/teaches IPE	IPE provider, teacher, and consultant
Rural health	Learns about rural access, epidemiology, $, and others	Learns rural health basics	Practices and role models
Special populations	Learns differences (e.g., veterans, geriatric)	Adapts assessment and management approaches accordingly	Practices and role models
Safety	Learns systematic assessment	Identifies problems and stratifies risk	Adjusts risk and its management to video system practice
Care models	Learns what in-person and consulting video care	Facility with consultation, direct video, and collaborative care	Teaches consultation, integrated, stepped and hybrid care models
Licensure regulations for video care (medicolegal issues[CM])	Learn in-person regulations and that there are differences between states	Be aware that in-person and telemedicine regulations may/not differ	Practice within telemedicine regulations state-to-state or within unique system (e.g., veterans affairs)
Evaluation	Understand patient satisfaction	Know basic evaluation strategies for video outcomes	Consider evaluation approaches and use results for QI or to inform practice
Health advocacy	Identify issues related to access and health equity	Consider how technology can address gaps in health equity	Consider ways to impact policy and advocacy through technology
Professionalism[MS-P]			
Attitude	Learn/be open to technology	Role model openness to technology, IPE, and care process	Apply work in human resources, business, and other fields to medicine
Integrity and ethical behavior	Demonstrate respect for others	Role model best practices Maintain quality/standard of care	Teach on elements of, and how to build a culture related to, ethical practice

Scope	Help the patient and seek help and consultation if needed	Identify potential concerns and practice within scope	Provide feedback on scope issues / Prevent/troubleshoot/manage problems
Practice-based learning[MS-PrBLI]			
Administration	Learn basics of in-person care	Be aware of important differences between in person and video	Teach on clinical, legal/regulatory, and other adjustments
Safety and quality improvement (QI)	Systematically assess / Learn how to participate in QI processes as applicable	Identify, plan for, and manage risks / Apply QI information to cases, training, and system	Adjust planning on evolving QI, medicolegal, and practice trends and reevaluate
Teaching and learning	Participates and contributes	Organize, contextualize, and evaluate training and identify future options	Provide context, teaching strategies, and steps for evaluation
Medical knowledge			
Clinical care	Relevance and history	Relevance, history, and evidence base	History, evidence base, and guidelines

Footnotes:

1. *MS* US milestones, consistent with non-video, regular competencies of the Accreditation Council of Graduate Medical Education (ACGME).

(a) *PC* patient care, *K* medical knowledge, *PrBLI* practice-based learning and improvement, *SBP* systems-based practice, *P* professionalism, *IPSC* interpersonal skills and communication

(b) Example is *MS-PC* milestones patient care

2. *PE* physical examination

3. *PCP* primary care provider

4. *QI* quality improvement

Overall, telehealth may reduce provider isolation and provide case-based learning (Greenberg & Paulsen, 1996) and aide decision support (Armstrong et al., 2004). These interventions help PCPs' patients receive adequate doses of antidepressants and recover from depression (Simon, 2000; Hilty et al., 2007); they appear to rely on TBH consultations more for triage, new treatment plans, and changes in treatment plans than for diagnosis compared to suburban providers (Hilty et al., 2007); these help them provide more care in the medical clinic without delay and accelerating the service delivery (Hilty et al., 2018a). Without interventions by PCPs, patients may not receive treatment, be delayed in obtaining it, or be referred to out of the community (Marcin et al., 2004).

Administrative and Systems-Level Approaches for Implementation and Sustainability

Health System and Institutional Approaches to Technology Competencies

Competencies are suggested at an institutional level to provide structure and support of TBH care and to affirm clinician and team clinical competencies. Institutional competencies related to technology are geared to (1) assess readiness, (2) create/hardwire the culture, (3) write policies and procedures, (4) establish the curriculum and competencies, (5) train learners and faculty, and (6) evaluate/manage change (Hilty et al., 2019). For integrating asynchronous technologies, focus areas are patient-centered care; evaluation and outcomes; roles/needs of participants (e.g., trainees, faculty, teams, professions); teams, professions, and systems within institutions; and the academic health center institutional structure, process, and administration (Hilty et al., 2020c) (Table 2.2).

Preventing and Reducing Workflow Barriers of TBH Care

Clinical workflow and technology barriers include the additional time to plan and organize operations for a TBH visit, which may not needed for an in-person encounter (e.g., room preparation, different location, equipment). An instrumental step is the creation of a culture in which in-person and TBH care is part of workflow – this can work well in BH due to the regular patient appointment schedule (e.g., 15-, 30-, or 60-min visits) and unusual timeliness of the therapeutic "hour" across private, clinic, and AHC practices. Workflow barriers of TBH include orienting patients to it, staff flexibility and dependability, and provider-distant site coordination – TBH has more demands than in-person care.

Table 2.2 Competencies for health-care systems for synchronous and asynchronous telehealth

Competency area	Competencies/skills
Patient-centered care	Distinguish telehealth modalities
	Employ interprofessional teams and care coordination
	Understand data warehouse, analysis, and health information exchange concepts
	Screen patients for level of technology use
	Implement policies and procedures to include telehealth use
	Teach and educate on consumer technologies (e.g., apps, sensors/wearables)
	Design clinical technology workflows
	Import social science, health behavior, and business concepts
	Monitor clinician documentation quality and timeliness
Evaluation and outcomes	Assess clinicians on readiness for change
	Link behavior to outcomes for a patient or program
	Use evidence-based measures and disease state measures
	Use accreditation principles: goal, measure, benchmark, target, and data
	Build video scheduled and on-demand options
	Use 360 evaluation
	Organize care on a technology platform (e.g., electronic health record)
	Standardize clinician workflow, for those who work asynchronously, with training, policies, and procedures
Trainee/student needs/roles	Prepare as resource manager
	Clarify personal versus professional technology use
	Use technology as a lifelong learner/teacher
	Integrate skill development, care, teaching, and supervision
	Monitor well-being and professionalism
	Adjust curricula (e.g., part-time rotations, supervision)
	Use observation, video, and simulation
	Role model healthy behaviors
	Capitalize on personal expertise to spur others' use
Faculty clinical, teaching, and leadership roles	Emphasize communication, well-being, and professionalism
	Emphasize resource manager technology leadership role
	Use social science, health service, and business constructs to shift attitudes
	Monitor technology impact on care, well-being/fatigue
	Integrate part-time use for care, with teaching by champions
	Define success based on teams, systems, and populations
	Use sustainable, longitudinal approaches
	Remember that "less is more" and evidence base is key
	Use technology for portfolio, curricula, dissemination, networking, and other purposes
	Use faculty development projects for existing/new leaders, as a gateway to others (e.g., mobile health)

Table 2.2 (continued)

Competency area	Competencies/skills
Teams, professions, and systems within institutions	Assess structure/function of social groups that govern behavior of a community
	Use faculty development with teams, projects, and professions to build skills and shift culture
	Foster alignment across systems
	Organize goals and outcomes for success based on teams, systems, and professions
	Employ team-based care and virtual teams
	Align shared outcomes
	Patient/clinician outcomes
	Learner/teacher
	Clinic/system
	Institution/community
	Use stepped care and interprofessional principles
Health system/organizational structure process and finance	Evaluate/manage governance structure and change
	Weigh human resources, technology, and cost issues
	Market technology delivery of care competitively
	Build academic health center-community partnerships to share resources and integrate care
	Align clinical, educational, and research missions and values
	Integrate (not add or append) information technology into organizational structure
	Measure technology in performance evaluations and provide feedback
	Add research and funding infrastructure for pilot and full-scale projects, to impact health service delivery and training programs
	Assess context, pace, scope, and drive of/for change
	Monitor private, federal, state, and other sectors for best practices, partner agencies, and grant funding
	Strive for incremental, sustainable solutions
	Use/adapt others' evidence-based system approaches
	Develop strategies for promoting adoption/optimization of clinical information systems

If TBH is combined with in-person visits for other patients and/or additional technologies, the transitions take coordination – this requires planning and monitoring on site with the patient and at the distant site of the TBH provider (Table 2.3). An example of child and adolescent TBH is given with regard to the approach, patient selection, patient-side staff, physical site, technical-based considerations, telebehavioral health site and technology considerations, and confidentiality and privacy. The EHR and use of patient questionnaires may help with integration and coordination of the components of care to reduce interview and decision-making time. Documentation tends to slow down workflow, since frequently partners are using distinct EHR systems.

Barriers regarding physician and other provider implementation of TBH have been characterized into three categories: (1) personal barriers, (2) clinical workflow

Table 2.3 Tips on implementation and design of telebehavioral health services (e.g., children and adolescents)

Area	Considerations
Approach	
Role definition and financial concerns	Limiting telebehavioral health (TBH) practice to consultation to another prescribing provider will require less investment in technological, administrative, and staff resources from hub (TBH provider) and spoke (consultee or patient-side) sites
	Direct care via TBH (assessment and treatment) will require more investment from both sites
	The TBH provider is more likely to need to perform collateral activities and interact with agencies at the patient location (including child protective services) in a direct care arrangement
Patient selection and family issues	
Family involvement	Expect that each individual in the family will have their own level of comfort with and concerns about TBH. The provider will need to get buy-in from each family member before treatment proceeds smoothly
Patient-side staff, physical site, technical-based considerations	
Staff	Tasks
	Gather collateral data and rating scales prior to appointment
	Able to gather consent forms when parent signatures are required (consent for evaluation/treatment, consent for medication, consent for release of information)
	Obtain height/weight, vital signs
	Monitor for extrapyramidal symptoms, rash
	Maintain safe behavior during session
	Comfortable playing with younger children so that provider may observe
	Follows procedures for highly confidential information in the electronic medical record
	Liaison with outside agencies: school, juvenile justice, child protective services, pediatric medical care)
	Maintain confidentiality of the family and between family members
	Attitudes
	Local staff attitude toward TBH may be essential at persuading reluctant family members (particularly if family members are older and uncomfortable with this technology)
	Local staff must appreciate the highly sensitive and confidential information obtained during a child and adolescent psychiatry evaluation (as opposed to general medical evaluation)
Site	Local site needs interview room big enough to accommodate a family (three to five people)
	If local room has play supplies (puppets/action figures, drawing materials, board games, ideally a doll house), it will allow for better behavioral control and better observations for initial assessment/treatment response
	Must be interview room and waiting room setup so that when one member is being interviewed alone, family members waiting can't hear
Telebehavioral health site and technology considerations	

Table 2.3 (continued)

Area	Considerations
Technology	TBH provider should have control over the camera in patient room in order to be able to "pan" the room and zoom in on faces. TBH can be done with simpler cameras without provider-side control, but this will give the provider less information
	If the TBH provider is able to view images from more than one patient-side camera, this will facilitate viewing multiple members of the family at once
	If both sides have the ability to use split screens, this will facilitate play (e.g., YouTube viewing, playing online videogames together) and patient education (i.e., one screen projects the camera image and the other displays Web-based information on resources)
	In order to facilitate naturalistic conversations between TBH provider and family, multiple high-quality microphones placed throughout the room, or a single omnidirectional microphone will allow the TBH provider to hear when many members of family talk at once or engage in side conversations
Confidentiality and privacy	
	As with in-person child and adolescent psychiatric practice, the TBH provider and patient-side staff must attend to:
	Confidentiality of family as a whole
	Confidentiality of the medical record ("secure notes" in the electronic medical record)
	Confidentiality between family members: the TBH provider must orient family to standards of confidentiality as in an in-person interview. This will include explanation of what will remain confidential and what will be told to parents and should also include explanation of what will result in report to child protective services or result in involuntary psychiatric commitment
	For patients especially concerned about confidentiality, it may be useful for patient-side staff to demonstrate to the child/adolescent that no one is listening/can hear outside the room on patient side. Likewise, the TBH provider can use their camera to pan the provider's room, so as to reassure the patient no one is watching or listening on provider's side.

and technology barriers, and (3) licensure, credentialing, and reimbursement (Brooks, 1992). Personal barriers include concerns that they will have difficulty establishing rapport and establishing a good clinical relationship and be able to assess for nonverbal signs of psychiatric illness (e.g., initial greeting, poor hygiene, alcohol on breath). This is best handled by technology training, sitting in on others' TBH clinics, and experience. The generation of provider may be a key determinant, with both younger and more recently trained providers more interested in, and adept with, TBH. If a provider is working with TBH part or full time, visiting another's practice with a clinic manager and staff may be both efficient and informative for workflow, as well. Providers may also have concerns about licensing, credentialing, and reimbursement, though with planning these can partially be overcome. In the United States, licenses are needed in all the states in which patients are located, unless they are doing a consultation or one-time assessment. Canada (or other countries) and some in the United States (e.g., veterans administration) do not have these barriers.

Evaluation of Cost

The American Telehealth Associations (ATA) has a framework for cost consideration (Shore et al., 2013) that has been amplified and broadened across telehealth, in general (Hilty et al., 2022). The ATA has thoroughly evaluated specific dimensions (Shore et al., 2013) of cost frameworks and concluded that standardized metrics and clear definitions do not exist for many of the cost structures. This may be appropriate as costs are derived and perceived differently across contexts – or from patient, system, or social contexts. Cost assessments and value assessments overlap, and a systematic plan for evaluating both in relation to a program's predefined goals can aid a program significantly. Generally, programs vary in what they value and calculate in terms of cost. For example, large institutions may choose to operate specific TBH programs at a (comparative) loss to meet some larger clinical mandate, while smaller programs or individual practices may be utilizing TBH modalities specifically to increase revenue streams.

A standard framework for economic cost analysis should include an economist for planning; implementation and evaluation; a toolkit or guideline; comprehensive analysis (e.g., cost-effectiveness or cost-benefit) with an incremental cost-effectiveness ratio; measures for health, quality of life, and utility outcomes for populations; methods to convert outcomes into economic benefits (e.g., monetary, quality of adjusted life year); broad perspective (e.g., societal perspective); sensitivity analysis for uncertainty in modeling; and adjustments for differential timing (e.g., discounting and future costs) (Hilty et al., 2022).

Funding and Reimbursement

In the United States, long-term costs have been the primary problem throughout the United States and reimbursement barriers still exist. Start-up grants generally pay for technology, but not for ongoing staff coordination and psychiatric (physician) service. Insurance or third-party payors have fallen into line, though they often require preliminary educational and administrative interventions. Patient care may or may not be covered in the medical sector: (1) behavioral health service is carved out or poorly reimbursed; and (2) state transfers the responsibility to county mental health systems. Patients prefer the primary care sector due to less stigmatization, the ongoing relationship with the PCP, and perceived inadequate care in the mental health sector.

Federal programs were established with high specialist reimbursement for rural and underserved patients in federally qualified health clinics (FQHCs) and rural health clinics (RHCs), but TBH services have not qualified because of inexplicably being viewed as provided "outside" the clinic walls (i.e., providers get the regular Medicaid rate and not the higher rate as if they were on site). Rural patients remain underserved, though some statewide video programs have set up (e.g., South

Carolina). Telehealth is underutilized by safety-net providers, including FQHCs, due to a range of policy, organizational, and logistical barriers (Lori et al., 2020). Stakeholders highlighted several weaknesses of Medicaid policies in one or more states, including general lack of clarity regarding which services were allowed by Medicaid programs, ambiguity around telepresenter requirements, lack of authorization for FQHCs to serve as distant sites in the federal Medicare program and in select state Medicaid programs, and insufficient reimbursement.

Conclusions

TBH improves access to care and leverage scarce resources to rural health-care settings. National organizations are beginning to make changes in TBH and cultural skill development – a shift to attitudes and *skills* in addition to *knowledge*. Interprofessional collaboration makes this movement stronger. The telecompetency frameworks provide a replicable framework with (1) novice/advanced beginner and competent/proficient and expert levels; (2) domains of patient care, communications, system-based practice, professionalism, practice-based improvement, knowledge, and technology know-how (or roles by professionals); and (3) andragogical methods to teach and evaluate skills (Hilty et al., 2015). Psychology leaders have helped by identifying and assessing practice competencies during graduate training that pave the way for transition into clinical practice (Rubin et al., 2007; Kaslow et al., 2007). These professions and organizations involved with TBH also need to consider certification/accreditation and ensure quality care.

With a variety of service delivery models (e.g., collaborative, stepped, integrated) for TBH care, professional organizations suggest training in preparation for practice (American Psychiatric Association Council on Medical Education and Lifelong Learning, 2014; Cowley, 2015; Cowley et al., 2014; Ratzliff et al., 2015). Competencies for in-person, collaborative, and integrated care services include technical, administrative, and collaborative skills (Cowley et al., 2014; Ratzliff et al., 2015). Consensus integrated care competencies have also been developed (Sunderji et al., 2016). Knowledge of evidence-based models and experience with organizations are needed – aligned with patient care experiences, curricula, supervision, and evaluation (Hilty et al., 2020a) – to implement these competencies and care models (Sunderji et al., 2016, 2018). For telepsychiatry, domains include technical, assessment, relational and communication, collaborative and interprofessional, administration, medicolegal, community psychiatry and community-specific knowledge, cultural psychiatry, and health systems (Crawford et al., 2016; Sunderji et al., 2015).

Evaluation of clinical, educational, and administrative outcomes helps individuals and programs prioritize TBH. For interprofessional learners, evaluation suggests that it include four different levels: (1) reaction, (2) learning, (3) behavior, and (4) results (Kirkpatrick & Kirkpatrick, 2009). Level three attempts to determine the extent to which new skills and knowledge have been applied "on the job." Level

four of evaluation involves measuring system-wide or organizational impact of training. At the organizational level, utilization- and quality-focused evaluation reduces uncertainties, improves effectiveness, and informs decisions for all program stakeholders. Furthermore, stakeholders can identify program priorities, what constitutes "success," and the data sources that could serve to answer questions about the acceptability, possible participation levels, and short- and long-term impact of proposed programs.

The overall administrative approach should attend to process, procedures, policy, and evaluation of telehealth – there are many dos and don'ts related to planning, implementing, and managing a program. Flexible basic or advanced approaches to TBH and program administration are suggested, which may require a fundamental shift in philosophy – from seeing what happens with planned services – to advanced planning of outcome targets and then subsequent design of the services. The foundation of good program administration includes support from all levels of the organization and an interprofessional team who shares responsibilities and overlaps roles. The administrative plan/approach considers a change in the context of the amount of preparation/depth of work, ease of implementation, and scope.

CE/CME Questions

1. TBH competencies mainly focus on

   (a) Attitudes
   (b) Knowledge
   (c) Reasoning
   (d) Skills
   (e) Triage

2. The evidence-based CanMEDS competency framework describes roles that specialist physicians need for better patient outcomes, including which of the following?

   (a) Communicator
   (b) Collaborator
   (c) Manager
   (d) Health advocate
   (e) All of the above

3. An example(s) of high-intensity TBH model(s) of care – based on technology, communication and patient interventions – is which of the following:

   (a) Email
   (b) Integrated
   (c) Internet/Web based
   (d) Text
   (e) Video

4. The primary barrier for interprofessional team members with regard to TBH is

   (a) Clinical workflow and technology
   (b) Financial
   (c) Licensing
   (d) Patients do not like it
   (e) Personal

5. A standard framework for economic cost analysis should include which of the following:

   (a) An economist
   (b) A toolkit or guideline
   (c) Comprehensive analysis (e.g., cost-effectiveness or cost-benefit) with an incremental cost-effectiveness ratio
   (d) Measures for health, quality of life, and utility outcomes for individuals and populations
   (e) All of the above

Answers

1. (d)
2. (e)
3. (b)
4. (a)
5. (e)

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Chapter 3
Patient-Centred Care Turns 30: Being Informed by Person and Patient Experience in Virtual Care

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Introduction

Patient-centred and person-centred care have been core values of medical practice for centuries. At the conceptual level, the two key works describing patient-centred care have been Mead and Bower (2000) and Stewart et al. (2014). Their concepts have stood the test of time as revealed by two recent review articles: Langberg et al. (2019)'s review showing three key dimensions of patient-centred care in the world literature, "1) understanding the patients' experience of illness in their life situation; 2) the professional's relationship with the patient; and 3) coordination of care in the system", and Sturgiss et al. (submitted)'s review of many disciplines and countries

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revealing nine elements of which four are relevant here: "1) sharing power; 2) thera-peutic relationship/bond/alliance; 3) patient as a person; 4) coordinated care".

The way in which the distinction between patient-centred care and person-centred care has been described varies, and there is significant overlap in the approaches to the provision of care (Eklund et al., 2019). Regardless of the title given to the approach, whether it be patient centred, person centred, family centred or relationship-centred, the elements identified by Sturgiss et al. were common to all. Therefore, the principles described herein are somewhat universal. We adopt a definition of person-centred care that recognizes the patient as a unique individual, whose values, perspectives and social context must be explored and centred in order to provide compassionate care. Further, we borrow from our colleagues' expertise in this area to recognize that person-centred care also requires looking beyond care of the individual, by exploring the structural barriers to health that are faced by groups who are systematically marginalized, while appreciating the clinician's role in advo-cating for and enacting change (Temerty Faculty of Medicine, 2022). This way of caring demands an appreciation of the power dynamics that are inherently tied to the relationship between a clinician and a patient, while shifting this power to recognize the patient as an expert in their lived experience and as an active agent in their care.

The principles in this chapter are guided by the core tenets of the patient-centred clinical method (Mead & Bower, 2000; Stewart et al., 2014) and of our conceptual-ization of person-centred care as outlined above. These approaches highlight that the clinician will:

– Respect and empower patients as experts in their lived experience, including regarding their medical problems
– Explore all the patients' concerns and follow their cues
– Explore and appreciate the patients' contexts (their family, community, social context)
– Find common ground and seek agreement with patients regarding the priority and understanding of their concerns
– Foster a deep and ongoing relationship with their patients

Enacting these principles is a necessary component of evidence-based medicine because research has shown that these principles lead to better patient health (Griffin et al., 2004; Dwamena et al., 2012); as well, these principles are related to lower costs of care (Stewart et al., 2011).

With the relatively recent transformation to significant amounts of patient care being provided virtually, there may be even more opportunity to be patient and per-son centred in our approaches. The principles of patient and person-centred care can now be applied not just in the provision of care during the clinical encounter but can influence when and where care is provided. Patients can have more autonomy in choosing their preferred modality for care. Technology can be leveraged to best identify and meet patient needs on their timeline and in a more convenient way (Greenhalgh et al., 2020). This shift, however, needs to be done wisely, balancing patient preferences with provider expertise to ensure that necessary elements of care are not inadvertently neglected (CPSO, 2014).

As we move to practices that incorporate more virtual care, it is therefore prudent to consider how the well-established principles of patient and person-centred care can be adapted to the virtual environment, particularly when looking at synchronous telephone or video patient assessments. We consider these principles in this chapter under three sections: (1) Setting the Stage, (2) The Assessment and (3) Management Plans and Finding Common Ground. We address questions such as: How do we pick up on cues when we may not be able to see the face of our patient? Are we able to truly find common ground when we may have fewer non-verbal cues from which to build? How are our assumptions about our patients affected when our interactions are mediated by phone or video? What new power dynamics emerge in the virtual milieu?

By the end of this chapter, readers will be able to:

1. Apply the patient-centred clinical method to the virtual care environment
2. Appreciate potential challenges to the therapeutic relationship in the virtual environment, and enact strategies to mitigate those challenges
3. Critically reflect on their commonly held assumptions and the potential impact of those assumptions on patient care, with a focus on the virtual environment

Setting the Stage

Setting the stage includes two steps: preparation before you see the patient and considerations for starting the virtual visit.

Case Study
You are doing a virtual urgent care clinic (or a virtual emergency or after-hours clinic in a rural location) and are scheduled for a visit with a patient that you have not met. The appointment lists the reason for visit as "stress", and the demographics as per the chart indicate the patient is a 19-year-old male.

Preparation

When preparing for a virtual visit, there are a number of concrete steps to take to optimize the environment for a patient-centred clinical interaction (Dermer, 2021) (Table 3.1).

Taking these steps will help to ensure the provider can give undivided attention to the patient and listen intently, thereby allowing the patient to know that they are important and to feel heard. Setting the stage in this way allows for the establishment of trust and builds the therapeutic relationship in a context that may be new or potentially uncomfortable for the patient.

Reflective Question: As you are preparing for the visit, what assumptions might you make about this patient, based on the demographics or reason for visit?

Table 3.1 Concrete steps to prepare for a patient-centred virtual visit

Preparatory step	Telephone, video or both
Ensure a quiet, private environment for the provider	Both
Test the technology in advance. Have a backup plan in case the technology fails	Video
Minimize distractions (e.g. turn off email/phone notifications and avoid having competing demands during the time of the visit)	Both
Adjust the camera to facilitate eye contact	Video
Be mindful of your background and physical environment	Video
Dress professionally	Video
Verify that the contact information for the virtual visit is accurate (e.g. patient-preferred phone number for visit, correct email for video link)	Both
Be prepared to explain the role and benefits of a virtual visit if the patient is unfamiliar or concerned	Both
Reflect on the patient's reason for visit, paying attention to any assumptions you might make before meeting with the patient	Both

(Consider gender, age, race, socioeconomic status, education level or other personal patient characteristics noted in their electronic medical record.)

Taking a moment to reflect on your assumptions prior to the visit can help to reveal implicit biases, which may impact your perspectives and actions in clinical care.

Starting the Virtual Visit

Case Study Continued…

The virtual visit is booked as a telephone visit. The patient picks up the phone and you introduce yourself. He sounds hesitant and says, "One second, I am just going upstairs to my room".

As with preparing for the virtual visit, there are a number of concrete steps to take at the beginning of the virtual visit to optimize the environment for a patient-centred clinical interaction:

Privacy: When beginning a virtual visit, start by inquiring if the patient has a private place to speak or discuss options for privacy. This can be particularly important for patients living in congregant living situations, but is important to consider for all patients, as the provider may not be aware of the environment in which they are situated for the visit. While inquiring about privacy, reassure the patient that you can wait while they find somewhere comfortable to take the call.

Introductions: Introduce yourself and your role. Confirm how the patient would like to be addressed.

Technology history: Ask if patient has done a telephone appointment in past; pros/cons?

Medicolegal considerations: Confirm patient identity with two patient identifiers. Obtain consent for the virtual visit (Dermer, 2021). Acknowledge that the conversation via mobile phones is not private.

Timing: Confirm with the patient that this is still a good time to talk, especially if running behind schedule.

By setting the stage in this way at the beginning of the virtual visit, the patient may feel more comfortable, thereby helping to build rapport (Table 3.2). Patients are very attuned to the high value placed on physicians' time, and power dynamics in a patient-provider relationship may cause them to feel uncomfortable asserting their needs. Explicitly giving them permission allows the patient to ensure the visit is taking place in a way that is comfortable for them.

Here are some suggested opening statements. Try these out, but adjust to what feels most natural to you. Confirm first whether the patient has had a virtual visit before, either with you or with another provider. If they have, the first statement may be appropriate; if they have not, the second statement might be good.

> Hi, my name is Dr. X. It's nice to meet you today. Before we get started, I just want to check if you are in a space where you feel comfortable to have this visit?

> I understand that this visit might feel different than how you usually talk to a doctor. We are all getting used to this. Do you mind if I explain a few things about virtual visits to make sure you are comfortable?

These types of introductory statements help to establish rapport and build trust between provider and patient. Asking permission empowers the patient and shifts the physician-patient power dynamic.

Setting the Stage for a Patient-Centred Virtual Visit: Take-Home Points
- Pay extra attention to the environment in which a virtual visit takes place to ensure it feels both professional and comfortable for the patient.
- At the start of the virtual visit, explicitly address the aspects of the visit that are unique to the virtual visit, particularly those areas that may create unique challenges in the virtual environment (e.g. privacy).
- There may be more effort required to build rapport in the virtual environment, so a warm and engaging start to the conversation can be particularly important.

Table 3.2 Tips for beginning a virtual visit to establish rapport

Start by being warm and engaging while still maintaining a professional demeanour
If the patient is known to you, a warm and engaging start may involve referring to previous interactions or known personal history
Avoid sounding routine or scripted
Try to strike a balance between casual and formal language. Use language appropriate to the comprehension level of the patient
If appropriate, acknowledge the challenge of/difference with virtual care as it can allow the patient to connect with the physician by acknowledging a shared experience

- Take a moment to reflect on your assumptions both prior to and during the start of the visit to help reveal implicit biases, which may impact your perspectives and actions in clinical care.
- The goal of all of these steps is to help empower the patient and build trust early in the visit between patient and provider.

The Assessment

Case Study Continued…

The patient returns and says, "Thanks for waiting". He sounds a bit winded. You establish that the patient is now in a quiet space and has consented to the virtual visit.

Reflective Question: What do you say to begin your history taking? How might it be the same or different than an in-person visit?

History Taking

As with an in-person visit, start your history with an open-ended question.
Examples may include:

- "How were you hoping I could help you today"?
- "I see that you were booked to talk about some stress that you are under. Is that what you were hoping to discuss today? Is there something else that you want to make sure we address today"?

If the provider initiated the appointment, the opening statement should acknowledge that, but also leave room for the patient's agenda; e.g. "So, I think we were the ones who asked to book this appointment to follow up on x… Is that right? OK, so we will definitely discuss that first, but I just want to double-check if there are other things you wanted to talk about today"?

If, in response to your open-ended questions, the patient has a long list of concerns, consider the following responses to ensure the patient feels heard while still being realistic in terms of what can be done in the course of one visit:

- Start with a validating statement: "I can hear that you have a lot on your mind…"
- Consider asking the patient to give you the highlights/headlines of their various concerns as a starting point: "Why don't we start by you just giving me one sentence about each of your concerns and then we can decide together what the priority areas might be for today to discuss in more detail"?
- Include a reassuring statement such as, "We will cover as much as we can today".
- Then together decide what the priority areas are for this particular visit balancing medical urgency with patient priorities: "Of the list you have just shared, which item is most important for you to address today"?

  – If you agree with the priority item: "Great, I agree. That also sounds like the most important item to me. Why don't we start exploring that concern and then we can see if we have time to address any of the other issues later in the visit, and if not, we will make sure to address them at a follow-up appointment".
  – If you think there is another item that needs to be more urgently addressed: "OK, so let's make sure to talk about issue x. When I hear your list, I am also particularly concerned about issue y because I think that may pose a more immediate/serious concern to your health. Would it be OK if we prioritized both issues x and y for the visit today"?

- Consider adapting your communication style to more closed-ended questions to help redirect the patient.

While most of these techniques are not unique to the virtual environment, they may be even more important to keep in mind as non-verbal cues might be harder to elucidate and respond to. Similarly, remember that patients also cannot pick up on your non-verbal cues. For some patients, the virtual environment may in and of itself feel uncomfortable, or patients may have more trouble hearing and/or understanding within a virtual mode of communication. Mindfully and deliberately engaging the patient in agenda setting for the visit helps to empower them in their own care.

Picking Up on Cues

Case Study Continued…
The patient starts by asking for a note to get an extension for his school assignments. As you continue through the virtual visit, you notice that the patient is responding to your questions somewhat slowly, often with brief one- or two-word responses. Some of the responses are conditional using words like "not recently". You feel like he is holding back and is not comfortable disclosing all the information.

Reflective Questions: What assumptions might you make about the meaning of these cues? How might you navigate the assumptions you are making? Are there steps you can take to test the validity of those assumptions and ensure that you leave room for alternative explanations?

When noticing certain expressions or patterns of communication in a patient interaction, especially in the virtual environment, ask directly about the cues you are witnessing to avoid making assumptions about their meaning. This is important to ensure your care meets the patient's needs. For example, silence could be misinterpreted as disinterest, leading to limited exploration of the patient's concerns when, in fact, the silence is discomfort that would respond to gentle probing. In addition, if cues are not addressed, it is likely that the patient will bring something up later in the visit because their needs have not been met. However, it is also important to respect a patient's boundaries if they decline to provide further information or seem uncomfortable with additional probing.

Key Message: When you wonder if you are picking up on a cue, do not assume you know what it means. Instead, clarify its meaning by inquiring with the patient (Tables 3.3 and 3.4)**.**

Extra Consideration: Clarify what patients mean when they use certain ambiguous terms, e.g. "When you say **lethargic**, can you help me understand what you mean"?

It is also important for providers to be mindful of their own behaviours and actions that may be misinterpreted by the patient (Table 3.5).

Extra Consideration: To demonstrate to the patient that you are actively listening and hearing them in the clinical encounter, particularly in the virtual environment, follow their lead in terms of the tone and language used. For example, if a patient is speaking quietly and slowly, the provider should be mindful to match the tone and pace. Similarly, if the patient is using medical or technical language, the provider should use language at a similar level. This technique helps to build and maintain rapport through the visit and helps the patient to feel heard (Finset & Ornes, 2017).

Table 3.3 Suggested responses to verbal cues that you may pick up on through a virtual phone visit

Cue (verbal/phone)	Suggested response
Slow to respond, hesitating	It sounds like you are hesitating. Is there something else?
Conditional responses, e.g. "not recently"	You just said "not recently" – help me to understand what you mean?

Tone of voice/emotion
  Tearfulness
  Escalating volume
  Very quiet/silence
  Tentative
	It sounds like this is very upsetting for you
	You seem to be getting frustrated – can you help me understand what is happening for you?
	You seem very quiet – is everything OK?
	You sound unsure – can you share what is going through your mind?

One word/brief responses	Take the time to make a clarifying, summary statement of what you understand the concern to be followed by "Did I get that right? What else can I help you with today"?

Table 3.4 Suggested responses to physical cues that you may pick up on through a virtual video visit

Cue (video)	Suggested response
Looking away Fidgeting	I'm noticing that you're looking away from the camera. Is everything OK? Or is there something concerning you?
Looking at watch/phone	I noticed you are glancing at your watch – are we doing OK for time?
Seeming distracted Extra background noise	I see you looking around – do you feel like you are in a sufficiently private space?

Table 3.5 Provider behaviours that could be misinterpreted

What you're doing	What it looks/sounds like
Typing on another device or screen	Looking away, distracted, disinterested, not engaged; sounds of typing in the background
Looking up information, e.g. dosage of a medication	Looking away, distracted, pause in dialogue
Thinking/contemplating	Silence
Repeatedly saying "Mmmhmmm"	Could be listening intently, or could be habitual without really listening; on video may be perceived as intrusive if focus shifts to provider's audio. (For video, alternatively consider leaning forward and nodding to demonstrate listening)

Exploring Context

Case Study Continued…

You continue your medical assessment of the patient's mood symptoms and risk. You start to ask more about his personal history and support system. The patient gets very uncomfortable and somewhat tearful.

Scenario #1:

- When you ask about his discomfort, he reveals that he just found out that his long-term partner was cheating on him. He starts to become even more tearful and emotional. He is both emotionally hurt and also very worried that he is now at high risk for an STI. He has a strained relationship with his family and his partner was a big part of his support system and he is feeling very scared and lonely. **How might you respond?**

Scenario #2:

- When you ask about his discomfort, he says "I'm fine, I just need the note for school". You try to reassure him that momentarily you will try to provide him with this accommodation, but just want to make sure there is nothing else on his mind and that he is safe. Once again, he says that there is nothing else he'd like to discuss, and he is eager to get the note. **How might you respond?**

  Reflective Question: Why is it important to explore the patient's context?

  While it can be easy to forget, it is still important to explore the patient's psychosocial context (when appropriate) in the virtual care environment. Virtual care tends to require more informal conversation and rapport building statements than in-person care, especially early in the interview (Hammersley et al., 2019; Shaw et al., 2018). In a video visit, you can take advantage of visual cues that may give hints to a patient's context and ask about them such as inquiring about a patient's facial expressions. During video visits, you may receive cues about the patients' context from seeing their home environment. Before discussing these cues with the patient, consider the balance between the value of exploring this context with them and respecting their personal boundaries.

By taking time to explore the patient's context, you establish rapport and trust with the patient. This is important because it will allow the patient to reveal additional clinically relevant information and encourage meaningful dialogue. It improves shared decision-making and patient satisfaction. Exploring the patient's context allows the patient to be seen as a whole person while honouring and valuing their lived experience and allowing them to be the expert in their own bodily experience.

Reminder: If the patient sets a boundary around their context, it is important to respect their boundary and wait until they are ready to disclose.

Conducting a Patient-Centred Assessment Take-Away Points:
In a virtual care environment, it is even more important to:

- Make the implicit explicit, e.g. "You might see me looking away, but it is just because I am taking notes on a separate device".
- Summarize what you heard the patient say: e.g. "So what I am hearing is that you are hoping for STI testing but are feeling nervous about it because you heard that the results may not be kept private".
- Be aware of provider non-verbal cues.
- Take the time to actively explore the patient context, while respecting boundaries put up by the patient.
- To build rapport, follow the patient's lead in the tone of the language and reflect their own language back to them.

Practice Cases
Case #1:
A 73-year-old female, new patient to you, complaining of some recent forgetfulness. Upon suggesting that this assessment should be completed in person, she started stammering and had difficulty committing to an appointment time.
What do you think might be going on for this patient? How would you respond?
Case #2:
A 37-year-old parent presenting with concerns about attention and concentration. They have two young children at home who they are attending to throughout the conversation.
How would you respond? Why would you respond in that way?

Management Plans and Finding Common Ground (Table 3.6)

Case Study Continued…
Once your history is complete, you begin to wrap up the visit and discuss the plan with the patient. You explain that you will email him a lab requisition with relevant tests to see if there are any underlying physical causes for his mood concerns. The patient hesitates and when you ask him about the hesitation, he says, "I was hoping to see someone in person for an assessment".
What do you do next?

Table 3.6 Tips for management plans in a virtual environment

Leave more time for management plans than you might for an in-person visit
Ensure the logistics of the plan are realistic for the patient, e.g. access to email, access to a printer
Confirm the patient's understanding of the plan and if they can realistically execute the logistics, e.g. calling a community agency for resources, confirming most realistic locations for lab work or imaging
For follow-up visits, confirm who is booking the next appointment and how that should take place

Finding Common Ground

Recently, virtual care has been discussed primarily in the context of providing a safe alternative to in-person care during the COVID-19 pandemic. However, beyond the guidance that existed at the height of the pandemic, there are other situations where virtual care may afford advantages over in person care. For patients in rural and remote areas, one such consideration is timeliness of care or access to certain types of care. In these situations, it is important to hear the patients' concerns and provide reassurance about the value and quality of the virtual visit. Below are some actions that can address patients' concerns (Table 3.7).

What are some ways to communicate this difference between general principles and individual needs when it comes to virtual care?

- During the height of the COVID-19 pandemic, an example might be: "They are not having us bring in anyone for in-person visits right now because of safety concerns, but I want to assure you that I will follow up with your results as soon as I can and that you can reach out at any time".
- For patients living in distant rural or remote areas: "We want to make sure that our care remains accessible in a timely way to all of our patients which virtual care allows despite driving distance and geography, but I want to assure you that if at any point we determine that one of your concerns requires an in-person assessment or physical exam, we can find a way to bring you in safely so that you can be seen in person".

Why do these statements help?

The "they" vs. "I" creates distance between the doctor and the guidelines and reminds the patient that they are still receiving care from an individual.

As we incorporate virtual care into more routine post-pandemic care, it remains important to address patients' concerns about the appropriateness and quality of virtual care. In these situations, the physician and their patient can find common ground about when and in what circumstances they will use virtual care. This might be done at either an in-person or a virtual visit.

Some examples of how to have a patient-centred discussion about the role of virtual care include:

Table 3.7 Tips for responding to patient concerns about virtual care

Explore why the patient is requesting an in-person visit by exploring their ideas and expectations
Validate how this is a different form of care than what they might be used to
Address the patient's concern by articulating the rationale as to why an in-person visit may not be necessary, as well as contingency plans to help mitigate any risks
Articulate your disappointment as the physician of not having an in-person visit, but clarifying the rationale
Try differentiating between the rules and guidelines for the broader practice/population and the individualized needs of the patient

- At a regular visit, introduce the idea of incorporating virtual visits into some of their care: "We can have you come in person again which is great news. But I was wondering if there might be times you would prefer to continue to have virtual visits. Can we talk about that"?
- Suggest benefits to the patient such as travelling in bad weather or long distances:
  - "I was thinking that once the snow comes, we may want to think about meeting on the phone for some of your visits to save you coming out when it is slippery. What do you think about that"?
  - "I know it is a long drive into the city for your appointment, I was thinking we could meet every other appointment by telephone when you don't need to have any blood work done. What do you think"?

Ending the Visit

Case Continued: You have now emailed the patient his lab requisitions over a secure email portal. The patient has agreed to book a visit two weeks after he completes the tests in order to review them. You ensure he has no other questions, and it is time to end the visit.

Reflective Question: Who ends the visit? Who hangs up first? Why?

Pearl for Practice: Consider letting the patient hang up first (Car et al. 2020).

Practice Case

You have a phone appointment with a 30-year-old G3P2 female who had a positive home pregnancy test. This was an unplanned pregnancy, and the patient has a history of postpartum depression. You sent her a few mood-related questionnaires for her to complete in advance of the visit, but as you are preparing for her virtual visit, you see that the questionnaires are not yet completed.

What might you be wondering about in this situation? How would you approach this in your follow-up visit?

When you speak to the patient, it turns out she doesn't have a printer at home and her Wi-Fi is inconsistent. The nearest library is a car ride away and they are a one-care household with her partner having the car during business hours. Moreover, she is the primary caregiver for her two young children, so getting some uninterrupted quiet time to complete the questionnaires is very challenging.

How do you approach this situation?

Summary: This case highlights the importance of finding common ground and ensuring the patient and provider are on the same page when wrapping up a virtual visit. It is essential to provide time for the patient to ask questions, clarify the plan and express any concerns they may have before disconnecting. If the previous stages of establishing rapport, trust and shared understanding have been met, this common ground should be established in a way that is natural for both patient and provider. In virtual care, it might be harder to rely on non-verbal cues, necessitating being more explicit in obtaining verbal understanding of and agreement with the plan.

Management Plans and Finding Common Ground Key Points:
- Leave more time for management plans in a virtual visit as they often require more discussion to ensure the logistics are realistic and practical.
- Finding common ground in a virtual visit often goes beyond the specifics of the patient's clinical concern but also involves negotiation of the balance on in-person vs. virtual visits moving forward.
- Actively include discussions about the opportunities and limitations of the virtual visit with the patient so that their wishes and needs can be balanced with practical and logistical considerations as well as, when relevant, larger rules and guidelines.

Best Practices and Lessons Learned

Patient-centred care in a virtual visit involves:

1. Making the implicit explicit
2. Being mindful of and challenging your assumptions
3. Being attentive to both verbal and non-verbal cues
4. Maintaining professional boundaries alongside more personal engagement
5. Valuing the patient's lived experience by sharing power with the patient
6. Taking extra time for management plans with focus on logistics
7. Overtly addressing both patient and provider perspectives related to decisions regarding virtual and in-person care
8. Taking an individualized approach to each patient in the context of broader norms and guidelines

CE/CME Questions

1. Linda is a 55-year-old patient known to you. She has a history of generalized anxiety disorder well managed on medication. You have a video visit scheduled for her routine follow-up. She lives alone after being recently widowed but is keeping busy by taking care of her two grandchildren, who live in a town about an hour away, so their parents can work. To make it more convenient for her to attend the appointment, you both decided to try a video visit for the first time. As you start the visit, you see children running around in the background, and there is a fair bit of background noise. Which of the following would you NOT want to do when starting the visit?

   (a) Check in with Linda if this is still a good time for a visit
   (b) Ask if Linda will be able to find a private place to talk
   (c) Start with some small talk about how she has been enjoying taking care of her grandchildren
   (d) Skip the introduction and move quickly and in a focused way through the key elements of the visit as she is clearly busy right now
   (e) Acknowledge what you are observing in the background and check in if Linda is still comfortable to proceed and to what extent

2. At a previous visit, you and Linda discussed starting a cognitive behavioural therapy (CBT) workbook. When you ask about how the first pages of the workbook are going, she looks down, sighs and begins to cry. You respond by commenting that she seems upset and ask if she would feel comfortable sharing what she is feeling. Why is it important to ask this question?

   (a) She is obviously having exacerbation of her anxiety and it is important to find out more
   (b) By reflecting back what you observe without making assumptions as to the cause of her emotion, it helps to build rapport and empowers the patient
   (c) She is probably overwhelmed with being widowed and with the demands of taking care of two young children and needs support
   (d) You want to make sure she is safe and not suicidal

3. Linda tells you that she has not yet started the CBT workbook as was discussed at the last visit. With the additional time in the car every day, she is finding it hard to find time to do the therapy work. She has also been only taking her medication every other day as it is a bit expensive and she no longer has private medical insurance. She says she was embarrassed to say this to you at the last visit and thought you would think she was a bad patient. What could you do differently at the end of this visit to develop a patient-centred management plan?

   (a) Emphasize that if the patient does not follow through on at least some of the therapeutic options, her anxiety is likely to worsen again
   (b) Acknowledge that there were a lot of realistic challenges to the previous management plan and then work together with the patient to collaboratively

figure out what might be possible to optimize health while taking into account those challenges

(c) Recommend that the patient's children find alternate child care so that she has enough time for her own self-care

(d) Empathize with the patient that now may not a realistic time for the patient to treat her anxiety and follow up when things have become a little bit less busy and financially strained

4. Linda tells you that she just isn't feeling up for today's conversation and she'd like to end the visit. You discuss scheduling a follow-up visit and have the discussion about whether the visit should be virtual or in person. Which of the following is the most patient-centred reason to switch back to in-person visits?

(a) While the virtual visit can be more convenient, given Linda's other life pressures, she prefers to be seen in person since she can't get privacy when at home, limiting her ability to engage in the visit

(b) As the provider, you are uncomfortable doing a behavioural assessment virtually as the technology can be unreliable

(c) As long as both the provider and patient are fully vaccinated, the risk of in-person care is low and in-person care is probably still better care

(d) The patient has poor Internet access, so is only able to do a telephone visit

Answer

1. (d)
2. (b)
3. (b)
4. (a)

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Chapter 4
Digital Compassion, Health Equity, and Cultural Safety: From the Therapeutic Relationship to the Organization of Virtual Care

Allison Crawford, Lisa Richardson, Emily Simmonds, David Wiljer, and Gillian Strudwick

Objectives

Through case-based and critical reflexive practice, the reader will be able to:

1. Define digital compassion and consider its manifestations at individual and organizational levels
2. Define digital health equity and reflect upon how this applies to the delivery of virtual care in rural and underserved communities
3. Define cultural safety and cultural humility and reflect upon the social positioning of the virtual provider
4. Consider the complex interplay of compassion, equity, and cultural safety as they apply to virtual care

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Due to limited access to mental healthcare, and to often well-intentioned attempts to redistribute health human resources from over- to under-resourced areas, an increasing proportion of mental healthcare to rural and underserved areas is delivered virtually. At no time has the shift to virtual care been more marked than during the COVID-19 pandemic.

Compassion is our active attempt to be with people when they are suffering or in need, and virtual care and other forms of digital health technologies can extend our ability to "be there" even at a distance. There is also evidence that this virtual mode of "being with" can create therapeutic relationships that are as robust as in-person care (Simpson & Reid, 2014; Simpson et al., 2021), even in those experiencing severe mental illness (Tremain et al., 2020), a factor that is central to healing and recovery in mental health (Norcross & Lambert, 2018). We also simultaneously recognize that the idea of compassion emerges from a particular sociocultural context and how this choice situates our work in a Western academic frame rather than other axiological orientations, including Indigenous ones.

Even if we can provide compassionate care virtually, we must acknowledge that not all have access to this care (Crawford & Serhal, 2020). Equity barriers such as poverty and lack of access to digital technologies, or literacy with technology, can limit access to care and challenge the very notions of compassion. Similarly, if we use top-down approaches to being with people, without consideration of local context, community autonomy, and without awareness of power, then our attempts at compassionate access to care can create and perpetuate paternalism and strip people and communities of their autonomy to receive care in ways that are meaningful and relevant to them.

As systems of virtual care attempt to meet urgent and emergent needs, we need to shift our thinking from absolute access as a measure of success and critically consider the ways in which virtual care supports the mental well-being of people, organizations, and health systems and the ways in which it may disrupt local systems of care at all levels. In this chapter, we focus upon digital compassion and the ways that this intersects with digital health equity, with specific considerations for rural and underserved contexts. We also highlight the importance of ensuring cultural safety for individuals and communities that receive and participate in virtual care delivery and the cultural humility required of providers.

A core dimension of cultural humility is acknowledging our own social location. The authors of this chapter are of different ancestries, with A. Crawford, G. Strudwick, and D. Wiljer identified as Canadian and of European ancestry, L. Richardson as of mixed European and Anishinaabe ancestry, and E. Simmonds as mixed European and Métis (Red River) ancestry. We have also highlighted a case vignette of an Anishinaabe woman and her infant, adapted from a clinical scenario. We feel this case respectfully highlights important considerations in balancing compassion, equity, and cultural safety in virtual care. However, it is written from a general perspective rather than from an Indigenous worldview. It is also not intended to apply to all Indigenous Peoples, but rather highlight key considerations. Finally, although we highlight key considerations including cultural safety and cultural humility, we also acknowledge that this chapter does not fully explore the breadth

of Indigenous knowledges that should inform virtual care, the ongoing colonization of virtual "space," and the right to self-determination of Indigenous peoples.

Case Study

Mary is an Anishinaabe woman with an 18-month-old infant, living in a rural community in Northern Ontario, Canada. She attends a first virtual appointment from her apartment. You observe her looking withdrawn and sad, and she confirms multiple symptoms of depression beginning in the last trimester of her pregnancy. She is attentive to her daughter during the assessment, but does not smile upon interacting with her, and although it is difficult to ascertain this through televideo, she does not appear to be making eye contact with you as you complete the assessment. You feel somewhat uncomfortable as you are new to virtual care.

What can you do to establish a connection and relationship with this client?

The Therapeutic Relationship

Chapter 2 in this text focuses on how virtual care is transformed by taking a person-centered approach. A person-centered approach to virtual care requires centering patient choice, preferences, and values. The goal in taking a person-centered approach is ultimately to enhance patient health outcomes and to reduce unintended harms. The therapeutic alliance, sometimes termed the therapeutic relationship, describes the working relationship between provider and patient and includes shared goals for treatment and the presence of the provider's genuine concern, warmth, authenticity, and a collaborative bond. Indeed, in mental healthcare, it has long been established that the relationship between provider and patient is foundational to patient outcomes, as if not more important than the specific interventions used (Flückiger et al., 2018; O'Brien, 2001).

Relationship factors that create this alliance include the ability to foster mutuality and collaboration between provider and patient, working together to attain the patient's treatment goals. Important provider factors are the provider's ability to be flexible and responsive to the patient's needs, including gathering and incorporating patient feedback (Norcross & Lambert, 2018). Considerable evidence now demonstrates that it is possible to establish a therapeutic relationship in virtual care that patients rate as effective as in-person care (Simpson & Reid, 2014; Simpson et al., 2021; Tremain et al., 2020). Therapeutic viability is the specific term for the degree to which virtual care or televideo communication creates the potential for this relationship; in other words, which technologies are sufficient to establish that sense of connection. We consider this relationship as foundational for health providers to convey digital compassion.

Digital Compassion

If compassion is the ability to be with a person who is suffering, then digital compassion is the ability to convey that sense of being there and of responsiveness via technology. Digital compassion must achieve all of the dimensions of compassion, from registering awareness of another's need or suffering to the affective quality of compassion – "being moved" by another's suffering and then being driven to help (Wiljer et al., 2019). Compassion, thus, moves from the more passive domain of empathy to a more active stance in relation to patients (Wiljer et al., 2020). Because developing a therapeutic relationship requires an active stance on the part of the health provider, it is closely linked to compassionate action.

Digital compassion considers how the incorporation of digital tools into healthcare shapes the means and ability to deliver compassionate care. Digital devices and environments can either facilitate or pose barriers to compassionate care, including creating the conditions for developing a strong therapeutic relationship. These facilitators and barriers include the technology itself, but also the abilities of both provider and patient to engage with the technologies. Further, as our healthcare ecosystems continue to expand to include digital environments, we need to also consider contextual factors in digital compassion. Table 4.1 summarizes key facilitators of digital compassion, including those important to the therapeutic relationship, with concrete examples that apply to the case discussion.

1. *Technology factors*: Just as technologies like televideo conferencing can allow us to be with patients and increase access to healthcare, they can also get between providers and patients, sometimes literally such as a distracted provider attending to their electronic health record instead of interacting with a patient. In the provision of virtual care, aspects of the technology that facilitate access, provide a secure and reliable connection, and enable communication can also support the delivery of compassionate care and promote the development of a strong therapeutic relationship. Conversely impedances created by technology can be barriers to compassionate care.
2. *Provider factors*: Comfort with and the ability to use technology as a vehicle for compassion and the platform for forming the therapeutic relationship necessitate that providers have proficiency in the use of technologies and have developed competencies in the provision of virtual care. These include provider professionalism and self-care. Chapter 11 in this text explores provider well-being and its impacts on virtual care, including the ability to deliver compassionate care.
3. *Patient factors*: Patients with high digital literacy and comfort are more likely to derive the most benefit from virtual care and to experience it as compassionate. Patients bring many abilities and strengths to virtual care that should be acknowledged and leveraged, including the ability to perceive opportunities for virtual care, to reach and seek virtual care, ability to afford it, and to engage with it, all necessary to key implementation outcomes of virtual care, including approachability, acceptability, availability, affordability, and appropriateness, respectively (Levesque et al., 2013).

Table 4.1 Practical strategies for enhancing digital compassion

	Example: Mary

Technology
  Well-functioning, up-to-date technology and software
  Synchronous technology > asynchronous for therapeutic relationship
  Better connectivity allows for access and enhanced quality of connection
  Secure technology enables privacy and trust
  Higher-quality cameras placed at correct angles can approximate eye contact
  Better integration of different health technologies allows for more seamless care
  Availability of in-home technology to decrease need to travel
	Ensure Mary has appropriate technology and connectivity to participate in virtual care. Coaching around placement of cameras may enhance ability to make eye contact

Patient level
  Offer choice, respect preferences and values
  Amplify digital literacy
Seek feedback through evaluation
  Involve patients in co-design of service and technology
	Are there options for in person and virtual? Has Mary been able to exercise choice? Is she comfortable with technology? Ask her if she is in a private space – headphones can improve privacy
	You note the lack of eye contact – also explore whether there is patient and/or cultural preference involved
	Does your organization have opportunities for patient feedback, such as questionnaires?

Provider level
  Ensure adequate training in virtual care
  Measure provider satisfaction
  Attend to self-care and well-being in virtual environments
  Appropriate supervision, performance assessments, and opportunities for formative feedback
	The case mentions that the provider is uncomfortable. Have there been opportunities for training? Have work schedules and protocols been adjusted to account for virtual care?

Organizational level
  Have policies that support the delivery of compassionate digital care
  Sponsor training initiatives for providers, patients, families
  Provide resources for IT support and administration
	Does the provider's workplace offer policies and procedures that guide virtual care? Is there administration to support the booking and setup of this session? Is IT available for tech support?
	Does the referring organization have policies? What are the safety parameters for allowing patients to access care from home?

4. *Organizational factors*: Although in the individual health encounter, the focus is on the provider-client interaction mediated by technology, many organizational factors shape the context for and the likelihood of digital compassionate care. The shifting of digital ecosystems of care requires health organizations to develop policies that support virtual care, and they have adequate technology and administration to facilitate care. Leadership, including champions in digital care, can ensure that digital compassionate care is a priority. Organizations can support training and promote programs that enhance the digital literacy of providers, patients, and families. Organizations and larger health systems must also recognize the important foundation of cybersecurity and privacy as important for trust at the patient level (see, e.g., Sequeira et al., 2022).

Case Study Continued
In a follow-up visit, Mary connects to the virtual visit from a parking lot. She is parked next to a library to take advantage of the wireless since she recently ran out of data. You discuss postpartum depression with Mary and review treatment options. You would like to find a parenting group for Mary, but there are none available in her area; you let her know you will explore virtual groups, but are unsure of the evidence for the use of virtual parenting groups. At the end of the appointment, Mary informs you that she will be moving back with her baby to her home reserve to be with her family. She would like to follow up with you, but thinks it may have to be by telephone instead of video.

What additional factors that you need to consider in order to provide compassionate care?

Digital Health Equity

This case highlights that even the most compassionate provider, with a strongly established therapeutic relationship with a client, can face additional barriers to providing compassionate care. Digital health equity refers to the ability of all to have equal digital healthcare access; equal access to interventions; equal choice between in-person, virtual, and blended models of care; and equal health outcomes. Digital health equity requires that virtual care and other health technologies be developed and adapted to meet the needs of diverse groups of people and be used to address health disparities rather than perpetuate or widen them (Strudwick et al., 2021).

Digital health equity necessitates understanding the delivery of care through a framework that guides consideration of social determinants of health and health

equity factors alongside digital determinants of health. The Digital Health Equity Framework (DHEA; Crawford & Serhal, 2020) takes an ecological approach to considering the cultural and economic forces that create social stratification whereby some individuals and communities differ in their access to prestige and resources. A person's social location is defined by intersectional factors such as race, age, income, geography, rurality, gender, ability, and occupation as well as other social factors. In turn, this social location governs exposure to health-related risks and vulnerabilities, including discrimination. A person's social location and material circumstances intersect with intermediate factors that shape health and health behaviors, including psychosocial stressors; styles of appraisal and coping; biology, including current health status and preexisting conditions; health-related beliefs and behaviors; current health needs; and their environment.

Digital determinants of health interact with these intermediate health factors. For example, access to digital health resources and digital health literacy interact with the degree and kind of psychosocial stress a person is currently experiencing; job loss or poverty, level of education, and previous exposure to digital media can all impact access to digital health. Styles of coping and appraisal of risk, along with health-related beliefs, can shape beliefs and behaviors regarding digital health; for example, some patients may have a tendency to avoid healthcare or to minimize risk, leading to issues such as corollary avoidance of digital healthcare, privacy-related concerns, or failure to appraise the quality of digital health information. Just as a person's environment shapes their healthcare access and quality, it also shapes their digital health access and quality. Figure 4.1 presents a simplified version of the DHEF.
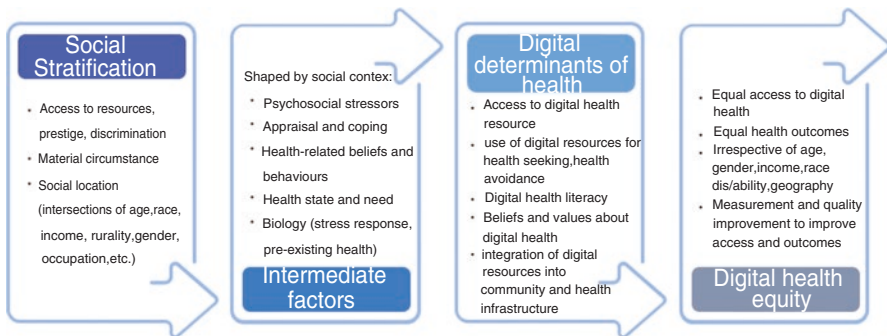

Fig. 4.1 Digital health equity factors. (Adapted from the Digital Health Equity Framework (Crawford & Serhal 2020))

Case Study Continued

Although you recognize the equity barriers that Mary's case highlights in your organization's ability to provide equitable access to care, you agree to continue to provide care via *telephone. At the same time, you use your role as a health advocate to call for better distribution of digital health resources, including technology and necessary resources such as internet connectivity. While you continue to recommend a parenting group, Mary becomes increasingly quiet during your phone appointments and then stops attending. She later sends you an email saying that she has opted to receive care from a local Elder and that her mother worries you will involve child protection services.*

What have you failed to account for in your care? What social, historical, and cultural factors should be considered in developing virtual care services?

Cultural Safety and Cultural Humility

The concept of cultural safety has its origins with the Māori of Aotearoa (New Zealand) (Wepa, 2015), arising in response to "the ongoing and long-term impact of the colonization process on Māori health outcomes" (ibid, p. 6). The core principles of cultural safety focus on health gains and positive outcomes, apply to all relationships within healthcare, identify the power relations between those who provide and those who deliver care and empower service users, and address the relationship of history, political, social, and employment status, housing, education, gender, and personal experience to current healthcare interactions (Nursing Council of New Zealand, 2011).

Providing care that patients and clients experience as cultural safety has proven useful in geographic areas beyond New Zealand, particularly given that racism within medicine continues to be a structural issue (Allan & Smylie, 2015). Brascoupé and Waters (2009) explore the relevance of cultural safety for Indigenous peoples in Canada (Crawford et al., 2021). Cultural safety "is used to express an approach to health care that recognizes the contemporary conditions of Aboriginal people which result from their post-contact history" (ibid, p. 5). Central to taking a culturally safe approach is recognizing that communities are heterogenous; First Nations, Inuit, and Métis may have different perspectives about what culturally safe care is. This emphasizes the importance of seeking guidance on community-specific values (Wilson et al., 2013).

There is limited literature available to date about what cultural safety in virtual care would look like (Ruiz-Cosignani et al., 2022; Hilty et al., 2020, 2021), but some common principles to ensure cultural safety include:

  (i) Recognizing the importance of community involvement in identifying need and co-developing models of virtual care
 (ii) Enhancing engagement with all rights holders
(iii) Working in partnership, with knowledge and power sharing
(iv) Understanding from individuals and communities what aspects of care can meaningfully be delivered virtually – consider language, the space(s) of care, the meaning of providing care disconnected to the land, culturally based interventions, etc.

 (v) Looking for opportunities to promote community leadership and involving
     health leaders from the community
 (vi) Recognizing that health equity is not equivalent with nor does it detract from
     the right to self-determination
 (vii) Seeking to understand historical and current sources of stigma and racism
     within healthcare that may continue to undermine trust in health delivery,
     including the use of technologies in healthcare
(viii) Exploring collaborative models of care, such as including Elders and local
     care providers
 (ix) Ensuring that providing virtual care does not bypass local health resources –
     establish multiorganization and system partnerships
 (x) Measure cultural safety – ensure that the process of measurement is also cul-
     turally safe! and co-developed with the community/context

Many current efforts are being made to operationalize these concepts within the
delivery of healthcare in Canada (Fung et al., 2012). The Indigenous Physicians
Association of Canada (IPAC) and the Association of Faculties of Medicine of
Canada, for example, have identified core competencies for practitioners working in
the area of First Nations, Inuit, and Métis health (IPAC, 2010). They provide the
following definition of cultural safety:

> Cultural safety refers to a state whereby a provider embraces the skill of self-reflection as a
> means to advancing a therapeutic encounter with First Nations, Inuit, Métis peoples and
> other communities including but not limited to visible minorities, gay, lesbian, transgen-
> dered communities, and people living with challenges. Self-reflection in this case is under-
> pinned by an understanding of power differentials. (ibid, p. 9)

The Royal College of Physicians and Surgeons in Canada has sponsored an
Indigenous Health Committee that has also created an Indigenous Health Primer
(2019). Cultural safety principles challenge health providers to examine their own
practices to recognize power relations and to understand their impact as a bearer of
their own culture, history, attitudes, and life experiences.

Cultural humility is a more recent concept related to cultural safety. While cul-
tural safety can only be determined by the healthcare recipient, cultural humility
denotes the stance of the health provider. Cultural humility is "a process of self-
reflection to understand personal and systemic biases and to develop and maintain
respectful processes and relationships based on mutual trust. Cultural humility
involves humbly acknowledging oneself as a learner when it comes to understand-
ing another's experience" (First Nations Health Authority, 2019).

Best Practices and Lessons Learned: Practices That Support Building Accurate Compassion Through Equity and Cultural Safety

If we return to the case, we see that providing quality care to Mary involved creating
not only access to care but also understanding how to deliver that care compassion-
ately. Cultural humility returns us to reconsidering what digital compassion means

and to challenging and extending the definition of digital compassion. In many communities, what counts as "compassion" is freighted with a long history of the paternalism that has accompanied colonization. Without this critical perspective, digital compassion can be left within the purview of the health provider, bestowed based upon their feelings of being moved to action, and can threaten to disempower the recipient(s) of care. This also applies to the organizational level. Organizations that value and prioritize cultural safety will ensure adequate training in staff and will form necessary partnerships, in which power is shared, with stakeholders and communities.

In delivering virtual care in rural contexts, all of these perspectives are critical. Rural and underserved areas have many similarities, and development of virtual care can address many needs, particularly increasing access to mental healthcare. However, facilitating these opportunities requires consideration from the perspectives of the technology and infrastructure, patients and communities, and providers and organizations. Likewise, we need to remember that there is considerable heterogeneity within and between rural communities.

Figure 4.2 summarizes the interplay of perspectives and practices that move toward balancing digital compassion, digital health equity, and cultural safety within virtual care. Achieving this balance requires an ongoing and sustained stance of cultural humility on the part of providers and organizations. Beyond reflexive practice in the provision of healthcare, which centers the provider's experiences, knowledge, and feelings, critically reflection prompts us to focus "less on self and instead turns [our] gaze to personal and societal assumptions and unhelpful power relations, with the goal of improving how one practices one's chosen profession" (Ng et al., 2022). These considerations orient us to develop systems of virtual care with a commitment to ethics and justice.

CE/CME Questions

1. The therapeutic relationship or alliance differs in virtual care, compared to in-person care in the following ways:

   (a) There is less trust on the part of patients
   (b) Is rated lower in virtual settings by providers
   (c) It is not possible to establish virtually when the patient has severe mental illness
   (d) It is more challenging to do collaborative goal setting virtually

2. What qualities are *not* part of a compassionate response?

   (a) Acknowledging the suffering of others
   (b) Being moved to act to address another's suffering
   (c) Feelings of pity or sorrow
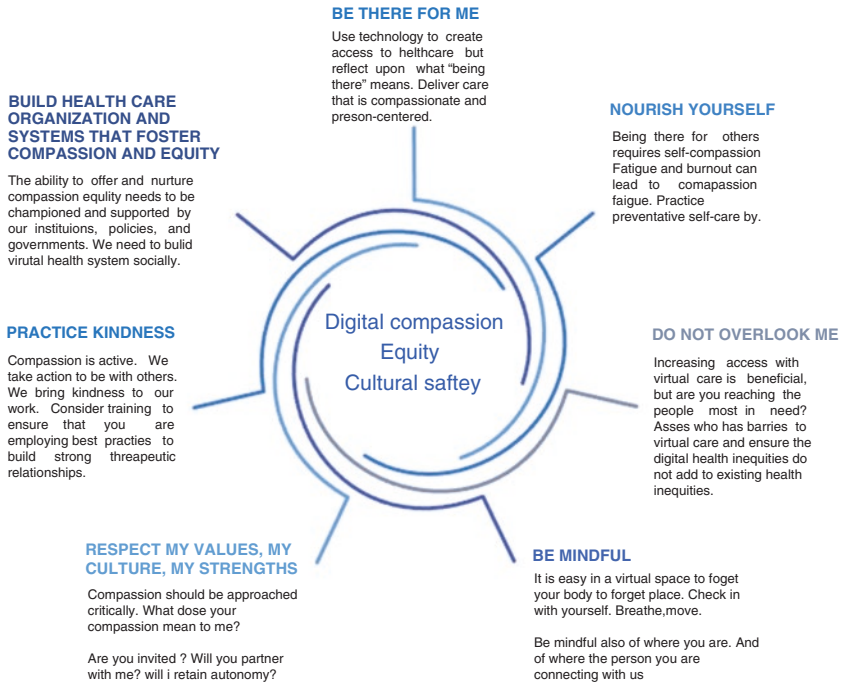   (d) Being with another in their suffering

Fig. 4.2 Digital compassion, equity, and cultural safety within virtual care. (Adapted from Crawford, 2020)

3. Digital health equity relates most to:

   (a) Equal access to and equal health outcomes from digital health resources
   (b) A balance between accessing virtual and in-person care
   (c) Places that need virtual care more have greater access
   (d) Everyone has access to necessary digital devices

4. All of the following are digital determinants of health *except*:

   (a) Digital health literacy
   (b) Access to digital health resources
   (c) Use of digital health resources to seek healthcare
   (d) Choosing digital health over in-person options

5. Cultural safety is best determined by:

   (a) The provider of healthcare
   (b) The patient or recipient of health services
   (c) An Elder in the community
   (d) The health organization providing services

Answers

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

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Chapter 5
Self-Care and Well-Being for Providers and Learners in Virtual Care

Heather Flett and Allison Crawford

Virtual care has created opportunities to expand healthcare through increased access to care and improved continuity of care in rural and underserved settings. Telepsychiatry and virtual home visits continue to expand the reach of virtual care. Limited access to mental healthcare is often cited as an important factor in understanding higher rates of mental distress among some rural populations, compounded by inadequate health human resources to meet these needs (Serhal et al., 2017). Virtual care is often put forward as a potential solution to support mental healthcare capacity in rural settings (Fortney et al., 2015). Yet, while virtual care can expand capacity and introduce efficiency in workflow, it can also potentially contribute to fatigue and to burnout of providers. As we weigh the future of virtual care, we must balance improvements in access with the impact of virtual care on provider well-being. In doing so, there is an opportunity to support and preserve the limited health human resources available for rural mental healthcare.

Objectives

1. Review the impact of virtual care on rural clinician well-being.
2. Explore opportunities and key recommendations to support the well-being of providers and learners practicing virtual care.
3. Apply principles that support health professional well-being to a case scenario and reflect on opportunities to enhance the well-being of virtual care providers and learners.

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Burnout and the Clinical Provider

It is widely recognized that health providers have struggled with burnout and reduced job satisfaction over the last 10 years (Shanafelt, 2021). The concept of burnout in healthcare emerged to describe the emotional and psychological burden on providers caring for structurally marginalized populations (Freudenberger, 1974). Since then, the concept of burnout has been applied across health professions and practice environments, from urban to rural settings (Kim et al., 2018). A national survey of physicians and medical trainees by the Canadian Medical Association (2017) identified burnout as a key concern. High rates of mood symptoms and burnout were found among the 2947 respondents, with 48% of residents and 32% of physicians screening positive for depression and 38% of residents and 29% of physicians reporting high burnout symptoms. Similarly, a 2018 systematic review of studies across 45 countries, by Rotenstein et al., found variable rates of burnout among physicians. There are indications that the healthcare crises caused by the COVID-19 pandemic have exacerbated burnout, with consequences on individual providers and at systemic levels (Maunder et al., 2021).

These challenges to well-being begin early in medical careers, as demonstrated in another systematic review that looked at the prevalence of depression, depressive symptoms, and suicidal ideation among medical students, finding 27.2% of depression and depressive symptoms among respondents, with 11.1% reported suicidal ideation (Rotenstein et al., 2016). These findings contrast sharply with data on the mental health of medical students prior to medical school, at which point they experience lower rates of depression and burnout compared to age-matched college graduates pursuing careers in other fields. This decline suggests that exposure to medical training and clinical environments contribute to deterioration of learners' mental health over time. These known impacts on mental health and well-being at all stages of training urge consideration of the impact of virtual care across the entire learning continuum, from medical student trainees, to residents, and staff physicians.

Rural Healthcare, Virtual Care, and Health Professional Wellness

For providers in rural and underserved areas, already facing additional pressures such as potential isolation, poor access to resources, and increased demands due to a strained workforce – all worsened by the pressures of the COVID-19 pandemic – we need to better understand the intersection between rural healthcare, virtual care, and health professional wellness. Given the expansion of virtual healthcare in the last 5–10 years, and the rapid scaling that has occurred over the course of the pandemic, we will outline factors that should be considered in relation to health provider well-being and provide recommendations that support the well-being of healthcare providers and learners engaged in rural virtual care.

An examination of the intersection between increased use of technology for virtual care and impacts on providers' health and well-being is necessary given that most healthcare systems are continuing to work toward the quadruple aim. The quadruple aim, developed by the Institute for Healthcare Improvement (IHI), emphasizes the importance of clinician well-being as integral to effective and efficient service delivery and positive patient outcomes. The triple aim of healthcare including improving patient experience, reducing the cost of care, and advancing population health was expanded to include clinician well-being with an understanding that the first three aims would not be attainable without the well-being of the health professional workforce (Bodenheimer & Sinsky, 2014). While technology can be a key facilitator to extend and expand access to healthcare, particularly for those in rural communities, technology can also have unintended impacts such as problematic fatigue, particularly when technology leads to cumbersome processes and workflows (Tajirian et al., 2020).

Burnout in Healthcare

Burnout is a workplace phenomenon, described based on foundational work by Maslach et al.(2016), who characterized burnout as a combination of emotional exhaustion, depersonalization, and low personal accomplishment caused by the chronic stress of medical practice. Search for the causes of burnout for health professionals has identified reduced autonomy, including perceived control over one's schedule, and reduced meaning derived from work as among key factors in burnout (Olson et al., 2019; Trockel et al., 2018). Physicians who spend 20% or less of their time on activities that are meaningful have been reported to be three times more likely to experience burnout, versus those who spend at least 20% of their time on a favorite work effort (Shanafelt et al., 2019). Additional workplace factors that contribute to physician burnout include excessive workloads, long working hours, comprehensive documentation in electronic health records, and time spent at home on work-related factors limiting balance between professional and home life (West et al., 2018). The literature on contributors to burnout indicates that physicians identify loss of autonomy at work, lack of support from colleagues or leaders, decreased control over the work environment, and inefficient use of time due to administrative requirements as key factors (Patel et al., 2018). Inefficient work processes including physician-entered comprehensive documentation and computerized order entry is associated with increased rates of burnout (Shanafelt et al., 2016a). Increasingly, attention is shifting from individual provider vulnerability to the impact of institutional and organization culture on burnout (Shanafelt et al., 2021; Harvey et al., 2021).

In rural settings, contributors to burnout can be exacerbated by the increased burden of care resulting from shortages in health human resources, such as increased workload and increased complexity of patient care and working beyond the limits of one's scope of practice. These system-level factors are coupled with the increased

health burden often found in rural settings and an aging population of healthcare providers (Weinhold & Gurtner, 2014; Terry & Woo, 2021).

The Impacts of Burnout

As we continue to understand factors related to well-being and burnout for rural providers, including in the delivery of virtual care, we need to consider burnout and its impacts across individual provider, patient, organizational, and system levels. At an individual level, burnout is linked to lower job satisfaction with consequent lower organizational commitment, absenteeism, intention to leave a role, and high turnover. For those who decide to stay in a role with low job satisfaction, burnout can lead to low productivity and impaired quality of work (Shanafelt et al., 2016b). Burnout symptoms have been linked with individual health impacts for the physician experiencing burnout including increased risk of road traffic accidents (West et al., 2018), absence due to mental and cardiovascular disorders, and all-cause mortality (Toppinen-Tanner et al. 2005; Ahola et al., 2010).

Burnout is associated with negative outcomes beyond the individual provider, impacting the patient, the organization, and the larger healthcare system. Review of the literature suggests there is evidence that burnout is associated with safety-related quality of care (Dewa et al., 2017). Self-perceived major medical errors were also associated with physicians experiencing burnout, decreased quality of life, and depressive symptoms (West et al., 2009). Burnout has also been associated with patient outcomes of lower satisfaction and longer post-discharge recovery times (Halbesleben & Rathert, 2008). Burnout is also a phenomenon known to impact the healthcare system more broadly with increased physician sickness absence rates, reduced productivity, and early retirement for clinicians (Toppinen-Tanner et al., 2005; Dewa et al., 2014).

Virtual Care and Burnout

A recent scoping review by Hilty et al. (2022) of technology-related stress, fatigue, and burnout suggests a continuum of health and resilience risks to well-being as a result of digital fatigue and consequential fatigue and burnout. While literature that addresses this nexus between burnout, health professions, and technology is nascent, it suggests that the risks of fatigue and burnout are stratified by factors including provider, technology, setting, patient, and institutional dimensions. Interplay across these factors is also relevant, with workplace well-being characterized by the alignment between technology, work demands, and flow. When misaligned, there is the potential for work to create more of a strain for care providers.

Organizations have a key role and responsibility in selecting and implementing the technology utilized for clinical workflow and workload. Individual, system, and

organizational influences affect the trajectory of technological integration and resultant outcomes at provider and patient levels. Further research is needed to understand the interplay of individual and organizational factors and the relationships between burnout and virtual fatigue and burnout.

Case Study: Navigating Well-Being as a Virtual Care Provider
Read the case below, of a virtual care provider in a rural setting, and consider the follow-up questions given the information provided in the preceding sections of this chapter. While reading the case, consider some of the factors identified in Fig. 5.1 *that could influence the burnout experienced by Dr. Ross.*

Dr. Ross is a family physician who shifted her ambulatory clinical care and in-person team oversight to virtual modalities at the start of the COVID-19 pandemic. Her new virtual practice includes providing clinical care, attending meetings and educational events, participating in continuing professional development activities, and supervising of residents all through virtual means. Recently, one of Dr. Ross' interprofessional colleagues has noted that she often connects five minutes late to meetings and the resident working with her is often waiting for her to join videoconferences with patients. Her colleague warns that, because of the chronic tardiness, the resident has been observed to join patient assessments late as well and appears quite anxious when Dr. Ross is not present. Dr. Ross is also observed to be tired and less engaged and compassionate with patients and families in virtual teleconferences and educational meetings, a marked change from her previous demeanor throughout her career. Her consultation notes have been delayed getting to the primary care provider, and she has been less available to her interprofessional colleagues for consultation around cases. Dr. Ross feels badly about these changes and her fatigue but is uncomfortable discussing them more with her colleagues.

Dr. Ross is aware that she struggles at times with the many new technology platforms she is required to use: Microsoft Teams, Zoom, WebEx, OTN, etc. Unfortunately,
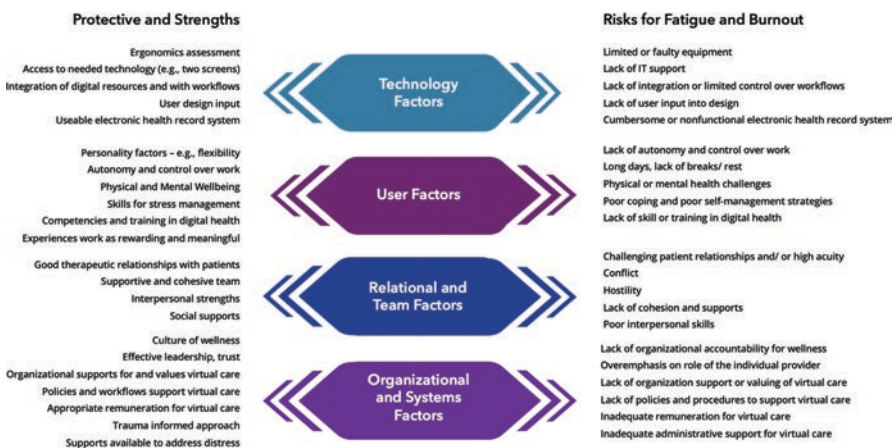

Fig. 5.1 Well-being and burnout in virtual care: risk factors and enablers

even though some of these platforms do not suit her clinical practice or the needs of her patients, hospital regulations require that she use them, and she was not involved in decision regarding work processes when the transition to virtual care occurred. This has occasionally resulted in situations in which her patients become frustrated as appointments are delayed and at times there are connectivity problems and rescheduling of appointments is required. Dr. Ross is aware that she is rarely the cause of the technology issues, but she often hears the complaints from her patients. Dr. Ross also does not have reliable high-speed Internet at home; she frequently encounters technological problems and, as she does not have a designated techno-logical support person to call, is often unable to fix them. She mainly works from her home office and is infrequently able to work on site due to an institutional policy to allow on-site staff to maintain physical distance from each other. With the introduc-tion of virtual work from her home, Dr. Ross has found it very challenging to bal-ance her clinical care and teaching with childcare demands at home. She continues to struggle with maintaining consistent start and end times to her workday. She has not taken time for lunch more than once or twice over the last year and rarely gets outside during the day.

Dr. Ross has found it helpful to "debrief" informally with her partner at the end of the day or evening. Her partner however is not a health professional, so at times she struggles to be understood. She has attended two "virtual community of prac-tice" sessions provided by her provincial physician health program and found them very helpful. These virtual "facilitated discussion" sessions were helpful for her to normalize the stress she is experiencing and anxiety that she could cause a medical error and her difficulties with getting and staying asleep over the last year.

Using the above model, consider what risk factors at the technological, user, relational/team, and system level contribute to Dr. Ross's difficulties? What protective factors from the case could support Dr. Ross and her resident to engage in their work and prevent burnout (Table 5.1)?

Approaches to Mitigate Burnout

Approaches and models for understanding and addressing provider burnout in the context of healthcare have developed increased interest over the last 5–10 years. Both individual and structural strategies are required to mitigate burnout with increased emphasis in the recent literature shared individual and organizational/system-level initiatives. Navigating and improving well-being in virtual care can be approached from an ecological perspective attending to technological, user, rela-tional, and system-level domains as previously described. Individually based strate-gies with evidence in the literature for burnout include mindfulness, stress management training, exercise and self-care efforts, and participation in groups that foster community, connectedness, and meaning (West et al., 2016; Panagioti et al., 2017).

Table 5.1 Understanding factors that may relate to Dr. Ross's burnout

Factors	Potential risks for fatigue and burnout	Possible strengths that can be built upon
Technology	Multiple platforms, unintegrated No IT support Lack of high-speed Internet, poor connectivity Lack of input into design	Create opportunities for input into design and integration of technology Consider ergonomics assessment of home setup
User	Current mental health challenges Lack of comfort/skill with digital health Consider all users in this scenario, including residents who may be more prone to fatigue and burnout as they may have fewer supports, resources, and control/autonomy	Consider support for mental and physical well-being Ensure adequate breaks and routines that promote self-care Training
Relational	Patients are upset with current technology challenges Dr. Ross's challenges are making it difficult to provide appropriate trainee supervision (and therefore also create risk of fatigue and burnout for the resident) Lack of team support and changes to team dynamics	Create opportunities for patient feedback and quality improvement Set up opportunities for team connection, support, mentorship
Organizational and systems	Lack of policies, administrative support for virtual care – largely left up to the individual provider	Develop policies, procedures and training to support the delivery of virtual care Ensure available administrative and IT support

Organizational strategies to mitigate and address burnout have been more difficult to study and develop an evidence base. Nevertheless, in the United States, reduced resident duty hours have been found to reduce burnout rates (West et al., 2018). A reduction in physician hours in critical care settings and teaching rotations and locally created practice changes to promote efficiency of work and practitioner satisfaction was also noted to be of benefit for burnout (West et al., 2016). These interventions are beneficial in the extent to which they address excessive workload issues that can be linked to burnout (West et al., 2016). Based on the literature, healthcare providers experience more engagement in work when work processes and goals are aligned with technology and work policies (Hilty et al., 2022). Examples of such alignment include clear expectations for work demands and responsibilities, flexible schedules with provider autonomy for breaks and stop times, guidelines for clinical scope, boundaries with patients and families, and guidance and organizational support to manage acute clinical issues (Hilty et al., 2022).

Wallace et al. (2009) indicate that physician well-being could be used as a quality indicator for organizations. The authors argue that by considering the relationship between clinician distress and patient perceptions of care, there is an opportunity to emphasize the importance of physician wellness as an indicator of quality of

patient care and quality within healthcare systems (Wallace et al., 2009). For effective improvement in health system quality and performance, the quality indicators need to be measurable and actionable. Physician wellness is measurable and is an area for organizational action to monitor clinician burnout and the impact of various wellness interventions.

Tips for Wellness in Virtual Care

- Demarcate workspace at home.
- Ensure privacy to avoid interruptions.
- Incorporate natural light and greenery.
- Intentional scheduling, such as consistent start/end times.
- Schedule breaks and time for lunch.
- Use your commute – find time to fill with positive coping such as exercise, mindfulness, or to engage in social activity.
- Cue transitions – signal your transition from one type of activity to another, e.g., use breaks, alarms, moving to a different area of the house, and putting away work items
- End-of-day routine to delineate start of personal time (walk, workout, change outfit).
- Schedule social times to connect with colleagues – buddy and mentor system (Fig. 5.2).

Clinician Self-Check-In

It is also important for individual providers to gain an understanding and self-awareness for how they are functioning and reacting to the stressors in their daily work. It can take time to develop such self-awareness. To support self check in we have provided a brief table below that lists specific signs that can help identify feelings, and then provides suggestions to manage feelings and encourage increased care as needed (Table 5.2).

CE/CME Questions

Test your knowledge from this chapter with the below questions:

1. Burnout is a workplace phenomenon, characterized by the following three factors:

    (a) Emotional exhaustion, compassion fatigue, and depersonalization
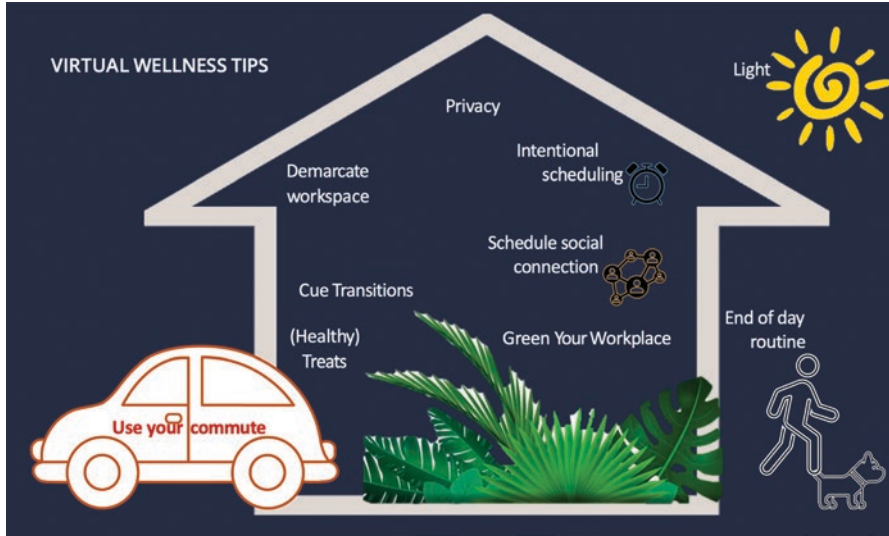   (b) Wear and tear, emotional exhaustion, and depersonalization

Fig. 5.2 Wellness tips for virtual care at home

   (c) Emotional   exhaustion,   depersonalization,   and   low   personal
      accomplishment
   (d) Emotional exhaustion, moral injury, and vicarious trauma
   (e) Emotional exhaustion, depersonalization, and compassion fatigue

2. What are the four factors helpful to understand the impact of virtual care on
   provider well-being?

   (a) Human, relational, technology and organizational
   (b) Human, technology, depersonalization and organizational
   (c) Emotional exhaustion, depersonalization, technology, and organizational
   (d) System, organizational, technology, and low personal accomplishment
   (e) Human, relational, organization, and system

3. The following are protective factors for virtual care provider well-being:

   (a) Lack of IT support, lack of provider autonomy
   (b) Access to necessary technology and workflows that support virtual care
   (c) Challenging patient relationships and long days
   (d) Lack of user input into workflow design
   (e) Complex clinical cases and workflows that support virtual care

4. Three key tips to maintaining wellness as a virtual care provider working from
   home include:

   (a) Demarcate workspace, ensure privacy, intentional start/stop, and break times
      in workday
   (b) Schedule social time after work and work until necessary to complete work,
      buy plants

Table 5.2 Virtual care provider wellness vitals – *use this mental health continuum model to check in with yourself*

	How are you feeling?	Recommended actions
Healthy	Normal mood fluctuations Calm, takes things in stride Intact sense of humor Good concentration, performing well Normal sleep and eating patterns, stable weight Physically well, active Socially active No or limited alcohol/substance use/addictive behaviors	Focus on the task at hand Break problems into manageable tasks Reflect on how you are feeling Develop your support system Access physician wellness resources to learn more about peer support, organizational wellness
Reacting	Nervousness, irritability Sadness, overwhelmed Distracted, loss of focus, intrusive thoughts Changes in sleep/eating patterns, weight gain or loss Low energy, procrastination Decreased social activity Regular alcohol/substance use	Recognize limits, take breaks Self-care: get enough rest, water, food, exercise Seek out peer support If problems persist, contact your provincial/state physician health program for support
Injured	Anxiety, anger, sadness, hopelessness Negative attitude Recurrent intrusive thoughts/images/nightmares Difficulty concentrating, decreased performance Disturbed sleep, increased fatigue Avoidance, tardiness Frequent alcohol/substance use (hard to control)	Recognize signs of distress Prioritize self-care Maintain social contact, don't withdraw, use buddy system to stay connected Contact your provincial/state physician health program for crisis support and everyday wellness issues
Unwell	Excessive anxiety, panic attacks, angry outbursts Depressed mood and/or suicidal thoughts Cannot concentrate or perform duties Cannot fall asleep/stay asleep, constant fatigue Physical illness Withdrawal, absenteeism Significant trouble/impact due to alcohol consumption/substance use/addiction	For immediate assistance, call emergency services or visit the nearest hospital Contact your provincial/state physician health program for crisis support and everyday wellness issues Visit your primary care physician and follow recommendations

Table adapted from a model originally created by Canadian Armed Forces and adapted by Canadian Medical Association for Physician Wellness

(c) Avoid social distractions, absorb extra work in previous commute time, get a pet

(d) Sleep in when needed, stay up late to finish work, avoid social distractions

(e) Avoid social distractions, ensure privacy, absorb work in previous commute time

5. Signs that a virtual care provider is "reacting" to workplace stress include:

(a) Irritable, overwhelmed, regular substance use
(b) Negative attitude, avoidance/tardiness, increased alcohol use
(c) Angry outbursts, absenteeism, substantial substance use
(d) Calm, performing well, limited substance use
(e) Negative attitude, avoidance/tardiness, limited substance use

Answers

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

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Part II
Approaches to Technology-Based Care, Teamwork and Special Populations

Chapter 6
Telemental Health Delivered to Nontraditional Locations and for Special Populations

Matthew C. Mishkind

Introduction

Telemental health (TMH), which may be defined as the use of technology, specifically two-way synchronous video chat throughout this chapter, to provide mental health care at a geographic or temporal distance, is a mode of service delivery that offers viable solutions to both systemic and urgent issues associated with growing mental health need, provider shortages, and patient obstacles, especially as related to geography, mobility, and stigma to accessing care (Bashshur et al., 2015; Hilty et al., 2013; Hubley et al., 2016). TMH has traditionally focused on replicating in-person services through the provision of mental health care from one institution (e.g., hospital or university) to another. Early TMH programs and models used what were often costly and, at times, unreliable synchronous two-way, audio, and video connections, and the infrastructure of these early TMH programs required the resources of large institutions to be effective (Shore, 2015). Fortunately, TMH has expanded rapidly over the past two decades concurrently with revolutions in technology and devices such as smartphones and telecommunications including the Internet, and overall changes in the health-care landscape focused on improving care and access while reducing costs.

TMH has increased in acceptance and utilization as it has been shown to make significant positive impacts on mental health delivery systems by more effectively tailoring mental health services to individual or community-based health-care needs (Mishkind et al., 2018)). This includes the promotion of a locality-based stepped care approach for specific populations that have otherwise been underserved (Adams et al., 2018). Part of this increased service flexibility is because many of the

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technologies and peripherals used to deliver services today are ubiquitous to consumers based largely on commercial use and applications (Wright et al., 2019). Overall, the body of the telemental health literature points to the conclusion that use of two-way audio and visual technologies to deliver mental health treatment is no less effective than in-person care for a broad range of mental health concerns (Mishkind et al., 2018).

Nontraditional Locations and Special Populations Defined

There is no absolute definition for what may be considered a "nontraditional location" for TMH services, although it may be argued that a nontraditional location for services is one that is simply different from the established norm (e.g., hospital-based clinic). The same might be said for "special populations" being defined as populations that require specific understanding such as cultural competency or specialized experience in delivering service in a tailored format. The history of institutional-based TMH would suggest that anywhere outside of an established clinically supported location would be considered nontraditional and that many populations outside of those able to access an established clinic would be considered "special." However, the transition between nontraditional and special, and standard of care, or what is considered traditional is fluid.

To maintain focus, this chapter will discuss care delivered to two location types, in-home and post-disaster situations, and to special populations including veterans, children and adolescents, and geriatric individuals. The information provided is not meant to be exhaustive, and the objectives of this chapter are to (1) provide tips for implementing nontraditional services, (2) demonstrate the flexibility of TMH as an access to care solution, and (3) provide examples of success outside previously established norms. Practice guidelines including safety protocols, efficacy research, and other administrative considerations will be discussed.

Implementing TMH Care in Nontraditional Locations

An argument against expanding into nontraditional settings may be that there is limited control over the environment and encounter compared to traditional in-person sessions. However, this argument does not represent the real amount of control a provider or other clinical and administrative staff have both in session and during the significant time periods between sessions when there is limited or no patient-provider contact. It also doesn't recognize that for some patients a TMH encounter using a nontraditional originating site may be the only direct connection available with a provider.

In-Home Telemental Health

In the United States, prior to the industrialization of health care, the sick was cared for as part of domestic life, and families who could afford it would hire doctors or nurses to provide care in the home, and hospitals were a place of last resort for those with no alternatives (Buhler-Wilkerson, 2007). The industrialization of health care, as noted by the standardization of work and clinical location with a system of managerial oversight, was necessary as medicine has become more complex and specialized and does have benefits in the form of effectiveness and efficiency (Rastegar, 2004). However, this industrialization has at times come at a cost to physician autonomy, continuity of care, and patient input into when and where care is received. This has become especially pronounced in rural and otherwise underserved areas that may not have access to the institutions and clinics that have become the standard locations for care.

TMH, in effect, affords patients and providers the opportunity to return to more traditional care delivery models or at least a hybrid approach between industrialization and tradition. The standards of evidence-based services and consumer protections by managerial oversight can now be coupled with more patient-centered services that renew focus on patient-physician communication and personal connection through the delivery of services when and where they are most needed and effective. For example, Comer et al. (2017) found evidence that in-home TMH treatments may be more efficacious for certain behavior problems due to the immediacy of skills being practiced directly in the setting where problems exist.

Clinical Outcomes and Feasibility Prior to the recent expansion of in-home TMH as a mitigation response to the COVID-19 pandemic (Mishkind et al., 2021), feasibility pilots and outcomes trials demonstrated that in-home TMH could be a valuable addition to mental health-care services. Fletcher et al. (2018) review of ten in-home TMH studies largely found no significant differences in treatment dropout between in-home TMH and in-person services. Patient satisfaction with in-home TMH was high among the studies reporting outcomes as was therapeutic alliance. Three studies reported provider satisfaction outcomes, with mixed results. For those willing to use in-home TMH, satisfaction was relatively high. However, at least one study reported issues recruiting providers to participate in a study comparing in-home TMH to in-person services suggesting a gap between patient and provider perspectives. While it had been argued that few differences existed clinically between clinic-to-clinic and home-based services, it took the COVID-19 pandemic to demonstrate that providing TMH services direct to a patient's home as part of a systematic program could be done safely and effectively (Abraham et al., 2021).

Case Study

The In-Home TMH Program provides care to a high percentage of residents with geographic and mobility concerns. The providers delivering care all reside in an urban location that often experiences adverse weather conditions especially during the winter months. The clinic overall was able to maintain relatively low no-show

and cancelation rates. However, clinic leadership noticed that providers often had to cancel sessions due to their own difficulty getting into the main clinic office. The clinic decided to offer in-home TMH care from provider homes into patient homes and found that cancelation rates dropped from 30% to less than 15%. Most significant was the almost complete elimination of provider cancelations. The program also discovered higher than normal rates of satisfaction with the services to include comments about increased convenience and comfort without drops in provider-patient rapport.

Post-disaster Settings

Telemental health care can be an effective solution to provide care post-disaster, natural or man-made, given its inherent flexibilities including the use of Internet-based services and mobile platforms such as smartphones and tablets. Although being a rural area is not the sole definition of a post-disaster setting, some of the same potential barriers including limited hardware and bandwidth exist. Disasters can exacerbate already known mental health concerns, and mental health services are a core concern for public health complex emergencies (Mollica et al., 2004). A review of 24 papers evaluated the impact of quarantine/self-isolation and found that most studies reported negative psychological effects including post-traumatic stress symptoms, confusion, anger, and other concerns associated with frustration, boredom, fear, and loss of financial and other resources (Brooks et al., 2020). Mitigation responses to COVID-19, which relied heavily on in-home TMH (Abraham et al., 2021), is an example for how flexibility of response was used to respond to a global pandemic. It is also important to note that disasters often occur in the developing world, which has low rates of available specialty medical services.

Augusterfer and colleagues have conducted three reviews on the use of TMH in post-disaster settings (Augusterfer et al., 2015, 2018, 2020). The authors' 2015 review found evidence, although limited, that TMH can enhance the delivery of mental health care in post-disaster settings. Some case examples they reviewed include a remote area of Pakistan, Haiti following an earthquake, and a Syrian refugee camp in Turkey. One example discusses how a fisherman from St. Petersburg, Florida, used his on-board ham radio to connect the US Navy hospital ship, *USNS Comfort*, with doctors in Haiti. An updated review in 2018 includes focus on use of a primary care-mental health specialist and TMH collaboration model. This model utilizes local primary care providers who then connect and collaborate with distant mental health providers, presumably outside of the disaster area. A benefit of this model is that the local provider understands the language and local culture and is well positioned to establish a trusting relationship. The distant mental health provider can then serve as a partner and advisor. Other recommendations for delivering services to post-disaster settings are similar to those for delivering care in remote or other underserved areas to include gaining permission and/or buy-in to work from local entities, having clear protocols and agreements regarding the scope of the

work, working with local partners to gain understanding of specific needs, understanding the local technology infrastructure, providing for the safety and well-being of disaster relief providers, and partnering with trusted organizations.

The combination of nontraditional space and local need is addressed in a project by Mishkind et al. (2012) that utilized a 20-foot shipping container, outfitted with three offices and telehealth equipment, to provide TMH services between American Samoa and Hawaii. The outfitted shipping container, known as a relocatable telehealth center (RTeC), was placed in American Samoa to support a redeploying US Army Reserve Infantry unit and in response to the September 2009 tsunami that hit the island. The authors conducted an initial evaluation with 28 patients to assess patient satisfaction with and usability perceptions of an outfitted container to receive TMH care. The overall results suggest that the container was safe, private, and perceived as an appropriate TMH setting. This includes favorable ratings of the technology and physical comfort and a high level of agreement that the setting was an acceptable place to receive care.

Case Study

A major hurricane hit the southeast coast of the United States, destroying homes and other buildings, knocking out power and damaging roads, and injuring residents who were unable to receive in-person care. Utilizing broadband and cellular networks, disaster response teams were able to connect with residents and provide post-incident stress debriefings as needed.

Considerations for Care in Nontraditional Locations

Several resources are available that provide guidance for developing TMH services and establishing appropriate guidelines (Shore et al., 2018; Mishkind, 2019); this section provides a few highlights for nontraditional locations.

Safety Considerations   Telemental health session standards occur within the context of the environment mutually agreed upon between patient and clinician. This includes locations with well-established safety protocols, as well as those requiring additional competence to manage. There is direct evidence that safety concerns are not only managed by use of established procedures but may also provide the necessary link to someone in crisis. Gros et al. (2011) provided one of the first reports of use of in-home TMH services to identify suicidality in a patient and intervene with a safety plan using a series of enhanced communications. The authors suggest that the telehealth equipment provided three benefits during the emergency: (1) a secondary route of communication for the provider, allowing for external safety planning to occur simultaneously, (2) constant visual observation for ongoing assessment of distress, and (3) observation of other potentially self-harming behaviors. The use of in-home TMH in this situation was instrumental to, rather than inhibiting of, patient safety management and demonstrated that care delivered to clinically unsupervised locations can be safely managed. Although focused on in-home TMH, this

report provides generalized evidence for management of safety concerns in nontraditional locations.

Identifying Needs   Guidelines suggest that a needs assessment should be conducted prior to initiating TMH services as programs tend to fail when planners do not properly understand the problem that TMH is attempting to solve (Shore et al., 2018; Mishkind, 2019). The use of nontraditional locations in some situations may indicate the need to develop resources quickly and not provide time for the implementation of a full assessment (Mishkind et al., 2021). Whether a program is being developed quickly for shorter-term needs (e.g., post-disaster situation) or for more systematic programs (e.g., in-home TMH), first understand the intent of the service and what you want to offer, and then evaluate the following at a minimum: personnel resources, technology needs, operational space, and regulations.

Training   Provider, and other staff, and potentially patient training and education should be a focal point when implementing any new service. This is especially true in nontraditional locations where operating procedures and environments may differ from standard practice. Limiting training to providers may hinder the development of a new service program, and it is recommended to evaluate the training needs of all staff. One study evaluated a training protocol for a deploying army unit tasked to expand telemental health services in Afghanistan and suggested five training best practices before working in a nontraditional location (Mishkind et al., 2013). The overarching theme is that interactive training in real-life scenarios and implementing real-time standard operating processes is invaluable. The practices, updated for more current implementation needs, are as follows: (1) Use established didactic training materials for topics such as TMH evidence base. (2) Focus on live, interactive sessions to practice troubleshooting, rapport-building techniques, and implementing standard operating procedures in the new environment. (3) Use known lessons learned to develop real-to-life training scenarios. (4) Incorporate training into daily activities such as holding meetings via videoconferencing. And (5) tailor training based on roles while ensuring that all staff have the same base competencies and knowledge sets.

Other Considerations   Operating in nontraditional locations requires collaboration between clinical and administrative teams. Some additional considerations include focusing on immediate tasks that make sense without overcomplicating solutions. Utilize existing protocols and modify when necessary and remember that critical clinical and professional standards don't change but do adapt to situations. Maintain communication pathways and use a variety of communication technologies to ensure continuity of operations. Potentially most important is to monitor employee morale as some work in nontraditional locations may be isolating or otherwise taxing. Table 6.1 provides key considerations for implementing in-home TMH and when needed for disaster situations.

Table 6.1 Key considerations for in-home TMH and disaster situations

Overview	Focus on immediate tasks to complete and don't overcomplicate solutions
Protocols	Modify existing clinical protocols Maintain clinical standards
Administrative	Update clinical workflows, licensure, and regulatory issues Implement communication pathways between clinical and administrative teams Update clinical processes for billing, scheduling, front desk support, medication refill requests, and prior authorizations
Technical	Use HIPAA-compliant, or other secure, solutions as possible Ensure clinical needs can be met including access to EHR Test bandwidth for clinical care Develop communication platforms for clinical consultation Provide equipment and home setup resources as necessary Develop team communication platforms, preferably web based
Personnel	Evaluate home office as a clinical setting Be mindful of impact of clinical isolation on morale Use technology and flexibility to deliver services that meet patient and provider needs such as "off hour" services Be mindful of impact of expanded operations on morale
Patient requirements	Evaluate understanding of virtual care and experience with technology Provide technical assistance as needed including test calls

Implementing TMH Care for Special Populations

The recent expansion of where and how TMH care is delivered has expanded access to care options for some special populations. Although this expansion is beneficial, there remains specific consideration when engaging TMH care for these populations especially when care is originated in nontraditional locations. A single chapter does not afford the space to cover all populations or all considerations and, therefore, we will focus on some examples with veterans, children and adolescents, and individuals of geriatric age.

Veteran Populations

The Veterans Health Administration was one of the first large health systems to pilot the delivery of TMH into veterans' home (Shore et al., 2014) and now uses it across the system (Rosen et al., 2021). Fletcher et al. (2018) conducted a review of in-home TMH studies published between 2013 and 2018 to evaluate clinical outcomes, treatment adherence, patient and provider satisfaction, cost-effectiveness, and clinical considerations when delivering synchronous TMH care directly into patient homes. The majority of the studies included US veterans or active duty members; nine focused on psychotherapy, and outcomes were reported for a range of mental health concerns including five for depression, four for post-traumatic stress disorder

(PTSD), and one each for substance use and obsessive-compulsive disorder (OCD). All ten studies evaluated by Fletcher et al. (2018) reported significant outcome improvements. The two open trials showed large effect sizes for change in OCD and PTSD symptoms following in-home TMH. Five of the studies conducted noninferiority analyses designed to evaluate whether in-home TMH is no worse than traditional in-person treatment. Each of the noninferiority trials focused on prolonged exposure for PTSD or behavioral activation for depression in veteran and military populations, with four studies showing noninferiority of in-home TMH compared to in-person treatment. Two studies showed evidence suggesting that the use of in-home TMH resulted in longer-term treatment effects for depression symptoms.

Morland and colleagues (2020) examined clinical outcomes for prolonged exposure (PE) therapy for PTSD delivered by in-home TMH, clinic-based TMH, and by in-home in person. Study participants were 175 US veterans randomly assigned to one of the three conditions. Results suggest that there were no significant differences across the three conditions for the primary and secondary clinical outcomes, including self-reported and clinician-assessed PTSD symptom change. Furthermore, clinical improvements were largely maintained from post-treatment to 6-month follow-up. They also found that US veterans enrolled with in-home in-person services had significantly lower dropout rates than those receiving either traditional clinic-based TMH or in-home TMH. While not significantly different, those receiving traditional clinic-based services had the highest dropout rates suggesting that receiving care in one's home, regardless of modality, increases access to and engagement with care. Furthermore, as in-home in person is likely to be the most expensive option, in-home TMH has the potential to be the most efficient overall.

Boykin et al. (2019) conducted a chart review of 74 US veterans receiving at least one session of cognitive processing therapy (CPT) or PE for PTSD delivered via in-home TMH, or a hybrid approach of in-home TMH and in-person care. The majority participated in the hybrid approach, with most sessions delivered via in-home TMH. Overall attrition rates were comparable to in-person completion rates, and patients utilizing in-person TMH completed more sessions on average before dropping out. This indicates that in-person TMH improves access by reaching patients who may not otherwise seek in-person care. Also, the authors note that their findings support the emphasis on clinical expertise and competency over patient criteria when determining who may benefit from in-home TMH. Whealin et al. (2017) provide a nice summary of the feasibility of in-home TMH. They compared perceptions of 47 US veterans from pre-in-home TMH services to post-in-home TMH services and found that the most common reasons for engaging in in-home TMH were convenience, increased privacy, less stress, and timely access to care. Mishkind et al. (2021) conducted an assessment of how two outpatient clinics rapidly converted to in-home TMH in response to COVID-19 mitigation strategies, with one of the clinics focused on care delivered to veterans, active duty service members, and their families. The assessment showed that rapid virtualization to in-home TMH services can occur effectively and that wider acceptance of care delivered virtually to patient homes is likely in the foreseeable future as health-care providers and systems reconceptualize service delivery.

Children and Adolescents

Mental health problems among children and adolescents are common, with at least one in five suffering from a disorder and others at risk (Patel et al., 2007). The ability to provide patient-centered services to children and adolescents is incredibly important to alleviate mental health concerns and to prevent more chronic disorders later in life. Synchronous services have been shown to increase access, have clinical impact, be acceptable to participants, and are well suited for youth who are accustomed to the technology and feeling of control it allows (Nelson & Sharp, 2016). Particularly youth feel less self-consciousness, less worried about confidentiality as the provider is outside of the local community, and freer with the personal space it affords.

Multiple studies/reviews have demonstrated the feasibility of implementing TMH with young people across diverse, including nontraditional, settings (e.g., rural, pediatrics) (Nelson & Sharp, 2016). The most described settings are primary care clinics, community mental health centers, and schools, but others include correctional settings, residential treatment facilities, critical access hospitals, group homes, Area Health Education Centers, colleges, sites serving foster care, military bases, and day care settings (Myers et al. 2015; Nelson & Patton, 2016). Unsupervised settings including patient homes bring both new benefits and risks (Nelson & Sharp, 2016), and recent studies have focused on inpatient psychiatry and emergency departments (Reliford & Adebanjo, 2019). Carpenter and colleagues conducted a pilot of in-home cognitive behavioral therapy (CBT) TMH for anxious youth ages 7–14 years. The study provided remote, family-based CBT directly into family homes using video-chat technology. Results are suggestive of promising feasibility for and acceptability of the service. Although the pilot was purposefully underpowered to evaluate clinical efficacy, there was some evidence suggesting positive clinical outcomes. Other TMH options like websites, chat groups, apps, texts, and wearable sensors are being used (Odgers & Jensen, 2020). These options are beneficial and require extra attention by providers, patients, and families. The process of integrating technology into traditional health care or adapting that care to the technology is especially noteworthy when using technologies that are ubiquitous to children and adolescents. Social media is integral to adolescents and young adults and therefore part of care, so the clinician needs to systematically screen technology use and for what purpose(s) (e.g., entertainment, health care, BH), as well as exposure to risks (e.g., self-disclosure, cyberbullying, privacy) (Hilty et al., 2021). Integrating these technologies into care can create a new, previously impossible, sense of continuity, connection, and ease of communication. However, increased focus must be given to ensure therapeutic rapport, avoid miscommunications and misunderstandings, and prevent problems with privacy and boundaries (e.g., no after-hours texting, not using mobile phone for professional care).

Geriatric Populations

The number of older adults with mental illness is also projected to rise commensurately with population increases (Jeste et al., 1999), and older adults are particularly at risk for other health problems and have reduced access to appropriate care and poorer self-assessment of their health; rural elderly are further disadvantaged relative to their urban counterparts. Furthermore, families/caregivers are profoundly affected because over 75% of older adults are cared for at home (Schulz & Martire, 2004) and require in-home TMH options. A review of technology-based interventions for medical and BH disorders showed that approximately two-thirds of open or randomized controlled trials reduce caregiver stress and improve quality of life (Hilty et al., 2018).

Telemental health outcomes for geriatric patients are comparable to in-person care and quite in parallel with outcomes for patients of all ages (Gentry et al., 2019). TMH is feasible and well accepted in the areas of inpatient and nursing home consultation, cognitive testing, dementia diagnosis and treatment, depression in integrated and collaborative care models, and psychotherapy. There are many descriptive, nonrandomized nursing home studies with positive outcomes, usually for depression or dementia, and these show that consultant time is efficiently used (Gentry et al., 2019). Table 6.2 provides some key considerations for implementation with special populations.

Case Study
A 72-year-old Mexican American man was referred for TMH evaluation by his primary care provider (PCP), a Spanish-speaking Caucasian male in his 30s, for "resistant depression," as he reported low mood, tearfulness, and a host of somatic complaints. He also had diabetes, hypertension, and a few miscellaneous physical complaints. The patient had missed some in-person appointments without a clear explanation. It was decided that the patient would remain at home and participate in the 60-minute evaluation via in-home TMH. The psychiatrist conducting the evaluation was a 35-year-old Spanish-speaking Mexican American female. The patient spoke of many medications by color, stating that they "all helped very much," but he did not know which one was for depression. When asked about adherence with the medication, he complimented his provider, but then noted with trepidation, "It seems like a lot of medications to be taking." The PCP joined in the last 10 minutes with an interpreter to ask questions and discuss the treatment plan. The medication was restarted – or continued but to be taken every day – and an open dialogue was encouraged.

Analysis
1. There are patient-centered care principles, in finding a place, time, and context in which this gentleman could feel comfortable – related to ethnic, language, and culture – and access care.

Table 6.2 Key considerations for implementation with special populations

Overview	Ensure that all staff have required skill sets to work with the specific population
	Understanding cultural nuances within the population is critical
Protocols	Modify existing clinical protocols
	Maintain clinical standards
Clinical	Clinical experience and competence are as important as patient criteria
	Use of evidence-based care within cultural context is best practice
	Establish who is the patient (e.g., patient or family) and encourage family involvement, as appropriate
	Evaluate for developmental status, family involvement, patient-site modifications
Administrative	Maintain collaboration between local and distant teams
	Ensure technical literacy

2. Telemedicine leveraged finite expertise – psychiatrist time, skill, and contextual understanding of the primary care setting as part of the larger subspecialty area of psychosomatic medicine – to a distant area with limited access.
3. The focus on the patient and the provider – as the target for skill, attitude, and knowledge development – is not to be underestimated.

Conclusions

The landscape of telemental health continues to change as technology and regulations evolve and needs change forcing health-care providers and systems to reconceptualize how, when, and where services are provided. There will always be a need for efficacy research when delivering services to new locations and for different populations. However, the concept of "nontraditional" and "special" is likely to change, and what was once new will be the new normal. For example, in-home TMH has rapidly gained acceptance along with providers delivering services from their own homes. It isn't too difficult to imagine a continued shift away from traditional clinical settings and into broader acceptance of TMH originating sites such as individual offices and hotels. As TMH services continue to expand into evolving locations, it will be important for us to not only take the lessons learned today so that we can continue to improve access and quality, but to also remain flexible in our thinking and approaches to continue benefiting patients though efficacious and patient-centered services.

CE/CME Questions

1. Which of the following is not a consideration when implementing TMH in a nontraditional location?

(a) Focus on immediate tasks without overcomplicating solutions
(b) Utilize and modify existing protocols when necessary
(c) Maintain communication pathways and use a variety of communication systems
(d) Monitor employee morale
(e) All of the above are considerations

2. Traditional TMH locations may be best described as

   (a) Disaster locations
   (b) In-home originating sites
   (c) Supervised clinical site within larger institutional settings
   (d) Any clinically unsupervised site
   (e) All of the above are traditional locations

3. Which of the following is not a consideration when implementing TMH with special populations?

   (a) All populations view TMH the same
   (b) Understand cultural nuances with the specific population
   (c) Clinical experience and competence are as important as patient criteria
   (d) Ensuring technical literacy
   (e) Use of evidence-based care within the cultural context

4. A needs assessment for nontraditional locations should always be the same as one for more established programs.

   (a) True
   (b) False, needs assessments are not needed for nontraditional locations
   (c) False, a needs assessment that aligns with the time and resources available should be conducted
   (d) False, needs assessments are not needed for any type of program
   (e) Both B and D

5. TMH is not appropriate for special populations.

   (a) True
   (b) False, TMH for special populations is acceptable only when other options are not available
   (c) False, only asynchronous care should be used
   (d) False, studies demonstrate that TMH is efficacious across populations
   (e) Both B and C

Answers

1. (e)
2. (c)

3. (a)
4. (c)
5. (d)

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Chapter 7
Approaches to Virtual Care in Underserved Communities and Settings: Bridging the Behavioral Health-Care Gap

Donald M. Hilty, Shalini Ahuja, John A. Naslund, and Allison Crawford

Introduction

A wide range of technologies can support clinical informatics to access, disseminate, and analyze information (Hilty et al., 2020d). Most of these changes are geared to facilitate patient-centered care (PCC), which is defined as high-quality, affordable, and timely health care by the Institute of Medicine (IOM) (IOM, 2001). Increasingly, this must be balanced with ensuring provider well-being and reducing provider workload burden, fatigue, and burnout (Bodenheimer & Sinsky, 2014; Shanafelt et al., 2016). Health-care systems and governmental agencies across the world are emphasizing quality and evidence-based care and are trying to set individual and population outcomes that can be evaluated through behavioral health (BH) indicators (Ahuja et al., 2020). This requires services that are acceptable to patients, with measurable and clinically meaningful outcomes and scalable

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approaches. For feasible, sustainable, and effective services, implementation science and translational approaches are suggested, with input from all stakeholders in health-care settings (Proctor et al., 2010; Gargon et al., 2019). In our immediate context, care is needed during the COVID pandemic, so that the innovation curve does not reinforce the social gradient of health and worsen health-care inequities (Crawford & Serhal, 2020). The pandemic accelerated the adoption of technology and remote services across nearly all health-care sectors and in particular within delivery of behavioral health care (Kalin et al., 2020; Haque, 2021; Stein et al., 2022). As we move beyond the rapid expansion seen during the pandemic, to a more integrated system of care, efforts are needed to achieve the promise of this technological infrastructure for reaching underserved population groups by improving access and quality of care for all, including diverse racial and ethnic minority groups, across the age spectrum, individuals in rural and remote settings, and those living in poverty, while simultaneously mitigating against the risk of widening existing inequities, particularly for patients who may lack adequate access to digital devices or the necessary network coverage to benefit from remotely delivered telehealth services (Lyles et al., 2021; Uscher-Pines et al., 2021).

Technology is a key part of the World Health Organization (WHO) global health strategy, with the expectation of scalable BH interventions, particularly for people in communities affected by adversity (World Health Organization, 2017, 2020). The Health Information Technology for Economic and Clinical Health (HITECH) Act brought a wave of electronic health records (EHRs), and with this, a meaningful use of criteria standards in the United States. The EHR or computer-based patient record (CPR) is credited with improving clinical practice through the ease of access and retrieval of information (e.g., clinical guidelines), decision support systems with reminders and alerts, and data collection for outcome measurement. CPR notes are more comprehensively documented and have more appropriate clinical decisions compared to handwritten notes (Luo et al., 2006). This evolution has brought improvements, but has also created inefficiencies and challenges, with EHRs linked to high rates of burnout among health professionals (Shanafelt et al., 2016). This may be due to the impacts of technology and related change not yet having been fully assessed, at least in behavioral health (BH) or psychiatry (Luo et al., 2006; Hilty et al., 2019c).

System management (e.g., health information system, telehealth, information technology), facilities and clinics (e.g., labs, home health), and delivery structures (e.g., integrated networks) play a key role in health care. Information technology falls into categories of clinical information systems, administrative information, and clinical decision support (CDS). CDS is supported by artificial intelligence to assist patients and providers with decision-making in time and across home, in life, in health care, and across populations (Luxton, 2016). Advances in sensing technologies and affective computing have enabled machines to analyze data for patterns in time and longitudinally and help users detect, assess, and respond to emotional states (Hilty et al., 2020a). Use of machine learning (ML) and pattern recognition offers promise to improve public and population health surveillance, while

balancing potential pitfalls and ethical challenges posed by relying on algorithms, including recognizing biases that may exist in the generation and interpretation of the models (Jacobson et al., 2020).

Many assume that good providers will add video, telephone, mobile health, and other technologies to in-person care and combine these options with ease (Hilty et al., 2020d). However, provider or learner-centered approaches that parallel patient-centered ones are needed to ensure quality care so technologies can complement EHR, CDS, and information system processes. Furthermore, organizational/institutional competencies have been suggested for synchronous and asynchronous technology implementation (Hilty et al., 2019c, 2020d) as a way to align work by training directors, department administrators, and health system leaders. Providers/faculty need to embrace technology as part of health-care reform (WHO, 2017; National Academy of Sciences, 2020), so students in health disciplines and other team members can professionally deliver care within a positive e-culture for clinics and health systems (Mostaghimi et al., 2017; Hilty et al., 2019b, 2020d). Competencies have been published for video (2015, 2018) (Hilty et al., 2015b, 2018b), social media (2018) (Hilty et al., 2018d; Zalpuri et al., 2018), mobile health (2019, 2020) (Hilty et al., 2019a, 2020b), wearable sensors (2020) (Hilty et al., 2020a), and other asynchronous technologies (2020) (Hilty et al., 2020d) and can support these education and training needs. There is need, though, for regular review and updating of these different competencies as the field continues to advance, and new forms of technology emerge or new guidelines are developed.

This chapter introduces topics around data collection and analysis, EHRs, information technologies, big data, and personalized health interventions with emphasis on the application of these technologies to reaching underserved communities and bridging gaps in quality and access to behavioral health services. It also provides an overview of new developments in ecological momentary assessment (EMA), digital phenotyping, and social media and tracking (MISST), all emerging technologies offering increasingly promising opportunities to augment the quality of care. It addresses telepsychiatry or telebehavioral health, new options for patient care via mobile health, the role of social media in practice, and how to help patients use the Internet and other remote technologies, with attention on supporting patients who may face digital literacy challenges or limited prior exposure to use of digital technologies – all developments which impact the digital therapeutic relationship and can support efforts to achieve digital health equity. Specifically, this chapter will help the reader:

1. Set goals toward quality outcomes, be patient centered using technology, and be efficient in adapting to system technological components and processes.
2. Grasp how systems are designed and tailored to collect data, inform decisions, and evaluate outcomes.
3. Set priorities in line with provider, team, system, and institutional/organizational competencies for care via technology.

Setting Goals to Achieve Value and Quality in Practice and the Role of Technology

Innovation with technology is only as good as the evidence base that supports it and the evidence-based approaches used by providers to provide care, as well as the process/quality improvement and evaluation of outcomes by a health-care system. Technology can facilitate efforts to efficiently collect data to show that quality care was provided. However, to date, most of the technology deployed to assess quality has focused on process metrics. Many forces besides payment (e.g., population health, economic cost analyses, the linkage between health and other social progress) are propelling the shift to outcome metrics across the world (WHO, 2017, 2020).

Advances in the collection and analysis of big data in a range of omics fields hold promise to advance BH practice and research. Much of this work aims toward achieving personalized BH interventions, which started in high-income countries and are taking root around the globe (Aung et al., 2017). At a minimum, treatment of mental illness relies on subjective measurement for diagnosis, treatment/intervention, and long-term monitoring. At a maximum, sensors and wearables offer new options for patient care, provider decision-making, and population health – via mobile phones and other smart devices (Hilty et al., 2020a). This technology more precisely assesses and captures human behavior through continuous monitoring and can enable personalized digital interventions aligned with clinical outcomes. These options can reduce geographical, cost, and temporal barriers, with privacy and professionalism risks that are reasonable (Naslund et al., 2017; Torous & Roberts, 2017).

Health-care clinics and hospitals can help by identifying BH domains or targets to assess (Ahuja et al., 2019). Standard quality reporting metrics in the United States come from the Center for Medicare & Medicaid Services (CMS) and National Quality Forum (i.e., G-PRO), as well as the International Consortium for Health Outcomes Measurement (ICHOM), which outlines international standards of health outcome assessment in BH care (Obbarius et al., 2017). The Mental Health Atlas of 2017 shows discrepancies in the availability of data on BH, with almost a quarter of all countries in the African region reporting "no regular collection of BH data in the last two years" (WHO Atlas Report, 2017). To improve monitoring and transparency, in 2014, the Organisation for Economic Co-operation and Development recommended a list of BH indicators, including those measuring readmissions, case management and mortality with severe mental disorders, anticholinergic and antidepressant drugs with elderly patients, continuity of care and timeliness of ambulatory follow-up after hospitalization, use of antidepressant medication and visits during the acute phase of treatment, and racial and ethnic disparities and BH follow-up rates (Organisation of Economic Corporation and Development, 2014).

In low- and middle-income countries (LMICs), the lack of infrastructure and established processes for collecting and analyzing BH data from primary care represents a barrier to integrating mental health services and limits the scale-up of evidence-based community mental health programs (Cohen et al., 2011; Ahuja et al., 2018). This information gap is approached by formulation of contextualized

BH indicators such as a minimum set of frequently endorsed indicators that were co-designed using a Delphi study across five low- and middle-income countries (LMICs). These indicators measure mental health coverage and performance domains such as needs, utilization, quality, and financial risk protection (Jordans et al., 2019). While evaluating the use of these proposed indicators in LMICs, interviewees perceived that new and simpler BH forms led to the better collection of data, monitoring, and documentation (Jordans et al., 2019; Ahuja et al., 2020). Iterative development with input helps with the prioritization, customization, and coordination for health and governmental systems (Ahuja et al., 2019).

A broad approach to important clinical and administrative priorities begins with needs assessment (Fig. 7.1). Processes include onboarding, training, monitoring needs of participants, and building a positive culture. Specific outcomes include no-show rates, percentage of treatments completed over time, and proportion of first-time patients presenting for follow-up visits within recommended time frames – for in-person and technologically based care. Stable, simple, and standard measures can directly shape quality evaluation and clinical decision-making from input by patients and providers on selection and alignment with regulatory and payor metrics and can avoid complexity and burdening care participants. The forms and results should appear in provider notes to inform decision-making – this means EHR compatibility is key. The level of knowledge, competence, confidence, and motivation of
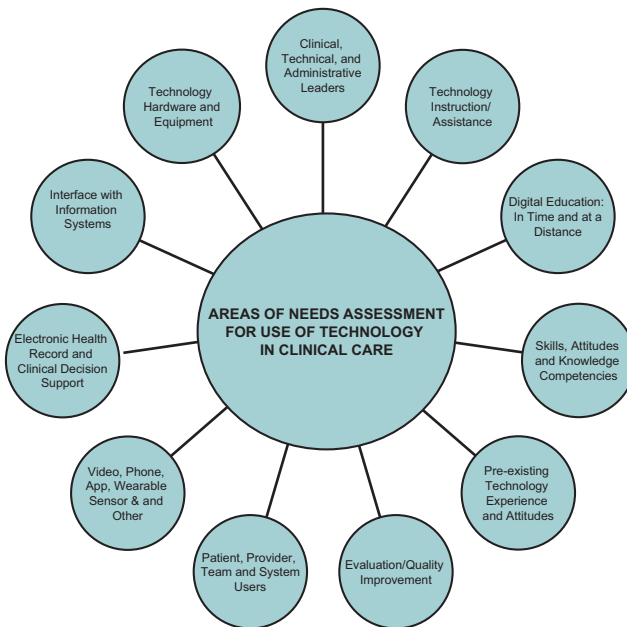

Fig. 7.1 Areas of needs assessment for use of technology in clinical care

health workers affects the likelihood of implementation and sustainability (Ahuja et al., 2020).

Use of technology for clinical care requires a careful assessment of the technology, its feasibility and functionality, and its fit with a clinically relevant purpose/goal (e.g., need to learn, treatment plan). BH-related, technology-based services exist on a continuum, as outlined in a figure in Chap. 1: Internet information; self-help/support groups and psychoeducation classes; self-assessment and care (e.g., depression); informal online consultation with a provider; formal online evaluation with a questionnaire, completion of an app-based mood questionnaire, or asynchronous but structured clinical interview; to continuous monitoring fed to providers for decisions; video consultation or management; and combinations of the above technologies or with in-person services (i.e., hybrid care) (Hilty et al., 2015a, 2020d).

Components and Processes of Systems Used by Providers

Overview

Many clinicians, teachers, and administrators struggle to use new technologies, and they may not see asynchronous or store-and-forward technologies like mobile health and social media as a part of care (Hilty et al., 2020d). While in-person and synchronous video care have many similarities, the skills and approaches to using asynchronous technologies vary widely (Chan et al., 2018; Hilty et al. 2020d). Asynchronous communication now typically also includes e-consultation, apps, sensors, wearables, and sometimes even social media. Examples of these technologies compare and contrast goals and skills in terms of the users: patients, primary care teams, and specialists. To keep up with society's use of technology and to ensure quality care, clinicians need skills (i.e., competencies), knowledge, and attitudes for synchronous and asynchronous technologies.

Evaluation of clinical practice has become increasingly important in *both* the provision of a service *and* demonstration of quality care and improved patient health outcomes – including the use of these technologies. Few studies have evaluated the efficacy and effectiveness of asynchronous technologies in behavioral health or compared them directly to synchronous and in-person care. Evaluation helps to integrate asynchronous methods into team-based, service delivery model and system workflow. Some technologies require basic hardware, software, and integration within the EHR that promote substantial quality and process improvement supports. E-consultation (i.e., e-consult or eConsult) generally involves a PCP referral for a consultation related to questions about patient care that are outside of their expertise (Liddy et al., 2016; Archibald et al., 2018). E-consultation resulted in reduced wait times for patients, lower costs, fewer in-person visits, and high satisfaction by users.

Patient Side Technologies

Kiosks and Tablets Not all providers and patients are interested in or are able to use an EHR patient portal due to inexperience with technology or limited access to high-speed Internet (a common challenge in underserved communities, particularly in rural or low-resource areas, as well as in many regions in LMICs). A popular alternative is to have kiosks within the reception area of the practice where patients can easily complete targeted patient-reported outcomes using a touch screen. These have been used for the diagnosis and treatment of depression and alcohol use disorders in primary care clinics in rural and urban settings in Colombia (Torrey et al., 2020). Challenges with the kiosk approach include the higher upfront equipment costs for small clinics or health systems and the need for ongoing maintenance and technical support.

Patient Portals A way to assess outcomes is a patient portal, which is a secure electronic website that gives patients access to parts of their EHR within a provider's EHR. One can administer questionnaires and surveys to patients through these portals, which streamlines assessment, treatment, and integration of patient-reported outcomes.

Technologies Used by Patients and Clinicians

E-mail There appear to be several advantages to e-mail interviewing, particularly with young populations, as it is cost-effective and offers flexibility (Cleary & Walter, 2011). It also provides a transcript for analysis and offers time to reflect on questions, compose answers, and respond at leisure in the comfort of familiar home surroundings. Challenges include the verification of self-report, potentially compromised rapport due to lack of visual and auditory cues, and privacy and issues around quality control in studies (e.g., participants' comprehension levels).

Text Text-based, chat, and social media communication pose opportunities and challenges in terms of content and process issues (Hilty et al., 2020c). Mobile health interventions are used in many ways (e.g., reminders, 14%; information, 17%; supportive messages, 42%; self-monitoring procedures, 42%) (Berrouiguet et al., 2016). As keyboard characters have limitations for text, emoticons have been used since 1982 to enrich communication and comprehension (Aldunate & González-Ibáñez, 2017), though they are not always used in a standard way, particularly across cultures (Hilty et al., 2020c).

Apps A plethora of apps are available for use – only some are evidence based – and it is better to purposely use one app validated for depression rather than three. A review of apps found scant evidence-based treatment content, few comprehensive

anxiety self-management apps, and few advanced features that leverage the broader functionalities of smartphone capabilities (e.g., sensors, ecological momentary assessments) (Bry et al., 2018; Chan et al., 2018). The child, adolescent, and family literature show significant research on apps and text interventions related to appointment reminders, treatment adherence, well-being, suicide, and other clinically related topics (Pisani et al., 2018).

Social Media Social media is very attractive across the age spectrum as it is portable and offers ever-changing, immersive, diverse, and individualized social engagement. There are social networks (e.g., Facebook, Twitter, and LinkedIn), media sharing networks (e.g., Instagram, Snapchat, YouTube), discussion forums (e.g., Reddit, Quora, Digg), and bookmarking and content curation networks (e.g., Pinterest, Flipboard). The positive and negative impacts of SM related to clinical disorders (mood, anxiety), clinical problems (cyberbullying, suicide, sexting), well-being, and health behavior (O'Keeffe, 2016; Domahidi, 2018).

Sensors and Wearables Wearable sensors are usually wireless, miniature circuits embedded in patches or bandages, wristbands, rings, or shirts (e.g., smartwatches, heart rate monitors, and smart glasses) (L'Hommedieu et al., 2019). These enable the collection of behavioral data, detection, symptom monitoring, accessing and sharing of data, and providing interventions (Hilty et al., 2020a). This transforms care by moving from cross-sectional, manual transfer of data to an integrated, longitudinal, minimally intrusive and interactive sharing of data that is based on the ecology of a person or patient in their natural settings, using EMA methods (Luxton, 2016).

ATP This refers to the "store-and-forward" technique, whereby a patient or BH clinician collects psychiatric history and other medical information by video and then sends it to a psychiatrist for diagnostic and treatment recommendations. Store-and-forward technologies have been used for dermatology, radiology, and many other specialties. The specialist interprets an image or a video interview for BH while incorporating clinical history from the referring physician to collate a plan that the PCP will receive and implement (Yellowlees et al., 2018). ATP has outcomes comparable to video consultation and can enable collaborative and integrated care (Yellowlees et al., 2018; Hilty et al., 2020d).

Technologies Used by/Between Clinicians

Dictation Dictation with voice recognition is increasingly common and reduces administrative support costs. While the move to dictation is a significant adjustment for some providers, for the systems the costs pay for themselves compared to alternatives (i.e., computer equipment, time, support staff). There are challenges of inte-

gration with legacy systems, billing systems, and practice management systems. An undeveloped area appears to be using video and audio recordings more purposely in workflow (e.g., replacing a specialist text e-consultation with a video), since it is more engaging, memorable, synthetic, and user-friendly (Hilty et al., 2020c, d).

Electronic Health Records   EHRs may be a good example for considering barriers that may interfere with the successful implementation of a technology. Barriers exist at the levels of technology, the health provider/user, and the patient levels. Design elements of the EHR may pose a barrier; menu-based user interfaces, for example, have been cumbersome but are evolving into more intuitive graphical interfaces. Physician time costs in the use of a CPR may be more or less. However, this is controversial as integrated voice-recognition software is usually time saving after the initial investment of time taken to learn it. For CPRs that require physician typing for data entry and analysis, patient engagement (e.g., eye contact) and rapport may be affected (Luo et al., 2006; Hendrickson et al., 2019).

E-consultation   It involves remote communication between patients and clinicians, or between clinicians and specialists, using e-mail, text, and/or documented notes (Liddy et al., 2016; Archibald et al., 2018; Hilty et al., 2020d). E-consults generally involve a primary care provider (PCP) referral for a consultation related to questions about a patient's care that is outside of their expertise. The goal of psychiatric e-consults is for PCPs to be able to more quickly diagnose and treat BH or other medical conditions. Typically, e-consults exist in text notes within the electronic health record between consultees and specialists, with meaningful review of patient information, data (e.g., results of tests, images), and other system information. Outcome measures focus on access to care (e.g., time first appointment), timeliness of consultation (e.g., wait times), and impact (e.g., depression scores).

System Design for Evaluating Outcomes

Overview

A philosophical shift has occurred, from efficacy-based interventions, often under ideal conditions or research protocols, to translational, effective, and implemented science. The latter research focus outcomes on acceptability, adoption, feasibility, cost, and sustainability (Proctor et al., 2010; Gargon et al., 2019). Methodologies are needed for development, implementation, and evaluation (quantitative, qualitative). For video, it has been suggested that institutions develop an approach to the following: (1) assess readiness; (2) create/hardwire the culture; (3) write policies and procedures; (4) establish the curriculum and competencies; (5) train learners and faculty; and (6) evaluate/manage change (Hilty et al., 2019c).

Picking the Right Technologies and Models of Care and Integrating Them into Practice

How does one best integrate technologies into clinical practice? The application of telehealth modalities to one's practice requires reflection and purpose, discussion with patients, and staying up on the rapidly changing literature. There can be different goals in the integration of telehealth into clinical practice. These goals include providing continuity of care in between patient visits; triaging patients if they need to be seen in between appointments; providing adjunctive support to in-person services; improving access to care in terms of geography, time, and transportation; and improving the efficiency of care for both patients and physicians.

The therapeutic relationship is best when the technology fits the person's/patient's needs and provider's skill, and iterative evaluation based on user input helps direct process improvement. The importance of health, cultural, language, and technological literacy cannot be overstated – and participants are usually on a continuum (Hilty et al., 2020d). User considerations when applying a new technology for patient care include the following:

1. *The patient.* Depending on comfort, familiarity with technology and/or the provider, the individual patient may have varying degrees of receptiveness to the telehealth model. The patient's willingness to engage and a favorable opinion may determine the success and effectiveness of the implementation. A social support system consisting of individuals who can assist them with this decision and navigate the new technology is also helpful.
2. *The disease and context.* The technology must be appropriate and effective for the course of treatment of the disease. For example, a condition like schizophrenia that may require in-clinic exams and procedures (e.g., long-acting antipsychotic injections) may be less suited to at-home monitoring. Individuals living with schizophrenia, though, should not be excluded from improving quality of life from exercising or participation in other evidence-based services programs delivered remotely, or online support group chat (Hilty et al., 2015a), recognizing that these remote tools should not be considered a substitute for in-person care.
3. *The provider/team.* Before offering care to accompany in-person services with technology, the provider must ensure that they have the expertise, time, and resources to provide quality and consistent care as is promised and expected through the new modality. Likewise, as team-based care is common, defining roles and responsibilities and communicating these to patients is important.
4. *Therapeutic care.* The goal – with or without technology – is a meaningful interaction with engagement, communication, and collaboration. Compassionate care that is competent and safe is increasingly recognized as an instrumental part of health care, including modes of technology like video (Hilty et al., 2018a), mobile health (Hilty et al., 2020b), and other technologies (Crawford & Serhal, 2020).

5. *Cultural factors*. Digital care should be culturally safe, meaning that it aligns with the preferences and values of the recipient of care, as judged by that person rather than by the provider. Providers who come from a stance of cultural humility – a reflexive approach that is as an other-oriented – are better at engagement through listening, presence, and empathy.

Racial and ethnic minorities, marginalized populations, and those at the intersection of groups (e.g., African Americans with congestive heart failure, women with HIV) can be engaged for input about how health is affected by technology, language, social, economic, and other cultural issues. This discussion with the interprofessional team supports the integration of technology into their care (Doshi et al., 2017; Naslund et al., 2017).

Models of Care

Another key issue is selecting the right model of care using measures of a low, moderate, and high integration or intensity of technology used (Hilty et al., 2018c). The intensity levels are based on the intervention, technology complexity, specialist time, patient acuity, and use of other resources. Services, models, and outcomes can be stratified by the individual designated as the primary provider (i.e., PCP) and the secondary consultant (i.e., telepsychiatrist). For low-intensity service interventions, specialists typically do not see patients directly, but may be in regular contact and have an ongoing relationship with PCPs (e.g., telephone, e-mail, and/or video for doctor-to-doctor "curbside" consultations, case reviews, a multispecialty phone and e-mail consultation program for primary care adults with developmental disabilities) (Hilty et al., 2013, 2018c). Moderate-intensity service interventions at a minimum require an initial (and sometimes follow-up) video in order to carry out the following: develop treatment plans (e.g., brief therapy), adjust PCP diagnoses, add a geriatric nurse practitioner, coordinate services across a distance, augment child and adolescent services, or provide an in-depth evaluation based on a patient interview, medical data, and a video for review (e.g., ATP) (Hilty et al., 2018c; Yellowlees et al., 2018). High-intensity clinical care and/or service interventions involve extensive collaboration, resources, and synchronous video: collaborative care for depression, disease management, and stepped care (Hilty et al., 2013, 2018c).

Assessing and Enhancing Readiness for Change

Successful change requires the organizational policies and procedures of both individuals at all levels to change. Oftentimes complicated processes, which may be implemented by leadership, are perceived as burdensome, overly difficult to navigate, ineffective, and even counterproductive by those in middle management and those providing the services. Unless each level perceives the intended changes to be

in their own interests, they may not prioritize or cooperate with implementation, and if objections are not adequately voiced and addressed, those affected may refuse to participate or, in a subtler fashion, may engage in passive-aggressive behavior (such as causing delays) which sabotages the implementation plan.

Assessing how open to change a group of individuals and organizations may be is complex. Readiness is associated with people's perceptions of financial support, a well-defined mission, leadership structure, cohesive teamwork, the technical skills needed to adopt an innovation, and the extent to which they see their own needs for safety, security, and autonomy protected. From studies using survey instruments, focus groups, clinical interviews, site visits, and community profiles, it is key to (1) assess, (2) contextualize, and (3) enhance readiness (Reece et al., 2017). A checklist of factors may help organizations measure readiness for change and develop attitudes and beliefs that provide the context (Table 7.1). The personal attributes of "change agents" are important, such as perceived credibility, trustworthiness, sincerity, and expertise. Internal change agents who are mid-range authority figures may assess readiness better than leaders at the top.

In addition to consideration on readiness to adopt technology, it is important to ensure the target provider group or health workers have the skills needed to successfully integrate technology into their workflow. For instance, in many LMICs, there is great interest in the adoption of digital solutions at the government or national level, which often outpaces the local knowledge and skills for using such technologies on a day-to-day basis. One approach that can overcome these potential challenges is ensure adequate orientation and training on the appropriate and safe use of technology, as well as the need for sufficient ongoing technical support and guidance to facilitate sustained implementation. Such approaches are especially important in the context of rural and lower-income areas, where frontline health workers, such as community health workers, may not have prior exposure to digital technologies like smartphones or where there may be challenges with bandwidth and wireless connectivity, but these tools can afford critically important features to support delivery of evidence-based BH services (Khan et al., 2019; Muke et al., 2020).

Ross and a Framework for Technology Integration

Perhaps the best step toward a shared IT-business understanding is to create a strategic IT architecture with outcomes tiered over four levels. In fact, the terms architecture and infrastructure are sometimes used interchangeably, with *architecture* seen as the plan for the next *infrastructure*. More often, IT architecture refers to a firm's list of technology standards. However, viewing IT architecture only as technology standards does not connect it to business requirements, but an *enterprise IT architecture* concept, though, does place technology standards in the context of business requirements.

Table 7.1 Essential factors for transformation efforts in general and specific to technology for health care

Essential factors in general.
1. Establish a sense of urgency.
2. Form a powerful guiding coalition.
3. Create and communicate a vision.
4. Empower others to act on the vision.
5. Plan and create short-, mid-, and long-term goals and successes.
6. Consolidate improvements and produce still more change.
7. Institutionalize new approaches.
Essential factors for health care and technology.
8. Assess the level of innovation required (i.e., incremental, radical, transformative).
9. Align innovation with organizational culture.
10. Link innovative service process with health-care outcomes and/or deliverables to end user(s) (i.e., patient, staff, clinicians; trainees, faculty; interdisciplinary teams).
11. Include clinicians and supporting agencies, patients, and regulatory units.
12. Recognize and plan for resistance to change, among other things.
13. Plan an approach to contend with unexpected events.
14. Model and communicate competencies and best practices for change.
*Problem-solving challenges (*e.g.*, resistance).*
15. The status quo is threatened.
16. Immobilization (i.e., the initial shock reaction to a negatively perceived change).
17. Denial or the hope that the change project is not real or will go away.
18. Anger or frustration often directed toward others.
19. Bargaining to minimize the impact of change.
20. Depression and other sentiments experienced when bargaining has failed (may represent the beginning of acceptance).
21. Testing, which is similar to bargaining, but more common as persons begin to accept the change and learn how to succeed under the new conditions.

To develop a synergy between business strategy and IT architecture, firms must develop organizational competencies in IT architecture (Ross & Allen, 2012). An IT architecture competency is the ability of a firm to create a mutually reinforcing pattern of evolving with a tightly aligned business strategy and strong IT capabilities. The logical sequence for developing an enterprise IT architecture is assumed to be as follows: (1) define the firm's strategic objectives, (2) define key IT capabilities for enabling those objectives, and (3) define the policies and technical choices for developing the IT capabilities. This specifically includes a company's need (e.g., doing a needs assessment) and assessing how IT is used (i.e., levels extend from silo to standardized to rationalized data to modular architecture) (Ross & Allen, 2012). Steps include defining a set of critical IT capabilities with lasting value, trade-offs due to policies and technical choices, and incremental progress (Table 7.2).

Table 7.2 Ross' four informational technology (IT) architectural stages applied to rural health centers (RHCS)

Architecture stage	Definition/ example	Assumptions	Pros	Cons
Application silo	Individual applications rather than for the entire enterprise High-technology companies Individual clinician	Best available technology Single geography Needs based Technology-based change management	Facilitates innovation Well received by most Predictable system benefits and outcomes measurable Data: centered in the application	Difficulty linking new applications to related systems Applications become a burden Expensive to maintain
Standardized technology	Enterprise-wide and provides efficiencies through standardization and usually centralized UPS Clinic system approach	Technology standards to limit technology choice and reduce the number of platforms Solutions based Standardization and exception management	Good for local knowledge and worker support Better IT maintainability, reliability, and security Data: create warehouses to share Cost savings	Data still in individual applications, silos Manager resistance to standards Figure out exceptions Long-term planning key
Rationalized data	Enterprise-wide IT architecture expands to include standardization of data and processes Air Products, Nestle USA, Delta Airlines Health-care system	Data management and infrastructure, core wiring Performance- and integration-based management	Stabilizes the firm's core activities and increases predictability of outcomes Data integrity Process standardization Stability Business not IT owns data	Difficulty deciding "core" processes (excluding others) Change harder and incremental (to reach) Implementation risk: accountability, discipline
Modular	Enterprise-wide standards with loosely coupled applications and technology for local differences Citibank Asia Pacific RHC with departments or special programs	Enables strategic agility through customized or reusable modules Extend the core processes but allow for differences	Business units select customer-oriented processes from a menu Greater discretion Efficiency (e.g., quickly implements core products in new countries)	Ongoing dialog between management and IT executives: clarify required/selective and one/more processes for choice

CDS, AI, and ML

Traditional applications of clinical decision support technology that have existed for decades, such as EHRs and expert systems, are being enhanced by newer technologies, such as cloud computing, artificial intelligence, and algorithms to provide access to new data that help providers iteratively reevaluate, intervene with, and make new observations and decisions (Luxton, 2016). Computing tools can improve the structure, process, and synergy with the way providers approach their work, particularly as research and clinical trials build upon empirical foundations and standardize methods, interventions, and evaluation (Hilty et al., 2020a).

AI methods, which involve powerful computational methods using statistical and mathematical algorithms (e.g., machine learning, integrated computer sensing technologies), nanotechnology, and other technologies, enable context-aware, live streaming of data and real-time feedback to enhance the assessment of clinical, lifestyle, and social activities (Shatte et al., 2019). This translates into CDS and information flow management features for providers "in time" (Greenes et al., 2018) and provides the capability to collect, build, and model person-specific, intelligently filtered information presented in a timely manner to monitor, intervene, and follow trajectories. Recent systematic reviews suggest virtual reality is safe and can be used to assist researchers in neurocognitive functioning and in-capture impairments associated with psychotic spectrum disorders (Hilty et al., 2020c; Rus-Calafell et al., 2018).

The state of the evidence is rapidly improving with use of many technologies, standardized measures, and, importantly, high levels of patient engagement and enrollment, including a variety of international and culturally diverse populations (e.g., age, disorder, gender, ethnicity, generation, geographic, military, and others). Research opportunities and challenges can be broadly organized into four categories: (1) clinical health outcomes; (2) medicolegal, professional, and privacy policy issue; (3) outcome, evaluation, and other models; and (4) human-computer interaction. Evaluation with implementation/effectiveness approaches are best combined with longitudinal, quality of life and economic cost analysis dimensions (Hilty et al., 2020a).

Academic health centers (AHCs) and federal/country (e.g., veterans affairs) and statewide/county networks often employ telebehavioral health (TBH, inclusive of substance disorders and services) – to connect with rural primary care offices (Hilty et al., 2015c). A variety of clinical and/or educational models have been employed (Hilty et al., 2018c). A developmental approach to rural telepsychiatry emphasizes stages of needs identification, infrastructure survey, partnership organization, structural configuration, and pilot implementation (Shore & Manson, 2005). Systems of care and their leaders are moving fast now traditionally synchronous, novel (e.g., asynchronous or synchronous video, social media), and emerging (e.g., web- and mobile/wireless-based) models in relation to video. An approach to promote partnerships between organizations helps to ensure that the needs/interests of all parties are met through accountable and transparent processes, with roles articulated and methods of evaluation and process improvement built in to work together (Table 7.3).

Table 7.3 An approach to promote partnerships between organizations

Overview
Example organization (academic) and stakeholders: faculty, trainee, department, school/academic health center/university level
Partnering organization: rural clinic, hospital, and health network and community (local/regional/national/international)
Academic organization
Faculty
Experience, attitudes, and interest
Excellence in clinical care with culture and diversity contextualization
Evaluation and scholarship of educational activities
Prioritization in curricula, grand rounds, special events (e.g., retreats)
Local, regional, national, and international involvement and leadership
Trainees
Experience, attitudes, and interest
The expectation to serve a diverse, complex, and challenging population
Trainee input, feedback, partnership, and leadership
Scholarship, quality improvement, and health services projects
Department administration
Central
Mission inclusion of culture and diversity
Budgetary items and alignment
Faculty-managerial-staff integration of roles
Response to critical incidents
Recruitment, promotion, and retention of leaders, faculty, staff, and others
Critical mass of faculty teachers and medical educators
Education and other faculty leaders
Vice-chair(s), fellowship directors, the residency training director and associate directors, clinical sites directors, and the director of medical student education in psychiatry are equally participatory and well integrated
Adherence to, and initiative/innovation beyond, national accreditation standards (e.g., ACGME, LCME)
Patient care and outreach to clinical partners
Encouragement of, expectation toward, and support of other departments and other affiliates (e.g., county, veterans affairs, community mental health, private health-care organizations) who partner in educational, clinical, and research missions
Enhancement and support of patient-centered, culturally competent care by providers
Adherence to, and initiative/innovation beyond, national accreditation standards (e.g., Joint Commission)
Facilitating clinical care via new technologies and e-services to the points of care needed by patients, along with use of interpreters and other professionals, to maintain a high level of care for the entire population served, regardless of race, ethnicity, language, geographic, and other potential obstacles
School/academic health center/university level
Leadership, faculty, and workforce

Table 7.3 (continued)

Faculty development (as above)
Education (associate deans, directors, course, and other leaders)
Health care
Partnering organization (community, rural network)
Clinic/hospital
Sense of ownership in mission
Interprofessional teamwork
Stepped or comparable model of care
Network/system
Communication
Shared expertise
Standardization
Registry, if feasible
Community including persons, patients, families, and other interested partners
Local, state, and federal organizations that facilitate access to, and treatment for, the underserved
Funding and programming directed clinical populations with diversity of languages, cultures, ages, and other differences represented (e.g., threshold languages as defined by the California Cultural Competence Plan)
Faculty development, education/training, and other initiatives for baseline, incremental, and critical incident-based learning and application
Recruitment, promotion, and retention of leaders, faculty, staff, and others

Big Data and Analytic Approach

The users of the Internet seek information on diseases or medical problems, treatments or procedures, doctors or other health professionals, hospitals or other medical facilities, food safety or recalls, drug safety or recalls, and pregnancy and childbirth; this also includes many caregivers (Hilty et al., 2015a). Teenagers may have few traditional care options and feel more comfortable to share experiences and try to learn new behaviors anonymously or at a distance. At times, they may express ideas of self-harm and negative affective states, which is concerning if these things are not shared with parents and/or professionals (Zalpuri et al., 2018). Anxiety, trauma (e.g., military personnel), and psychotic patients successfully use the Internet for seeking information related to their illness and medication (Hilty et al., 2015a), as well as connecting with others who share similar conditions and experiences (Naslund et al., 2019a).

Health is a dynamic, longitudinal process and real-world patients display individualized characteristics and symptoms that impact treatment effectiveness. Signal processing algorithms and ML algorithms (e.g., neural networks, random forests, support vector machines, natural language processing [NLP]) can provide more data-driven probabilistic inferences (e.g., IBM's Watson) (Luxton, 2016). Temporal modeling, which leverages dynamical information, extends methods across multiple decision time points (i.e., sequential decision-making). The challenge is figuring

out how this fits into the real-world clinical process. More broadly, digital phenotyping or behavioral markers are being developed for both clinical and nonclinical populations to correlate multimodal sensor data, cognitions, and depressive mood.

Studies are beginning to investigate smartphone, biological, and clinical data to identify markers of risk, diagnosis, state, stage, a treatment response, and prognosis in different populations. With certain apps, smartphones automatically and quickly collect a variety of "big data" with significant complexity that could provide opportunities for observation, exploration, and hypothesis generation (Torous & Baker, 2016). Analyzing large amounts of data will require close collaboration between partners from diverse areas of expertise, such as researchers, providers, statisticians, software developers, and engineers. New research approaches explore the link between objectively measured behavioral features (e.g., phone usage, mood rating, short message service [SMS] text messages), location, and social interaction data for depression (Faurholt-Jepsen et al., 2016).

Research in social media data measures the self-report of key symptoms (e.g., suicidal ideation, sexting) and evaluates tweets for diagnostic and predictive analysis. Models assess the affect, linguistic style, and context through supervised learning algorithms, random forests, and machine learning to discriminate between healthy, depressed, and posttraumatic stress disorder populations (Reece et al., 2017). Postpartum depression was predicted from a model related to increased social isolation and decreased of social capital (i.e., less activity, interaction); this was manifested by fewer status updates and media items and less reaching out to friends compared to others and usual personal patterns (DeChoudhury et al., 2014). While social media platforms are popular venues for sharing personal experiences, seeking information, and offering peer-to-peer support among individuals living with mental illness, caution is warranted regarding the safety, privacy, and viability of these platforms to characterize BH conditions and provide evidence-based services (Naslund et al., 2020a). There may be other risks, too, as research since 2010 shows that teenagers have spent more time on new media screen activities, less time on television, and less time on non-screen activities, where depressive symptoms, suicide-related outcomes, and deaths from suicide rose during this period after a long plateau (Twenge et al., 2018).

Provider, Team, System, and Institutional/Organizational Competencies

Competency-based medical education (CBME) focuses on skill development and curricula to produce desired outcomes for learners rather than knowledge acquisition (Frank et al., 2010). Competency frameworks used by faculty, program directors, and administrators include the Royal College CanMEDS and US Accreditation Council of Graduate Medical Education (Hilty et al., 2015b, 2018b, d, 2019a, 2020a, b, d; Zalpuri et al., 2018). Skill assessment has been a priority of the IOM's

Bridge to Quality, "which called on the health professions to examine and redesign future education with PCC, interdisciplinary teams, quality improvement approaches, and informatics" (IOM, 2001).

Providers' skills need to be adapted from in-person and video care to a wide range of technologies, which, as mentioned above, is particularly important for the successful implementation of digital BH services in LMICs where many frontline health workers may not have prior experience using different digital platforms and technologies. Training for technology should include, but not be limited to, the following: (1) the use of medical libraries; (2) the use of information technology for Internet-based searches and other works; (3) literature, drug information, and other databases; and (4) video, telephone, mobile health, and other technologies. Active participation, as appropriate, in educational courses, conferences, and other organized educational activities at both local and national level from boards, professional organizations, and other institutions *should* be, where appropriate, more skill-focused, interactive, fun for learners, and use technology. Skill targets, teaching and assessment methods, and observation by faculty help to ensure skill development rather than assuming learners will develop the skills. All of these things are part of building an e-culture centered on continuous improvement and ensuring quality care (Fig. 7.1).

Information technology, information systems, and artificial intelligence and other informatics topics are increasingly added to the competency sets across technologies, particularly wearable sensors (Hilty et al. 2020a), and other asynchronous technologies (Hilty et al., 2020d). Specifically, mobile health competencies should include CDS and the prudent selection of technology and the management of information flow across an EHR platform (Hilty et al., 2019a, 2020b). The informatics skill/expertise and communication roles were expanded to educational (e.g., using resources for searches, publishing) and administrative/practice management capacity (e.g., licensure, jurisdictional, liability, and prescribing requirements) (Torous & Roberts, 2017).

Many health systems are still working on basic clinical, technological, and administrative workflows and may benefit from the following institutional-level competencies to prepare to implement new technologies: (1) assess readiness, (2) create/hardwire the culture, (3) write policies and procedures, (4) establish the curriculum and competencies, (5) train learners and faculty, and (6) evaluate/manage change (Hilty et al., 2019c, 2020d). Key participants include the patients, trainees, faculty, and leaders, teams across professions and systems within the institution, and organizational leaders who set priorities and distribute resources. While both synchronous and asynchronous telepsychiatry services offer numerous benefits, ongoing research is needed to better understand the costs of these technologies for BH, particularly for implementation across diverse settings and integration into existing payment models and health-care financing (Naslund et al., 2020b), and the costs for delivery of these digital solutions in LMICs (Joshi et al., 2022), where limited cost data has been collected to date (Mitchell et al., 2021).

Discussion

E-platforms have traditionally distributed academic networks of like-minded researchers and providers into regional health information organizations (Yellowlees et al., 2006). These empower consumers and providers in day-to-day health-care delivery by improving access to evidence-based information at the point of care; facilitate the delivery of a wider range of health services, particularly to primary and community care; provide accurate data to support research and clinical policy and governance arrangements; and ensure a sustainable, secure, reliable electronic environment, underpinned by strong, policy-driven protections for privacy and other medicolegal matters (Yellowlees et al., 2006).

Generally, many organizations are still reluctant to change, specifically in relation to technology despite telemedicine's impact (Hilty et al., 2020d). Internationally, this tends to appear in three problem areas: (1) technology infrastructure; (2) policy, human resource, and health governance challenges for BH management IS (e.g., data collection, reporting, dissemination) and infrastructure (e.g., experts, technical support, supervision); (3) a general inadequate inclusion of BH care in budgets and few efforts to integrate BH into medical settings; and (4) limited emphasis on program implementation and sustainability (Upadhaya et al., 2016; Mugisha et al., 2017). In the context of lower-resource settings, attention has predominantly given to control and eradication of infectious diseases and conditions associated with reproductive, maternal, and child health, as well as to disaster response; yet, as noncommunicable disease care has become critical in response to aging demographic groups, there has been mounting recognition of BH services across diverse settings, with increased attention owing to the acute mental health consequences observed during the COVID-19 pandemic (Kola et al., 2021). In addition, considerations for data security and patient safety must remain paramount as health systems and providers adopt an increasingly vast array of digital BH technologies. This is especially important in many LMICs, where there are emerging efforts to integrate digital solutions into health-care systems, yet digital privacy laws may still be under development. This could yield opportunities to integrate greater regulation into the digital mental health space and adoption of guidelines modeled after the Global Data Protection Regulation (GDPR) or other established data privacy regulations (Bondre et al., 2021).

Successful implementation of BH telehealth is dependent on the evidence base of what is acceptable, feasible, and sustainable (Proctor et al., 2010). Unconventional and innovative approaches to collect data on BH indicators (e.g., using community health workers, care coordinators, mid-level providers) (Singla et al., 2017; Hoeft et al., 2018) show promise for integrating BH care in primary care settings. Referred to as task sharing, training nonspecialist providers like community health workers is a robust approach – along with using technology – for scaling up capacity and increasing the availability of evidence-based BH services in both higher- and lower-income countries (Raviola et al., 2019; Naslund et al., 2019b). There remain barriers to measuring new BH indicators related to the time consumed in recording (e.g., severity of illness, functionality), overstretched health workers, poor coordination

within and across departments, and poor service delivery (Ahuja et al., 2020). At the organizational level, utilization-focused evaluation may reduce uncertainties, improve effectiveness, and inform decisions on the goals, concerns, and perspectives of stakeholders (Crawford & Serhal, 2020; Hilty et al., 2018a).

Progressive businesses have integrated core business divisions – research and development, operations, marketing, and finance – with an IT division (i.e., a shared IT-business framework) to leverage knowledge and capital (Ray et al., 2007). This paradigm has been applied to video as a way to organize/integrate health care rather than adding technology to existing systems (i.e., IT-business-health model) (Hilty et al., 2019b). This suggests that *organizing* care with technology will have better outcomes than *appending* it to health care (i.e., building "in" user friendliness and workflow rather than adding steps for patients and providers in existing systems) (Hilty et al., 2020d). Assessment (e.g., e-literacy) and segmentation of target patient groups in the development, testing, and implementation of digital BH interventions may prevent and overcome limitations in existing digital programs (Mohr et al., 2017).

Case Study: Telephone Psychiatric Consultation to Primary Care to Avoid Psychiatric Hospitalization
CC/reason for referral. An outpatient's depression and auditory and visual hallucinations concerned the primary care provider (PCP) to the degree he was considering a psychiatric admission, urgent in-person evaluation, or transferring the patient to a facility nearby for a telepsychiatric evaluation. He called the telepsychiatrist to get advice.

HPI. Day 1, PCP office. A PCP called about a new-onset psychosis in a 75-year-old Asian male, who had a history of depression and hypercholesterolemia. The videoconference schedule had an 8- to 12-week wait/delay for the in-person visit 60 miles away. Medication included: venlafaxine extended release 75 mg in the morning and diphenhydramine 25 mg at bedtime. A 10-minute PCP-telepsychiatrist revealed no acute medical problems, no history of bipolar disorder, and no memory problems, but cognition had not been checked. The initial plan was to (1) continue the venlafaxine; (2) replace the diphenhydramine with olanzapine (Zydis) 5 mg HS; (3) hold off on the psychiatric admission (it was unclear if beds were available anyway); (4) order a comprehensive metabolic panel, CBC, TSH, and RPR; and (5) have a follow-up appointment in the PCP's office the next day.

Day 2, in the PCP office. The depression, though, had worsened with more ruminations and hopelessness; no SI. Memory was a little problematic, but there were no waxing and waning mental status changes. Initial labs were not significant. A 5-minute re-consultation by phone to the telepsychiatrist led to the following recommendations: (1) raising the venlafaxine extended release to 150 mg, (2) continuing the olanzapine, or (3) follow-up video visit in 4 weeks which could be a brief evaluation in light of "knowing" the patient already.

Day 30, video consultation, 45-minute evaluation and 5-minute call with PCP. By that time, the patient was about "two-thirds better" in terms of his mood and starting to enjoy activities and get out and about. Consultation suggestions included: (1) wait 2–4 more weeks for further medication impact, (2) raise the venlafaxine to 225 mg, and (3) continue the olanzapine.

Analysis

1. Use low-intensity tele-interventions as part of stepped care on the way to high-intensity ones. It also almost made the full video evaluation unnecessary, but there was an important shift in the medications carried out.
2. The telephone consultation may have prevented an unnecessary medical or psychiatric hospitalization.
3. More importantly, it aided the PCP and increased his self-efficacy in decision-making. Some PCPs shy away from antipsychotic medications, due to worry about metabolic disturbances or for other reasons. This process, though, helped the PCP feel more comfortable with the plan.

Conclusions

Various technologies can be employed for supporting many types of patient-centered care, with information systems, electronic health records, electronic communication, BH indicators, and related digital advances playing instrumental roles in advancing practice and research. Needs assessments help to develop appropriate outcomes for patients, providers, and systems, which then need to be aligned with technological, quality improvement and other workflows used by health systems. By grasping how systems are designed and tailored to collect data, patients are empowered to make decisions and providers benefit from decision support. Setting priorities involves input from all care participants, and patient, provider, and institutional competencies for skills, attitudes, and behaviors can align missions and stimulate quality improvement.

CE/CME Questions

1. The World Health Organization global health strategy is trying to help people in communities affected by adversity by

    (a) Disseminating standard procedures for people to use
    (b) Providing grants for technology purchases
    (c) Promoting scalable BH interventions
    (d) Providing continuing education programs
    (e) Supporting randomized controlled trial research

2. Providers will primarily add video, telephone, mobile health, and other technologies to in-person care and combine these options if

    (a) More grants are available for funding
    (b) Financial incentives are provided
    (c) Peer pressure is used

    (d) Workflow is made more easy
    (e) Mandated by administrative leaders

3. Low- and middle-income countries (LIMCs) need approaches to help with

    (a) Collecting BH data in primary care and other settings
    (b) Identifying and setting reasonable BH indicators and outcomes
    (c) Customization and coordination of health and governmental systems
    (d) Iterative development of input from participants
    (e) All of the above

4. Change management in organizations is furthered by

    (a) Detailed processes developed by consensus among leadership
    (b) Keeping stable procedures and policies over time
    (c) Promoting a regimented, structured hierarchy
    (d) Assessing needs for safety, security, and autonomy
    (e) Bringing in speakers to talk at length about why change is important

5. Bridging the gap between patients, providers, and systems and helpful BH care includes attending to literacy in terms of

    (a) Culture
    (b) Health
    (c) Language
    (d) Technology
    (e) All of the above

Answers

1. (c)
2. (d)
3. (e)
4. (d)
5. (e)

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Chapter 8
Virtually Integrated Primary Care and Team-Based Mental Health Care for Improved Access in Underserved Settings

Polly Davis and Rachael Anderson

Introduction

Telemental health (TMH), the use of technology to enable mental health care provided at a distance, effectively connects individuals and their health-care providers when in-person care is not possible or necessary (Voyles et al., 2017). Using telehealth services, patients can receive care, consult with a provider, get information about a condition or treatment, arrange for prescriptions, and receive a diagnosis (American Telemedicine Association, 2021). The evolution of communication technologies and changes in regulations and consumer preference has created a unique opportunity for redefining health-care provision, particularly for underserved and rural communities that face significant disparities, inequities, and challenges in receiving mental health care.

Importantly, it substantially enhances access to mental health services for people in need of psychotherapy and psychotropic medications – addressing an ongoing problem in which most people experiencing mental illness do not receive care (National Alliance on Mental Illness, 2020). Many people find it less stigmatizing and intimidating to seek mental health care from the comfort of their own homes. Telehealth also removes barriers related to transportation (e.g., cost, access, long commute, weather) and low motivation – which are among the most frequent obstacles to patients receiving mental health treatment (Greenbaum, 2020). The concurrent need to provide care while promoting physical distancing has given payers, legislators, and providers a burning platform to effectively work together to serve the needs of patients (Campion et al., 2021).

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Despite these advantages, disparities in health-care systems have long existed, with the geographic maldistribution of physicians due in part to the aggregation of physicians in urban and suburban areas, leaving members of minority groups and rural residents underserved (Dorsey et al., 2009). Even in a society connected to tech 24/7, poor technology connectivity can have a negative impact on how we learn and obtain care, and treating physical and mental health conditions requires access often not available to at-risk populations. According to Cardarelli and Chiapa (2007), it is important to educate primary care clinicians regarding health disparities because they can impact their reduction. Poorer health in minority and low-income communities require increased expenditures especially when complications arise from undetected or uncontrolled diseases.

Campion et al. (2021) found barriers existed for continued use for patients including access to technology and lack of digital literacy, which have created a digital divide for those in rural and underserved areas. Educational data company, BrightBytes, surveyed nearly 100,000 students, teachers, parents, and principals, reporting that one in five said it is "sometimes" or "never" easy to access assignments and classwork remotely. Students who replied on cell phones reported the most difficulty. The survey also reported that students enrolled in districts with higher Title 1 funding, schools in which children from low-income families make up at least 40% of the enrollment, say they are less likely to have a school-provided device and more likely to use their computers or mobile phones as demand outpaced supply (Wan, 2020). Cantor et al. (2021) reported similar disparate findings regarding telehealth in a study utilizing national claims data for more than six million individuals. While telehealth garnered a 20-fold increase in utilization in the period after March 2020, the increase disproportionately benefited high-income, metropolitan-dwelling adults. Lower-income communities reported a lower uptake of telehealth, with connectivity and difficulty with technology also being a hindrance to older adults' ability to maintain health-care appointments via telehealth. In a study by Schifeling et al. (2020), more than half of the participants did not use video visits, especially those from racial and ethnic minority backgrounds, or were Medicaid beneficiaries.

The increased use of technology in health care has enabled the widespread adoption of integrated care (e.g., mental health providers embedded into primary care) especially regarding workforce issues in rural and underserved areas. Most patients with behavioral health issues present first in a primary care setting leading to a focus on these sites for integrated care model development (Voyles et al., 2017). The wedding of integrated care with the provision of care within a primary care setting, which had its beginning in the 1990s with TMH, represents an important mechanism to improve access to needed mental health care. Significant shortages in psychiatrists, psychologists, and other behavioral health clinicians continue to create disparate care.

The utilization of videoconferencing, store-and-forward technology, and remote monitoring, as well as telephone-only therapy, has helped to both extend the provider workforce in these areas and change models of care expanding the number of patients that can be served and thus increasing access to mental health care.

Integrated care is often broken down into three key models: coordinated, co-located, and collaborative care. Integrated care creates more holistic care for patients and addresses the Quadruple Aim by enhancing patient and provider experience, improving population health, reducing costs, and improving the work-life of healthcare providers, clinicians, and staff. The objectives of this chapter are to (1) define integrated care and its different approaches, (2) review the current application of TMH in integrated care, and (3) provide recommendations for implementation and with specific considerations.

Case Study Episode 1: Primary Care Practice Needs Mental Health Services
Providers in a large, rural, primary care practice, Acme Primary Care, have been treating an increasing number of patients who present with mental health concerns such as depression, generalized anxiety disorder, obsessive-compulsive disorder, and posttraumatic distress disorder. These conditions are often accompanied by such physical condition as hypertension, diabetes, obesity, and heart failure. The combination of conditions is requiring greater provider time and resources. In recognizing the need to treat the "whole" patient, the practice decides to add mental health services for their patients as the availability of traditional mental health care in their community is limited. Let's follow this clinic's journey through the stages of integrated care as defined below and in Table 8.1.

Definition of Integrated Care

Integrated health care, as defined by the American Psychological Association (APA), "is an approach characterized by a high degree of collaboration and communication among health professionals, making information sharing among team members related to patient care and the establishment of a comprehensive treatment plan to address the biological, psychological and social needs of the patient" (APA, n.d.) This team may consist of primary care providers (PCPs), psychologists, psychiatrists, social workers, care managers and coordinators, and others depending on the needs of the patient and resource capabilities of the care setting.

"Full integration of behavioral health within primary care," according to Voyles et al. (2017), "requires consideration of salary and office space needed to add behavioral health professionals, bridging the cultural difference in care practices, billing challenges, and effective resource management, particularly for smaller primary care practices."

The adoption of telehealth leverages the implementation of various care models with primary care as the most prevalent setting (Substance Abuse and Mental Health Services Administration) (SAMHSA, 2013). The Standard Framework for Levels of Integrated Health Care developed by the SAMHSA's Center for Integrated Health Solutions identifies three major categories of collaboration: coordinated, co-located, and integrated, ranging from minimal collaboration to full integration in a transformed integrated practice as detailed in Table 8.1. Each category is further divided

Table 8.1 Comparison of models of health-care integration based on SAMHSA's Center for Integrated Health Solutions, "A Standard Framework for Levels of Integrated Health Care" (SAMHSA, 2013)

Coordinated Care		Co-located Care		Integrated Care	
Minimal Collaboration	**Basic Collaboration at a Distance**	**Basic Collaboration Onsite**	**Close Collaboration Partly Integrated**	**Close Collaboration Approaching Integration**	**Fully Integrated**
Separate Systems	Separate Systems	Separate Systems	Share Some Systems	Actively Seeking System Solutions	Shared Systems
Separate Facilities	Separate Facilities	Shared Facilities	Shared Facilities	Shared Facilities	Shared Facilities
Communication Is Rare	Periodic communication	Regular Communication	Face-to-face Consultation	Regular face-to-face Consultation	Communicate Consistently at System, Team and Individual Level
Limited Comprehension of Each Other's Roles	Comprehend Each Other's Roles as Resources	Feel part of a Larger, Yet Informal Team	Basic Comprehension of Roles and Culture	In-depth Comprehension of Roles and Culture	Blending/Blurring of Roles and Culture
Advantages		**Advantages**		**Advantages**	
Timely and Autonomous Decision-Making	Increase in Direct Interaction and Communication By Providers	Patients Benefit from Provider Collaboration	Collaboration Increases with Removal of Systematic Barriers	More Responsive Patient Care from High Levels of Collaboration	All Patients Needs Addressed as They Occur
Model Easily Understood by Patients and Providers	Increase in Coordination and Information Sharing	Proximity Increase Referral Success Rate	Patients Benefit from Shared Relationships Across Providers	Satisfaction May Increase for Provider and Patient	Whole Person Approach Afforded in Integrated Setting
Disadvantage		**Disadvantages**		**Disadvantages**	
Overlapping - Duplicative Services	Barriers May Hinder Referral Process	Proximity May Not Impact Collaboration	Collaboration bay be limited by system issues	Practice Changes May Cause Lack of Fit for Established	Sustainability of New Model May Cause Practice Stress
Fragmentation of Care May Lead to Protracted Diagnosis	Coordination of Care Not Guaranteed Across Providers	Maintaining Traditional Roles Limits Flexibility	Loosening of Boundaries May Cause Provider Conflict	Practice Productivity May Decrease with Added Time for Collaboration	Value Proposition Weakened Due To Lack of Widespread Experience With Model

into two levels of degree, and as the levels of collaboration increase, so does the capacity for practices to handle more complex patients. The levels serve as a foundation to test the strengths and limitations of an approach but do not ascribe to a particular model.

Christian et al. (2018) suggest that embedded behavioral health providers (BHP) function as generalists taking an active role in the clinical team by providing patient consults and for warm handoffs within the clinic structure, matching the pace of primary care in the provision of brief encounters. BHP interventions have been shown to decrease utilization of PCP visits for up to 12 months compared to usual care by a PCP alone, and integration of BHPs into primary care enhances patient and provider satisfaction in the creation of a "one-stop shop" for mental health care in the familiar surroundings of a trusted primary care setting (Christian et al., 2018).

Successful team-based care should include at least three essential teamwork factors: (1) knowledge about the way a set of skills and behaviors come together, (2) skills that optimize teamwork and promote anticipation of each other's actions, and (3) teamwork-related attitudes (Christian et al., 2018). Several factors also promote cost savings with the incorporation of behavioral health into primary care, one of which is improved efficiencies in the primary care office visits with specialists readily available to help for complex psychosocial problems or issues (Reiter et al., 2018). Awareness of others' skills can increase efficiency by avoiding duplication of duties and tasks and allowing team members to proactively help one another and foresee opportunities for coordination of care and support. Joint meetings and training on team-based treatment processes and their associated workflows can lead to better understanding and appreciation of roles and challenges and provide a means to support team members. Additional cost savings can be realized from faster patient stabilization, lower no-show rates for Medicaid patients, and expedited psychiatry consultations (Bao et al., 2017).

Telehealth and Integrated Care Models

Coordinated Care

Based on the standard framework (SAMHSA, 2013), coordinated care is broken up into minimal and basic collaboration at a distance, for example, behavioral health and primary care providers work in separate facilities and have separate systems at a level of minimal collaboration. In this level, case collaboration is rare with communication based on the provider's need for specific information about a mutual patient. Care coordination is associated with activities such as screening and assessing for patient needs and goals as part of organizing care through sharing information to achieve safer and more effective goals (Agency for Healthcare Research and Policy, n.d.). Utilizing videoconferencing to screen and assess for behavioral health disorders has documented efficacy for subpopulations across the life span, as well as Spanish-speaking groups (Voyles et al., 2017).

TMH has been shown to enhance basic collaboration at a distance, the second level of coordinated care. At this level, providers view each other as resources and communicate periodically about shared patients, augmenting the quality of primary care. This is evidenced in a study by the University of Washington where psychiatrists provided evidence-based diagnostics, medication management, and recommendations through videoconferencing to youth and their families in four rural communities. Referred by primary care providers or pediatricians for a variety of behavioral disorders, systems remained separate and written patient notes were periodically exchanged. Referring physicians and pediatricians reported improved ability to manage their patients effectively, with high satisfaction from patients and providers alike to virtual care delivery (University of Washington AIMS Center,

2021; as cited in Myers et al., 2017). Their results demonstrated the feasibility and acceptability of TMH health for providing care to underserved youth concluding that it offers a valuable service that can reach youth in need of such care.

As cited in Fortney et al. (2007), the Department of Veterans Affairs (VA) conducted a multisite, randomized trial demonstrating that telehealth-based collaborative care is more effective than usual care in small satellite primary clinics. Telehealth based is as effective as in-person evaluations and has both provider and patient satisfaction (Shore, 2013).

Case Study Episode 2: Coordinated Care
Acme Primary Care has decided to implement coordinated care and has contracted with an academic medical center for consulting psychiatry services via telehealth. The primary care providers (PCPs) request consults from the mental health specialists by phone or videoconference as the electronic medical record, in this case, is not shared. The consults are coordinated through front- or back-office staff. With no shared records, mental health specialists have limited knowledge of the patient and often an incorrect diagnosis. Patients find this type of visit easy to understand as it is like consults with other specialties. PCPs likewise like the convenience of handing off the patients to a specialist. Care is provided in a timely and autonomous fashion to the patient via a video visit or phone call if videoconferencing is limited by necessary infrastructure or patients don't have the needed capability due to lack of cell phone or computer equipment and connectivity. However, coordinated care, in this instance, meets only some of the patient and provider needs. Care is fragmented and diagnoses are protracted. Patients may be returning to the PCP for the same issues they were referred to telepsychiatry for initially. Communication with the TMH provider is rare, and often patients are referred for reasons that could have been handled by another specialty.

Co-located Care

Co-located care brings the primary care providers into the same location as their behavioral health counterparts but may or may not share the same practice space. The closer proximity allows for more regular communication by way of phone, email, or physical meeting and increases the likelihood of successful outcomes (SAMHSA, 2013). Co-location of behavioral health services can include the addition of such specialties as a licensed clinical social worker, a psychologist, and/or a psychiatrist. According to Hilty et al. (2013), the inclusions of a virtually co-located psychiatrist resulted in changes to diagnoses and medication typically associated with improved patient outcomes.

Case Study Episode 3: Co-located Care
Acme Primary Care providers found great benefit from consults with TMH specialists and learned that not all patients needed a handoff to outside specialists. Wanting to help patients who did not need medication for psychiatric issues, the practice

hired a psychologist to work in the clinic directly with patients. Providers were able to refer a patient immediately by face-to-face consultations or warm handoffs. The psychologist was able to continue subsequent visits in the office setting and document in the same medical record as the PCPs allowing for greater collaboration on shared patients. For example, Mrs. Smith presented to her PCP for fatigue, exhaustion, and unintended weight loss following the death of her husband. After a thorough negative physical exam, her PCP prescribed an antidepressant and recommended she talk with the psychologist in the practice. Her PCP walked across the hallway to the psychologists and asked for a warm handoff. The psychologist was introduced to Mrs. Smith in the exam room to begin working through the grief process. Mrs. Smith returned for several weekly visits with the psychologist who documented Mrs. Smith's progress in her medical record. When Mrs. Smith returned for her annual appointment, her PCP was able to discontinue the antidepressant after reviewing the psychologist's recommendations and Mrs. Smith's preferences.

Integrated Care

According to Waugh et al. (2019), integrated care is the most effective approach to achieving successful health outcomes for patients with multiple health-care needs. This approach proposes that common conditions such as diabetes and depression are best treated from a whole-person perspective. High levels of integration involve the greatest amount of practice change and allowing for true innovation. Complex patients with multiple health conditions can receive treatment in the setting of their primary care physician, reducing the sense of stigma, especially where TMH is introduced (American Academy of Child and Adolescent Psychiatry (AACAP) Committee on Telepsychiatry and AACAP Committee on Quality Issues, 2017).

The implementation of integrated care, regardless of model complexity, offers primary care the opportunity to innovate and improve clinical practice on a scale often dependent on the size of the practice and available resources. Asynchronous technology (ATP), also known as store and forward, can assist in moving integrated care toward an integrated model. ATP is the electronic transmission of medical information, such as digital images, documents such as care plans, and prerecorded videos, to a practitioner, usually a specialist such as a psychiatrist, who uses the information to evaluate the case or render a service outside of a real-world or live interaction (Hilty et al., 2013, as cited by Voyles et al., 2017). ATP is commonly used for electronic consultations (eConsults). Per Raney et al. (2017), eConsults are a web-based system that allows a primary care physician and a specialist to securely share health information and discuss patient care. This physician-to-physician eConsult reduces the need for unnecessary specialty referrals as patients' needs are resolved through the PCP. ATP can provide cost and time savings to providers as well as patients. With shortages of medical specialists, like psychiatrists, wait times for appointments are decreased, as can consult times for the specialty. The patients may also benefit from decreased travel expenses and time. Psychiatrists can review

patient cases when it is convenient, increasing productivity and revenue and producing greater work flexibility and satisfaction (Raney et al., 2017).

Technology-enabled approaches to integrated primary and behavioral health care are receiving considerable attention as providers look for effective methods to utilize limited psychiatric expertise to improve patient outcomes. There are currently a few predominant models of integrated care implementation into primary care. They differ primarily in the roles, configuration, and interface of the behavioral health team members within larger care teams (Waugh et al., 2019).

Case Study Episode 4: Integrated Care
Now doing business as Acme Primary Care and Wellness, the team actively worked on a solution to share visit notes across all disciplines creating a "whole person" view of their patients. Weekly huddles hosted virtually by the TMH specialists allowed for input from psychology and primary care on shared patients. Through time and learning, each discipline's roles were recognized and understood providing for seamless delivery of care. Patient and providers had increased satisfaction from team-based care as patient needs were addressed as they occurred.

Future Considerations

The Digital Divide

The adoption of TMH and integrated care has demonstrated some unintended areas for further consideration including the digital divide as well as the clinical presentation of the patients. The digital divide refers to the disparity between those who have access to technology and the skills needed to utilize it and those who do not. According to Shore (2021), there are six components in the digital divide: bandwidth, technology platforms, digital literacy, access to technical support, private space for the patient to engage in services, and financial resources to pay for services. With researchers expecting much wider use and acceptance of TMH, especially provider-home to patient-home care as health-care providers and systems reconceptualize how, when, and where services are provided (Mishkind et al., 2020), the technology and Internet access gaps in underserved populations must be addressed.

Diversity, health equity, and inclusion (DHEI) also cannot be ignored as healthcare disparities can be found in those who are unable to travel to areas with higher numbers of health-care providers. The swift adoption of TMH in most levels of care due to COVID-19 identified continued disparities in remote rural as well as inner-city counties, specifically disproportionate access to appropriate broadband, secure Internet, or devices with video capabilities (Kaplan, 2021). Logically, these are the same communities where access to network and device support is limited too. Diversity covers not just socioeconomic status but also characteristics like age which has recently been identified as a social determinant to health. Rates of digital

literacy are "particularly low among Americans aged 65 years and older" (Kaplan, 2021). While Prensky (2001) coined the term "digital natives" meaning those who grew up with technology and "digital immigrants" or those who adopted technology later in life 20 years ago, those terms are still relevant in today's world of technology. Fitzpatrick et al. (2021) noted that in 2018, 86% of the more than 70 million Americans utilizing Medicaid owned a smartphone, but digital health solutions are not often tailored to older people or those with lower digital literacy. They further suggest that to bridge the digital divide in health care, digital health innovation should focus on Medicare and Medicaid beneficiaries by tailoring digital health solutions to patient context and communication preferences. For example, using smartphones, rather than computers, and secure links sent via text messaging would simplify processes and thus encourage engagement.

Serving the Underserved

While TMH promises to increase access for underserved populations and those in rural areas, roadblocks remain in achieving widespread availability. These roadblocks, according to Cortelyou-Ward et al. (2020), create disparities that are most acutely felt by those living in rural areas and for racial minorities, the elderly, and those with low levels of education. Success, although attainable, necessitates having reliable, high-quality broadband access, as well as the post-pandemic continuation of interstate licensing for providers and parity in telehealth reimbursement. Such barriers are also pervasive in providing adequate mental health access for underserved and rural populations. Psychiatric provider shortages, difficulties accessing care, and worsening mental health presentations are some of the greatest current obstacles facing the mental health-care system.

The Perfect Patient

Once the initial hurdle of the digital divide is addressed, providers often wonder, "what is the perfect patient presentation" for integrated services? Calderone et al. reviewed telehealth systems from the providers' perspectives and found that the level of acuity treated must be flexible (2020). They noted that "each provider team decides on the illnesses and severity levels that they are comfortable treating in their primary setting" (Calderone et al., 2020). This ensures that providers are capable of treating the different levels of acuity that present via telehealth and those patients demonstrating more severe symptoms are referred to other systems of care to better fit their needs. This strategy also allows providers to demonstrate agency by encouraging them to articulate their preferences and skill levels in managing crises.

Conclusions

Integrate behavior health care provided within primary care has evolved by means of technology, a pandemic, and provider workforce shortages. While telehealth and TMH are not new concepts, there are still several areas to continue to research and improve for this to be a viable long-term delivery of care model, and both can be considered as workforce multipliers and the means to propagate the inroads that integrated care initiated. As integrated care begins to rely more heavily on technology, the digital divide continues to identify disparities in low-income, rural, and service sparse areas. The lack of information regarding effective digital literacy programs in rural and frontier areas suggests that models not only need to be created but also studied for effectiveness. It also suggests that advocacy for telehealth will have to include arguments for continued social services and resources in low-income, underserved rural, and frontier health-care deserts. In light of the benefits of telehealth, adoption of telehealth to underserved communities is of even greater importance. The Telehealth Equity Coalitions (2021), notes the very populations that lag the most in telehealth use such as seniors, the low income or socially vulnerable, and those living in rural areas, stand to gain the greatest benefit from the convenience it offers. Additionally, statistics show that by 2030, 1 in 5 Americans will be 65 years or older suggesting a need to continue studying digital literacy patterns in older adults (Rural Health Information Hub, 2021). It is recommended that these studies be conducted both of patients and the aging providers with whom the patients' interface for this care.

The future of telehealth as it relates to integrated care is not yet cemented, and the current research demonstrates that it is not only efficient for time and resources but clinically sound. Further studies on several different topics including access to technology, clinical outcomes, and changes in reimbursement models may begin to address issues around provider shortages, health equity, and the growing concern around mental health crises across the country. Continued research may support improved advocacy by improving strategies and marketable solutions.

CE/CME Questions

1. Integrated care may consist of which of the following care providers?

   (a) Physicians and social workers
   (b) Psychologists and psychiatrists
   (c) Care managers and case managers
   (d) All the above
   (e) None of the above

2. SAMHSA's Center for Integrated Health Solutions identifies three major categories of collaboration. They are:

   (a) Coordinated, co-located, conjoined
   (b) Co-located, integrated, technical
   (c) Integrated, transformational, advocacy
   (d) Telepsychiatry, telepsychology, and video enabled
   (e) Coordinated, co-located, integrated

3. The digital divide refers to:

   (a) Internet-enabled television
   (b) Gaps in bandwidth
   (c) Access to technology and lack of digital literacy
   (d) Basic Internet access
   (e) None of the above

4. The digital divide most often effects:

   (a) Low-income individuals
   (b) Those living in rural areas
   (c) Service sparse areas
   (d) The elderly
   (e) None of the above
   (f) A, B, C, and D

5. Integrated care is the most effective approach to achieving successful health outcomes for patients with:

   (a) Good insurance
   (b) Psychology interventions
   (c) Multiple health-care needs
   (d) Access to broadband
   (e) Technical savvy

Answers

1. (d)
2. (e)
3. (c)
4. (f)
5. (c)

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Chapter 9

Practical Considerations for Emerging Types of Telebehavioral Health Care: Computer-Assisted Cognitive Behavior Therapy and Mobile Applications

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Introduction

Telemental health (TMH) in the form of one-to-one, patient-to-provider, synchronous audio and visual care has seen a recent expansion due to consumer demands, increased regulatory flexibility, increased provider acceptance, and COVID-19 mitigation strategies (Markowitz et al., 2021; Torous et al., 2021). Telemental health has the capacity to make a significant and positive impact on mental health in rural areas by its ability to not only increase access to care but also more effectively tailor mental health services to individual or community-based health care needs. Unfortunately, provider availability has not been able to keep up with the expansion in TMH services and there remains significant access concerns especially in rural areas (Dewan et al., 2014). These shortages are projected to increase (Satiani et al., 2018) and the mental health system must look to other treatment modalities to meet the demand for mental health services.

Taking a broader perspective, TMH can promote a public health-oriented and stepped care approach in rural communities by providing health care beneficiaries with a range of increasingly specialized and intensive services utilizing a range of

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technologies and modalities. For example, TMH provides patients the opportunity to more readily access web-based or mobile services for mild-to-moderate concerns, often without needing the traditional 1:1 approach to treatment. This level of service may be sufficient for many patients seeking care, and as a secondary benefit may reduce the number of unnecessary office visits and untreated, heightened symptoms. For those whose symptoms remain elevated, traditional TMH or other care modalities remain options.

Two of the most common forms of web-based or mobile services, and with efficacy data supporting their use, are computer-assisted cognitive behavior therapy (CCBT) and mobile applications (mobile apps). CCBT has been developed as a way of helping patients build core CBT knowledge and skills, while reducing traditional face-to-face sessions to about a third of the time typically spent in CBT. Most mobile apps, however, do not provide a full course of CBT but focus on specific coping methods such as breathing training, relaxation, or mood tracking. Although there is more efficacy data for CCBT, mobile apps can be used effectively to deliver quality service when a provider follows proper guidelines for selecting apps and engaging patients in their use. The objectives of this chapter are to: (1) Review the empirical support for CCBT and mobile apps, (2) Discuss features of some commonly used CCBT programs and mobile apps, and (3) Offer suggestions for using these methods in clinical practice especially as related to rural community needs.

Computer-Assisted Cognitive Behavior Therapy

Computer-assisted cognitive-behavior therapy (CCBT) is a form of cognitive-behavior therapy (CBT) that relies on a computer program to perform many of the functions of traditional, face-to-face CBT, thus providing a method that can improve the efficiency of CBT and access to effective psychotherapy (Eells et al., 2014; Wright et al., 2019). Although there have been attempts to use stand-alone (no clinician support) CCBT programs for depression, research has shown that hybrid methods, in which a clinician guides and supports use of the computer program, are considerably more effective (Adelman et al., 2014; Wright et al., 2019). In this chapter, we focus on use of programs that substantially reduce the amount of clinician time required for effective treatment but do not eliminate the key role of the clinician in treatment delivery. Although CCBT has been developed for a wide variety of conditions, we limit the discussion here to the most common applications of CCBT—depression and anxiety.

Effectiveness of CCBT for Depression and Anxiety

Research on CCBT has accelerated greatly over the past decade, and a large number of completed studies have been evaluated in meta-analyses (Wright et al., 2019; Carlbring et al., 2018; Domhardt et al., 2020; Guo et al., 2021; Furukawa et al., 2021). The overall results of these meta-analyses indicate that CCBT, with little to modest amounts of clinician support, is an effective treatment for depression. For example, a meta-analysis of 40 studies of CCBT for depression (Wright et al., 2019) found a moderately large effect size of 0.67 for clinician-supported CCBT but a small effect size of 0.24 for unsupported CCBT. When CCBT has been compared directly with standard CBT for depression, no significant differences in effectiveness have been found (Thase et al., 2018; Carlbring et al., 2018). In one investigation (Thase et al., 2018) of 155 drug-free patients with major depressive disorder were randomly assigned to standard CBT (16–20 hours of face-to-face treatment) versus CCBT (clinician support reduced by 2/3). Both treatments were effective, and there were no differences in symptomatic improvement. However, CCBT was significantly less costly than standard CBT (Thase et al., 2020). Follow-up assessments after treatment is completed have typically shown that CCBT for depression has lasting positive effects (Wright et al., 2019). Although more research is needed on predictors of positive outcome in CCBT, higher rates of treatment completion have been associated with greater reduction in measures of depression (Wright et al., 2019).

Results of studies of CCBT for anxiety have paralleled those for depression. Multiple meta-analyses have reported effectiveness for CCBT (Adelman et al., 2014; Kampmann et al., 2016; Newby et al., 2016: Domhardt et al., 2020; Guo et al., 2021). Favorable outcomes typically have been maintained over the follow-up period. As with CCBT for depression, provision of clinician support has been found to improve treatment response. Meta-analyses of CCBT for anxiety have noted mixed results on whether condition-specific (e.g., for social phobia, generalized anxiety, or panic disorder) programs are more effective than transdiagnostic methods. Interestingly, CCBT programs for depression may also significantly reduce anxiety as illustrated in a recent study in primary care (Wright et al., 2022). In this investigation, posttreatment effect sizes for both the PHQ-9 measure of depression and the GAD-7 measure of anxiety were almost identical (0.46 and 0.47 respectively).

Examples of CCBT Programs

Some of the more widely studied and used CCBT programs for depression or anxiety are listed in Table 9.1. These programs cover the basic concepts and skills of CBT, employ multimedia elements such as video and audio, have interactive skill building exercises, and are typically available in mobile applications.

Table 9.1 CCBT programs with multiple randomized controlled trials

CCBT program	Primary application	Link
Beating the Blues[a]	Depression	https://www.beatingthebluesus.com/
Deprexis[b]	Depression	https://us.deprexis.com/
FearFighter[c]	Anxiety – Panic/Phobia	http://fearfighter.cbtprogram.com/
Good Days Ahead[d]	Depression	http://mindstreet.com
Mood Gym[e]	Depression	https://moodgym.com.au/
Sadness Program[f]	Depression	https://www.c4tbh.org/program-review/the-sadness-program/
Space from Depression[g]	Depression	https://silvercloudhealth.com
Shyness Program[h]	Social Anxiety	https://thiswayup.org.au/how-we-can-help/courses/social-phobia/
Worry Program[i]	Generalized Anxiety Disorder	https://thiswayup.org.au/how-we-can-help/courses/generalised-anxiety-disorder/
Space from Anxiety[j]	Generalized Anxiety Disorder	https://silvercloudhealth.com

[a]Proudfoot et al. (2004), Glozier et al. (2013), Gilbody et al. (2016)
[b]Berger et al. (2011)
[c]Marks et al. (2004), Schneider et al. (2005)
[d]Wright et al. (2005), Thase et al. (2018), Wright et al. (2022)
[e]Hoifodt et al. (2013), Phillips et al. (2014), Gilbody et al. (2016)
[f]Perini et al. (2009), Titov et al. (2010), Choi et al. (2012)
[g]Richards et al. (2015, 2020)
[h]Titov et al. (2008), Titov et al. (2009a, b), Williams et al. (2014)
[i]Titov et al. (2009a, b), Robinson et al. (2010), Mewton et al. (2012)
[j] Richards et al. (2016, 2020)

CCBT Programs for Depression *Beating the Blues* was developed in the United Kingdom and has been studied there in several investigations. In an early investigation in primary care patients, CCBT with *Beating the Blues* was significantly more effective than treatment as usual (TAU; Proudfoot et al., 2004). However, a subsequent large-scale study with both *Beating the Blues* and *Mood Gym* found no advantage for either program in adding CCBT to TAU (Gilbody et al., 2016). No clinician support was provided in this larger study. *Mood Gym*, an Australian program, has been found to be effective when clinician support is provided (Hoifodt et al., 2013; Phillips et al., 2014; Gilbody et al., 2016). *Deprexis*, a program developed in Germany and now available in English, and the *Sadness Program* from Australia have been tested in multiple investigations and shown to be effective (Berger et al., 2011; Meyer et al., 2015; Perini et al., 2009; Titov et al., 2010; Choi et al., 2012). *Space from Depression*, a program developed in Ireland, has shown positive results in two randomized controlled trials in the UK (Richards et al., 2015, 2020).

Good Days Ahead, an American CCBT program, has been studied in three randomized controlled trials (Wright et al., 2005, 2022; Thase et al., 2018) and multiple open investigations (Wright et al., 2002; Kim et al., 2014; Wilkinson et al., 2017). In the first two randomized studies (Wright et al., 2005; Thase et al., 2018), CCBT was compared to standard CBT in drug-free patients with major depressive disorder and shown to be as effective as traditional CBT. In the most recent study of 175 depressed primary care patients (Wright et al., 2022), CCBT with *Good Days Ahead* led to significantly greater improvements in depression, anxiety, negative thoughts, and quality of life than TAU. The *Good Days Ahead* program has nine lessons that typically take 15–30 minutes to complete and are done at a pace of about one per week. Clinical support by telephone has been shown to be effective for the *Good Days Ahead* program, and it has been suggested that video support via telemedicine also could be used (Wright et al., 2022). The total mean amount of clinician support time in the most recent study of *Good Days Ahead* was 164 minutes over 12 weeks of treatment (Wright et al., 2022).

CCBT Programs for Anxiety Among the programs listed for anxiety disorders in Table 9.1, *FearFighter* has been approved for use in the United Kingdom by the National Institute for Health and Care Excellence (NICE). This program has nine treatment modules that build coping skills for panic and phobia and encourage gradual exposure to fear-inducing situations. In an investigation of *FearFighter,* both with and without clinician support, compared to a self-relaxation control, both *FearFighter* methods were significantly better than self-relaxation in treating symptoms of anxiety (Marks et al., 2004).

The *Shyness Program*, developed in Australia for social anxiety disorder, includes six lessons, email support from a therapist, and an online discussion forum has been shown to be more effective than a wait list control. This program has been found to be effective in routine clinical practice, when supported by a cognitive-behavior therapist, psychiatrist, primary care clinician, or other mental health practitioner (Williams et al., 2014). The *Worry Program*, a similar offering from Australia, is used for generalized anxiety disorder. *Space from Anxiety*, a program from Ireland, has had mixed results in two randomized controlled trials (Richards et al., 2016, 2020).

Putting CCBT into Clinical Practice in Rural Communities

Research on CCBT in rural settings has usually found similar rates of uptake and effectiveness as in urban populations (Vallury et al., 2015; Wong et al., 2019). However, a study on CCBT with older adults in primary care in rural areas found reductions in anxiety but not in depression (Collins et al., 2017). Antle et al. (2022) noted several barriers to receiving CCBT in rural settings such as lack of internet access or experience in using online resources, stigma, distrust of outsiders who may be providing the computer program and the clinical support, effort required to

complete the treatment, and resistance of primary care staff to a novel approach. Experiences from this study (Antle et al., 2022; Wright et al., 2022), which included focus groups, training programs, and outreach to the rural primary care clinicians and staff, were used in the development of recommendations in this chapter.

Clinician Acceptance and Knowledge of CCBT   Several strategies have been used to help clinicians understand CCBT and use this technology to effectively leverage their time with patients (Antle et al., 2019, 2022). These include recruiting "champions" or early adopters who can gain experience in CCBT and then help orient other clinicians, production of videos and other instructional materials that clinicians can access online, and doing pilot work to discern and effectively manage implementation issues. Providers who do not have immediate access to institutions such as academic medical centers that currently use CCBT may find it beneficial to develop mentor relationships to understand best practices for CCBT implementation.

It can be very helpful to provide brief training programs, or work with mentor organizations, to help clinicians and staff become familiar with the features of CCBT programs and how they can promote efficient and effective treatment. For example, the *Good Days Ahead* Program has a clinician module that allows practitioners to monitor patient progress including mood ratings, program completion, and comprehension scores, in addition to providing access to completed self-help exercises (e.g., thought change records, activity schedules, coping cards). A clinician who is familiar with features of this CCBT program could demonstrate its use and show others how CCBT can be integrated into treatment sessions, while saving time that ordinarily would be needed to explain concepts or help patients build CBT skills. A more comprehensive training program could include guidebooks for clinicians (typically supplied by the distributors of CCBT programs), webinars, and workshops. If staff members are assigned to offer technical support to patients, such as registering users, a brief training program (typically requiring no more than 30 minutes) should be arranged for them.

Economics of Treatment Delivery   At the present time, insurers in the USA are usually not covering the cost of CCBT computer programs in fee-for-service arrangements. However, the time spent by clinicians is a billable service. Although it is hoped that insurers will soon recognize the effectiveness and cost savings to be gained from CCBT and offer coverage, there are several current ways in which the cost of CCBT programs can be built into service delivery plans. For capitated or at-risk health care plans, licenses for use of CCBT programs can be acquired with the goal of reducing overall cost. Also, Federal or other government funded mental health systems can develop CCBT programs or purchase rights to use them. In clinical practices that don't accept commercial insurance, patients can pay directly for use of a CCBT program with goals such as enriching the treatment experience or reducing their total number of visits and cost of treatment. Finally, grants can be acquired for pilot studies that can pave the way for more widespread implementation.

Security of CCBT Programs   Patient confidentiality and data security should be top priorities of CCBT programs while all standards of Health Insurance Portability and Accountability Act (HIPAA) compliance are met. It is especially important to explain security to patients in rural communities and with limited care options, and potential distrust of providers outside the community. User names and passwords should be used, and an administrative system be supplied for providing appropriate levels of access to clinicians and staff who have completed HIPAA training. Because security is a fundamental feature of CCBT programs, developers have constructed systems that users and clinicians can use with high levels of confidence. We recommend that an assessment of security measures be included when considering any CCBT program for use in clinical practice.

Integration of CCBT into Clinical Workflows   Because clinician support for CCBT can be provided in many ways (e.g., face-to-face, telephonic, telemedicine, email, texts, support groups), and can be delivered in brief sessions of 20 minutes or less, an analysis of how and where to implement CCBT is recommended. While CCBT offers a viable solution for patients in rural communities, there may remain a shortage of rural providers able to support the care. Establishing a relationship with other providers may be necessary to ensure support for rural, or otherwise underserved, communities. Other questions to ask prior to integration include the following. Who will deliver CCBT (e.g., psychiatrists, nurse practitioners, nonmedical therapists, peer support specialists, or others)? What types of patients in this practice are likely to benefit from CCBT and what types are not? Who will provide administrative and technical support with tasks such as patient registration and assignment of user names? Will clinicians monitor progress in using the CCBT program(s) and integrate this information into clinical practice? Addressing questions such as these before implementation can help CCBT become a valuable and smooth-working component of multifaceted treatment programs.

Orienting and Supporting Patients Who Use CCBT   As with any treatment, educating patients on how to use a CCBT program can assist with uptake and productive use of the resource. We recommend that clinicians use the program themselves so they will have first-hand experience before explaining program features to patients. Then they can monitor use of the CCBT program throughout treatment, answer questions, make suggestions about use of specific components or self-help exercises, and tailor the learning experience to the specific needs and strengths of each patient.

Case Study

Theresa is a 35-year-old, married female with three kids under the age of 10. Theresa and her husband both work full-time and live in a high provider shortage area for mental health care. She has been struggling with depression for several years and due to her limited access options has received some assistance from her primary care doctor. Her doctor recently contracted with an academic medical center to provide virtually integrated mental health care. Theresa met virtually with a therapist

and was told that her level of moderate depression and access to a computer with good bandwidth made her a candidate for a CCBT program. She participated in a program conducted over 12 sessions that included an initial 60-min virtual 1:1 session, 9 additional 30-min virtual 1:1 sessions, and 2 30-min virtual follow-up booster sessions. Prior to the abbreviated clinical sessions, Theresa spent 30 to 60 minutes independently completing CCBT program modules. After the final booster session, Theresa reported her treatment goals as being met and demonstrated significant clinical improvement. The time spent in treatment was just over 13 total hours for Theresa and only 6.5 hours of 1:1 time for Theresa and her therapist. Utilization of the CCBT program allowed Theresa to receive treatment not previously available and remain in her community for care. Her therapist was also able to provide care to other patients in the time it would traditionally take for a CBT episode of care, and per patient costs were reduced by about $1000.

Mental Health Apps for Rural Populations

Mobile applications — hereafter referred to as "apps" — are software programs that are either preinstalled or most commonly downloaded to a mobile device for a specific purpose. Mental health apps are specifically tailored to improve mental health. The app terminology is evolving; for instance, past literature may focus exclusively on mHealth — "mobile health" — given the immense popularity of the Apple App Store and the Google Play Store for Android. Different terms have been used to describe specific applications for mental health: digital mental health interventions (DMHI's) (Schueller & Torous, 2020), digital mental health treatments (DMHT's) (Mohr et al., 2021), and simply digital mental health (DMH) (Mohr et al., 2018). Terms that apply to apps that are being approved through the U.S. Food and Drug Administration FDA regulatory pathways include SAMD (software as a medical device) and DTx (digital therapeutics), in which apps demonstrate a greater level of clinical efficacy and safety.

Mental health apps can also play critical roles with TBH — or video visits — to conduct patient interviews. The similarities among many of these services and modes — coupled with increased interchangeable features amongst a growing diversity of devices — means a wide variety of apps are available.

The use of apps in daily life continues to increase, and there has been a proliferation of apps designed for health care with over 300,000 commercially available apps and other 10,000 designed for mental health (IQVIA Institute, 2017). User experience with apps is evolving and patients would like access to mental health apps to help manage treatment (Torous et al., 2014). Some concerns remain about the overall quality of, security for, and efficacy of mobile apps for mental health care, although the efficacy research is improving (Kim et al., 2018; Palmer & Burrows, 2020).

The use of mobile apps does provide some promise of increased access for those living in rural areas. Apps can help bridge the "treatment gap," in which over 50%

of patients in the world who have a mental disorder have not received care. Traditional mental health visits involve a process of searching for a provider, making appointments, and answering questionnaires and intake forms. Then, during a face-to-face initial encounter, a visit between the patient and provider may take from 30 minutes to 120 minutes. Briefer, follow-up encounters can be scheduled from every few days to every few months. But the availability of services can vary in between visits. While traditional mental health sessions focus on interventions and education during in-person visits, mental health apps can help deliver such visits electronically, provide education during and in-between sessions, and track the progress of psychiatric treatment. These mental health apps are especially beneficial for individuals seeking help for mental health issues because they are convenient, accessible, and available much more quickly.

Benefits of Mental Health Apps for Rural Populations

Mental health apps address many shortcomings of traditional mental health visits. In considering how ubiquitous and universal these smart devices can be, we think of many key advantages including accessibility, anonymity, affordability, accuracy, relevancy and specialization, safety, and scalability.

Accessibility Mental health apps allow persons with mental illness — or those at risk of developing one — to receive care from anywhere at any time. Rural populations with decreased access to mental health professionals can seek online psychiatric services through a telehealth app, and psychological apps with CBT elements. Furthermore, these services can automate office administrative functions, such as scheduling, phone notifications, text messaging, and questionnaires. Apps will be able to augment and complement mental illness treatment management, as technology continues to evolve. From a cultural standpoint, too, language accessibility — for instance, patients with limited English proficiency (LEP) in English-dominant countries — is a large barrier in healthcare. Apps have the potential to transcend cultural issues in areas with a dearth of culturally congruent providers, addressing shortcomings such as race, ethnicity, socioeconomic status, local knowledge (such as urban vs. rural), religion, gender identity, sexual preference, and education level (Hilty et al., 2021). Apps can also be more convenient than traditional face-to-face visits. In-person visits are time-consuming, often requiring scheduling ahead of time and transportation arrangements. Rural areas particularly have a shortage of mental health specialists, and the use of Internet and communication apps bridge this gap.

Anonymity Using and storing apps on the phone can be more anonymous than visiting a mental health clinic or purchasing self-help books. Some mental health apps even allow patients to connect with others through social media or chat rooms. This social interaction can benefit those who wish to discuss and share problems but

feel uncomfortable talking face-to-face. Anonymity is particularly key in smaller, rural towns whose citizens know each other (Crumb et al., 2019).

Affordability   In addition to improving patient outcomes, advances in technology could also help reduce costs associated with treating mental illnesses. For lower-income rural populations, apps can be a lifeline to healthcare. The low capital cost of creating apps — with the low marginal cost of deploying apps —allows patients to access a variety of apps that specially target their symptoms. Patients can opt to pay for app services out-of-pocket. Direct-to-consumer companies offer services for mild- to moderate-severity mental illness, using a combination of elements such as consumer-friendly app interfaces, operating system integration, video visits, and text messaging. Increasingly, apps can be provided as employer perks or organizational member benefits.

Accuracy   Whereas traditional visits rely on the patient's memory in answering retrospective questionnaires as a form of measurement-based care, apps can employ ecological momentary assessment (EMA) to assess symptoms at specific times of the day. Apps can improve patient outcomes by providing more timely diagnosis and intervention, than such face-to-face visits. In fact, providing interventions during critical times — such as potentially prior to a relapse — may prevent disease from worsening, reduce hospitalizations, and improve adherence (Dang et al., 2020). In addition, some mental health apps make it easier to track progress over time. Not all electronic health record systems have the ability to store and track patient-generated health data (PGHD). Providers can coach patients to use specific apps that do store and track such data, and empower the patient to provide this information at visits. (Chan et al., 2018).

Relevancy and Specialization   Mental health specialists in rural areas may not only be in short supply but also may not have expertise for particular diagnoses or specific populations. Youth mental health needs, in particular, may not be addressed adequately, as 7 in 10 counties in the United States do not have child and adolescent psychiatrists available (McBain et al., 2019). And, the workforce of psychiatrists is expected to have a shortage by 2024 due to psychiatrists retiring from the workforce (Satiani et al., 2018). Apps that provide telehealth access to specialists, specialty-specific education, and interventions can bridge this gap. These tools can focus on a variety of areas related to mental health, including relaxation, stress management, and sleep. Traditionally, such topics involving human therapists — such as sleep coaching or mindfulness — may be more costly or packaged in courses and self-help books.

Safety   Internet and communication technologies are safer to use. Amidst the COVID-19 pandemic, telehealth restrictions loosened considerably, allowing healthcare providers to see patients without the need for personal protective equipment (PPE). In a way, these apps served as a form of PPE. Telepsychiatry video encounters have been shown to be safe to use in dangerous settings. In correctional

facilities — such as jails and prisons — and in military settings, having healthcare provided at a distance can help protect psychiatrists and retain psychiatric services in hard-to-recruit work settings. And, in areas such as inpatient medical/surgical wards and emergency departments, having TBH services available can improve outcomes and keep clinicians safe. For instance, telepsychiatry reduces clinician exposure to nosocomial infections, verbal assaults, and physical assaults from an increasingly violent and agitated American public. This can help retain providers and reduce absenteeism.

Scalability   Many customer-facing industries have capitalized on apps, such as customer support computer-driven "virtual agents," restaurant ordering systems, taxi-like rideshare services, and self-guided video tutorials. We are finding these services able to reduce friction and allow communication and business transactions to more easily occur. Such platforms could be used for psychiatric treatment. While gold-standard psychotherapy and psychoeducation comes in the form of face-to-face teaching, mental health has faced an extreme shortage of providers. "Treatment as usual" in research studies comes in the form of months-long waitlists. Apps alleviate the shortage by automating many parts of mental health assessment and treatment. Automation can involve questionnaires, symptom tracking, providing educational videos, and making full use of smartphone sensors to detect unusual activity.

Potential Barriers to Use of Mobile Mental Health Apps in Rural Communities

While the significant benefits to the use of mental health apps are noted, they may not be the best solution for certain situations. Barriers such as digital literacy, access to technology, payment issues, diagnoses served, interoperability and data sharing, and privacy and security may make it difficult for patients to adopt and/or providers to recommend the use of apps.

Digital Literacy   Use of apps requires both patient and provider to know how to use both the hardware and software. By having this foundational knowledge, they can then proceed to acquire and use mental health apps. Hardware level "digital literacy" topics can include understanding how to power on devices, how to obtain a strong Internet connection, and how and when to charge the device. Because devices can change functionality — such as adapters, button placement, and charging requirements — patients may benefit from continuous education from the manufacturer and guidance from support personnel.

Software level "digital literacy" topics include understanding how to navigate the device's operating system, install apps, update software, launch apps, and share data with providers and other caregivers. Security and privacy principles here may

not be immediately obvious. For instance, share buttons and icons appear different on different devices. And, the content of data sent is not always transparent or disclosed. Without a foundational knowledge on digital device and apps usage, the apps may not be effective and risk a reduction in patient adherence. Proper implementation into the patient's workflow and clinical workflows ideally includes prior planning, prelaunch support, and in-clinic support to anticipate usability, design, and adherence issues (Chan et al., 2017).

Access to Technology   Computing devices come at a cost, and those without homes or those who live in high-risk environments face increased risk of theft and robbery. Further, the costs of charging the devices, seeking a working Internet connection, and ensuring longevity of the devices may be difficult for struggling patients. Using a lower tier of Internet speeds may compromise the quality of video sessions, educational videos, and audio connectivity, which may lead to disruptions in response times, dissatisfaction, and quality issues.

This access issue is often termed the "*digital divide*" — the difference between those who can readily access computers and the Internet, and those who cannot. Within the United States, though, smartphone ownership access rates reveal such a divide: 97% of U.S. adults owned a cell phone, and 85% of U.S. adults own a smartphone, but 61% of U.S. adults 65 and older owned a smartphone, which appear to increase year by year. For instance, low-income Americans who access the Internet solely through the smartphone has doubled since 2013 (*Demographics of Mobile Device Ownership and Adoption in the United States*, 2021). Numerous health systems and nonprofits donate or loan mobile devices, which may include peripherals designed to measure vital signs. One such system has found that loaned tablets led to higher satisfaction with the healthcare system and a decreased likelihood of missing appointments (Zulman et al., 2019).

Payment Issues   Patients may face barriers purchasing apps and features. For instance, access to digital payment systems and accounts may be issues for those who store currency in cash or are ineligible for credit cards. Payments may need to be set up by conservators or fiduciaries, in which finances are overseen by an external party. However, these are not unlike obtaining medication support at a pharmacy.

Diagnosis Served   Most mental health apps have been designed for mild severity of mental illness of able means. Accessibility for persons with disabilities, cultural fit, and accommodation for cognition issues are ideal. Those with severe mental illness, dementia, substance use disorders, and cognitive disorders typically need additional support or new ways of accessing technology. Digital literacy can be difficult to obtain in such populations.

Interoperability and Data Sharing   Providers may be accustomed to "sharing" data through fax machines, e-mails, and secure messaging. However, new federal regulations — such as the 21st Century Cures Act — as well as data requirements — mean that apps need to be able to exchange information in a more automated,

digitized fashion. However, data interoperability is not standard. This lack of data interoperability is similar to how popular messaging software — like Facebook Messenger, Google Chat, and Apple iMessage —are not able to exchange messages or data with each other. Healthcare providers and patients should look for ways to allow apps to export, save, and share data. Crude methods include exporting to PDF files, but such files were designed for paper printouts and lack interactivity. Ideally, data is exchanged through standard application programming interfaces (APIs) — such as FHIR or SMART — to allow other apps to read data and display such data in a useful manner.

Privacy and Security Because a lot of apps consider themselves to fall outside the scope of a healthcare service, the app's developers may not observe laws that apply to healthcare covered entities in the U.S. — such as HIPAA. (Glenn & Monteith, 2014).

And because some apps that purport to *not* distribute or publish information may use the same mental health questionnaires that are also used in healthcare settings, the use of HIPAA can unfortunately be at the discretion of the app developer. Further complicating this, privacy policies are difficult to read and often unavailable (Huckvale et al., 2019; Powell et al., 2018). And unfortunately, a majority of mental health apps that do have a privacy policy or terms of agreement do collect extensive data and share information with third parties (O'Loughlin et al., 2019).

Often times, such apps may communicate personally identifying information, such as advertising IDs, e-mail addresses, and apps installed on the phone, to third parties. Reviewers have found mental health apps — including prominent, popular ones — send data to Facebook "optimize ads" (Germain, 2021; Hill & Krolik, 2020); academic researchers have found this to be the case for 36 top-ranked apps for depression and smoking cessation as well (Huckvale et al., 2019). And, in certain cases, it is not clear how the patient can delete the data. For instance, former employees have said one prominent mental health app retains information of session transcripts that are used for marketing and machine learning (Hill & Krolik, 2020). In conclusion, patients and clinicians should be aware that healthcare entities may use patient data for machine learning, artificial intelligence, and analytics.

Table 9.2 provides an overview of best practice recommendations for implementing apps into TBH solutions for rural communities

Case Study
Dr. Nguyen is a primary care physician in a small town who has had no access to psychiatrists to see her depressed and anxious patients, many of whom have already tried her prescribed first-line medications. Her patients have had some improvement, but they have not achieved full remission. Dr. Nguyen has tried to connect them with a psychotherapist, but the closest therapist is hundreds of miles away and only accepts out of pocket payments due to numerous negative experiences with insurance corporations' denial of claims. Dr. Nguyen noticed that while in the waiting room, one of her patients with depression would read news and watch videos on their touchscreen phone. In the clinic room, Dr. Nguyen asks the patient about their

experience with video calls. The patient responds that they regularly call their grandmother. Dr. Nguyen then recommends that the patient use an app to provide CBT-based behavioral activation and suggest healthy, positive activities. Dr. Nguyen asks the patient to use this once a day, to augment her depression treatment. The app is low-cost but does not report progress to the electronic health record or alert Dr. Nguyen about any issues. To work around these limitations and the lack of data sharing, Dr. Nguyen asks the patient to enable the phone's screen time tracking function so that they can look at the app together and track progress in a future follow-up visit.

Conclusion

Advances in the development of CCBT and mobile apps suggest that these technologies offer considerable potential for enhancing treatment options for rural and underserved communities. CCBT has been studied in a large number of randomized controlled trials that have demonstrated effectiveness matching standard, face-to-face CBT while offering advantages of improved efficiency, reduction of clinician effort, lowered cost, and greater convenience for patients. These strengths of CCBT could yield benefits for rural and underserved communities by broadening access to evidence-based psychotherapy and reducing burden on provider time and resources. There is great promise in the integration of CCBT with primary care practices, which are currently the backbone of rural mental health care. The other goal for future development in rural communities is the use of well-trained peer guides for CCBT. Rather than utilize credentialed providers for the abbreviated sessions, a well-trained peer or clinical support specialist may offer further advances in access to care.

Although a number of mobile apps for depression have been developed, inadequacies of data management policies and security protection, in addition to the limited number of randomized controlled trials with actual patient populations, raise concern about their clinical use. Because progress is anticipated in the development,

Table 9.2 Best practice recommendations for mobile health app implementation

Topic	Recommendations
Connectivity and Bandwidth	Ensure access to a fast, low-latency Internet connection, and ensure that apps are suitable for any connectivity and bandwidth limitations
Culture	Consider view about mental health treatment and acceptance of technology with cultural context
Technology Support	Consider building in redundancy with additional equipment stores Use physical protection to ensure longevity of mobile equipment Employ security and ensure software upgrades for existing equipment
Therapist-Guided Apps	Consider apps that are specifically used to complement psychotherapy for any population who prefers more live sessions with a professional
Self-Guided Apps	Evaluate the stated purpose of the app and ensure it is based on evidence as intended

evaluation, and empirical study of apps, we project their increasing acceptance and use in psychiatric treatment. As the literature continues to improve, and additional practice guidelines are developed, it is recommended to focus efforts on evaluating apps before use, recommending select apps to patients that fit into a broader system of care, and continuously checking on care progress and app effectiveness with patients.

CE/CME Questions

1. When implementing mobile apps in rural communities, best practices include

   (a) Ensuring apps are tailored to the patient's Internet connectivity and bandwidth
   (b) Using prescription-only apps
   (c) Having the ability to install apps via USB sideloading
   (d) Disregarding the American Psychiatric Association's app evaluation guidelines
   (e) Allowing apps to synchronize only through a USB cable

2. Common mobile app functionalities can include

   (a) Automated administration of clozapine
   (b) Mental health assessment, diagnosis, intervention, or education
   (c) Detection of blood pressure for stimulants
   (d) Tight, seamless integration with all electronic health record systems
   (e) Apps that always respect the user's privacy and always safeguard personal health information

3. These terms can refer to the use of mobile apps for digital mental health purposes, EXCEPT

   (a) DMHI — digital mental health interventions
   (b) DTx — digital therapeutics
   (c) docbox — doctor in a box
   (d) SaMD — software as a medical device
   (e) mHealth — mobile health

4. CCBT programs are legally and financially supported through all of the following EXCEPT

   (a) Health care plan financing
   (b) Government-funded mental health system financing
   (c) Patients paying out-of-pocket
   (d) Cash-strapped players competing in children's games with deadly high stakes
   (e) Grant-supported pilot studies

5. Barriers to CCBT include the following EXCEPT

  (a) Lack of Internet access
  (b) Lack of experience in using online resources
  (c) Distrust of outsiders who may be providing the computer program
  (d) Resistance of staff to using CCBT
  (e) Champions — or early adopters — who deliberately sabotage hard-earned efforts to implement CCBT

Answer

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

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Chapter 10
Integrating In-Person, Video, and Asynchronous Technologies in Rural Primary Care

Donald M. Hilty, John Torous, and Steven R. Chan

Introduction

A number of technologies are being added to in-person care to help people, patients, families, caregivers, and primary care providers (PCPs) (Hilty et al., 2015a; Chan et al., 2017; Hilty & Chan, 2018). On a spectrum of low to high engagement and technology requirements, participants use may options: website information – support & chat groups – social media – resources for self-directed assessment and care – asynchronous mobile health app, text, or e-mail for PCP–specialist communication – synchronous video (Hilty et al., 2015a). Often, these are combined with in-person care and called hybrid care (Chan et al., 2017). With the opioid epidemic at hand, telehealth provides a feasible method for delivering treatment in rural areas, but there is a need for innovative and technology-driven solutions (Freeman et al., 2021). Technologies used for PCP–specialist collaboration vary in complexity, resources, cost, and specialist time from low- (e.g., e-mail, phone) to mid- (e.g., disease management, consultation care) to high intensity (e.g., collaborative, hybrid care) (Hilty et al., 2018a) (Table 10.1).

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Table 10.1 Low-, mid-, and high-intensity telebehavioral health models for rural primary care based on complexity, resources, cost, and specialist time

Intensity tier and mode	Model method	Model examples and features
Low		
Asynchronous	E-mail	Primary care team member and behavioral health provider
Synchronous in-person & telephone	In-person and telephone doctor-to-doctor "curbside" consultations	Provide PCP information "in-time" with purpose Provide components of collaborative care
Synchronous telephone & asynchronous e-mail	Telephone or email doctor-to-doctor "curbside" consultations	Provide multispecialty phone and email consultation system to PCPs for the care of patients with a variety of health needs Start/accelerate care while patients are awaiting video consultation; some may do well and not need the video care Align PCPs' diagnoses and medication treatments Improve PCPs' knowledge and skills Improve nursing home video care for depression or dementia, by making evaluation easier and more efficiently using consultant time
Synchronous video & telephone	Case review with PCPs	Case review of diagnosis and follow-up after a discussion help change treatment plans and improve knowledge Videoconference "virtual grand rounds" are led by a team of MH specialists to review and discuss cases, by Specialty Care Access Network-Extension of Community Healthcare Outcomes (SCAN-ECHO) model at the University of New Mexico
Asynchronous video & telephone	Oversight of PCP for other PC providers	Reduce travel for very sick patients (e.g., cancer, psychosis), but the cost used to be prohibitive for most consumers
Synchronous video & telephone, if necessary	One-time cultural consultation	Cultural consultation to rural primary in order to match patients and specialists by culture, ethnicity, and language
Synchronous video	One-time neurocognitive assessment	Neurocognitive assessment via video using a Spanish-language battery was comparable to in-person testing for rural Latino patients
Mid		
Synchronous video and telephone	Initial +/− follow-up video consultation	Increase capacity of BH services; diagnostic assessment and medication changes made, respectively, leading to clinical improvements in cases Improve PCP knowledge, skills, and complexity of questions over time, particularly in rural PCPs

(continued)

Table 10.1 (continued)

Intensity tier and mode	Model method	Model examples and features
Both synchronous in-person/video & asynchronous to supervisor	Adding a geriatric nurse practitioner	Adding a geriatric nurse practitioner to an outpatient diagnostic, multidisciplinary facility for patients with cognitive disorders may improve the providers' concordance rate of the advice from the diagnostic facility and reduce subjective burden of the informal caregiver
Both synchronous video & telephone	Disease management randomized controlled trial for depression	Improve video and usual care outcomes over 12 months; the latter group benefitted from the Hawthorne effect and providers' application of skills from the intervention group
Synchronous video & telephone, & asynchronous e-secure email	Rural health network screening, assessment and interventions	BH screening, therapy on site, video consultation (phone, email, or video), continuing medical education and staff training improved patient outcomes and site-based staff skills
Asynchronous	Video	Feasible, valid, reliable, and cost-effective in English and Spanish-speaking patients in primary care (Similar methods are used in radiology, dermatology, ophthalmology, cardiology, and pathology)
Asynchronous	e-consultation	Remote communication between patients and providers, or between providers and specialists, using e-mail, text, and/or documented notes. This requires a system within electronic health record, training, and monitoring
Asynchronous	Text	Messages distributed by electronic means from one computer user to one or more recipients via a network/composed electronic messages, typically consisting of alphabetic and numeric characters, sent between two or more users of mobile devices, desktops/laptops, or other type of compatible computer (previously Short Message Service or SMS). Now includes multimedia messages (known as MMS) containing digital images, videos, and sound content, as well as ideograms known as emoji (happy faces, sad faces, and other icons). This requires a system within electronic health record, training, and monitoring
Asynchronous	App	Self-help or self-directed smartphone apps and programs that offer access to information, self-tracking, and various clinical skills / exercises
High		

Table 10.1 (continued)

Intensity tier and mode	Model method	Model examples and features
Synchronous video	Collaborative care	Versus in-person care in terms of diagnosis and treatment of depression Medication use for depression in children/adolescents and adults Adults with PTSD Children/adolescents with ADHD Federally qualified health center for pharmacotherapy and psychotherapy for depression
Synchronous in-person & video	Hybrid care: video with other methods	Synchronous and asynchronous video for children with ADHD, with parents and teachers, with screening using a checklist, a diagnostic assessment instrument, rating scales for inattention, hyperactivity, role performance, and other impairments
Synchronous video	Veterans Affairs video	Geographically dispersed population; in 2016, BH providers conducted 750,000 interactive video encounters, including on demand and to the home

Abbreviations: *BH* mental/behavioral health, *app* application; *PCP* primary care provider, *PTSD* posttraumatic stress disorder, *ADHD* attention deficit hyperactivity disorder

Research is beginning to focus on asynchronous communication (i.e., e-mail, text, apps, e-consultation, mobile health, social media) in addition to video, hybrid care (i.e., in-person and/or technology combinations), and asynchronous video (Hilty et al., 2015a; Hilty & Chan, 2018; Yellowlees et al., 2018). Definitions for these technologies are:

- E-mail: a method of exchanging messages ("mail") between people using electronic devices.
- Text: messages distributed by electronic means from one computer user to one or more recipients via a network/composed electronic messages, typically consisting of alphabetic and numeric characters, sent between two or more users of mobile devices, desktops/laptops, or other type of compatible computer (previously Short Message Service or SMS). It has grown beyond alphanumeric text to include multimedia messages (known as MMS), containing digital images, videos, and sound content, as well as ideograms known as emoji (happy faces, sad faces, and other icons).
- E-consultation: involves remote communication between patients and providers, or between providers and specialists, using e-mail, text, and/or documented notes
- E-consultation video: involves remote communication between providers and specialists, using a video to complement using e-mail, text, and/or documented notes.
- Asynchronous video: refers to the "store-and-forward" technique, whereby a patient or behavioral health (BH) provider collects psychiatric history and other

medical information by video and then sends it to a psychiatrist for diagnostic and treatment recommendations.

- Asynchronous hybrid use smartphone apps: Smartphone-based tools that allow patients to track symptoms and/or complete therapeutics exercises that are later reviewed by a clinician.
- Asynchronous self-help smartphone apps: Smartphone-based tools that allow patients to track symptoms and/or complete therapeutics exercises that are not reviewed by a clinician.
- Asynchronous video-PC: using a PCP team member to collect the psychiatric/ BH history and other medical information by video and then send it to a psychiatrist for diagnostic and treatment recommendations.

Video outcomes are comparable to in-person care and they are effective for consultation, collaborative, and integrated care (Hilty et al., 2013, 2018a, b; Fortney et al., 2015; Myers et al., 2015). Asynchronous video is an effective model of service delivery and produces outcomes similar to video for adult primary care outpatient and skilled nursing populations (Yellowlees et al., 2018; Xiong et al., 2018). Services by telephone, e-mail, and mobile health (i.e., smartphones/devices, apps and wearables) are now considered part of healthcare as they provide user-friendly, "in-time," efficient, and less costly interventions (Hilty et al., 2015a, 2019a). There is strong evidence that smartphone apps when supported by a clinician (also known as hybrid care) are most effective than self-help smartphone apps (Mohr et al., 2021). The evidence for self-help apps is variable and in some studies they appear ineffective and in other more effective (Linardon et al., 2019).

Asynchronous technologies vary in complexity and skill requirements for providers on the rural primary care and urban specialist end. Asynchronous videotaping of a patient with a research assistant with a structured interview – or of medical assistant using a brief clinical interview – in combination with medical data (e.g., conditions, medications) to create an encrypted e-packet for a psychiatrist to review at a distance (Yellowlees et al., 2018; Xiong et al., 2018). The consulting psychiatrist uses the asynchronous video to perform a mental status examination and the equivalent of a diagnostic interview, similar to how a radiologist interprets an image while incorporating clinical history from the referring physician. The specialist gives the PCP information or a plan to implement (Blenkiron, 2006; Yellowlees & Shore, 2018). Asynchronous mobile health app, text, or e-mail for PCP–specialist communication, though, are happening in time rather than in scheduled visits for care – sometimes with data automatically entered into the EHR – and this is familiar to new generations, yet challenging for workflow (Hilty, Torous et al., 2020).

Many providers, teachers, and administrators struggle to use new technologies (Rogers, 1995; Hilty et al., 2015a, 2018d). In addition, BH professionals may not see asynchronous or store-and-forward technologies like mobile health and social media as a part of care (Hilty et al., 2018c). To keep up with society's use of technology and to ensure quality care, providers need skills (i.e., competencies), knowledge, and attitudes for synchronous and asynchronous technologies (Hilty et al., 2019a; Maheu et al., 2019).

This chapter: (1) describes and compares in-person, synchronous video and asynchronous telehealth care delivery; (2) outlines patient, PCP, and BH provider skillsets (i.e., competencies); and (3) provides a conceptual approach to integrate asynchronous methods into team-based, service delivery model and system workflow. For systems of care, an approach to competencies helps to align clinical, training, faculty development, and administrative missions (Hilty et al., 2015b).

Case Study

Case: Telepsychiatry to Inpatient Mental Health to Manage Depression and Suicidal Ideation

CC/reason for referral. An initial telepsychiatric evaluation and follow-up care was done to an acute inpatient hospital. Urgent staffing difficulty due to provider shortage; ill physician. The tele-presenters were the psychiatry resident (R) and medical student (MS).

HPI. A 43 year-old male presenting with depression and suicide attempt by cutting his wrists, which required suturing in the emergency department, with the patient initially minimizing the event and then not recalling the specifics. He recently used methamphetamine related to a separation from his wife. When informed that he would not be discharged this day, he became frustrated, abruptly halted the conversation, and left the room. He was able to calm down after a short period with the R and MS, and they returned to finish the evaluation and was agreeable to treatment including medications. He had a history of depression, three hospitalizations, and of cutting of wrists (no other attempts), but no mania, psychosis, or medical problems.

MSE. The patient was disheveled, inattentive, guarded, and an inconsistent/inaccurate historian. Mood was "depressed" and dysphoric with affect irritable and labile. Thoughts were notable for tangents, worry, and hopelessness. He currently denied AH. Insight/judgment was poor. He had SI and more thoughts of hurting self but denied intent currently.

PE/Lab/imaging. All tests were unremarkable.

A/P. Diagnosis: Depression, recurrent, severe, without psychosis, R/O personality dysfunction, and amphetamine use disorder. The psychiatric treatment plan for this patient was to stabilize the mood and monitor for SI. Education began on exercise, diet, sleep, medication, and his illness. He was offered supportive therapy and group education – a focus on coping skills. Cultural considerations were considered and pertained to low level of education, some tendency to reject others' help, and inconsistent help-seeking strategies. The patient was started on Zoloft 50 mg daily and Gabapentin 300 mg TID.

Update at day 1, day 2, and 1 week. The patient was seen daily by telepsychiatry, tolerated medication, and was discharged home with continued mental health care and recovery referrals.

Take home or key points in summary:

1. Patient was willing to participate, but being acute, left abruptly during the first session, and then returned. He reported being satisfied, overall.

2. The telepsychiatrist was able to perform the suicide risk assessment, manage medications, and oversee placement and follow-up planning.
3. Patient stated preference towards telehealth rather seeing two other on-site psychiatrists (worked with them in the past), "I wish you could always be my doctor."

Comparing In-Person, Synchronous, and Asynchronous Care

Overview

Clinical care in-person, by video and via asynchronous technologies have similarities differences (Hilty et al., 2018c, 2019a). Technology changes the nature of interaction for participants and communication, which impacts information exchange, clarity, responsiveness, and comfort (Liu et al., 2010). The goal with technology is to simulate real-time experiences for a good therapeutic interaction (Hilty et al., 2002). Even low-cost video systems facilitate engagement and a "social presence" for participants to share a virtual space, get to know one another and to discuss complex issues (Cukor et al., 1998; Hilty et al., 2002). Social and cognitive neuroscience findings on communication and engagement using augmented and virtual reality (AR, VR) may be used to enhance communication and telepresence (Aronson et al., 1994; Slangen-de-Kort et al., 2001; Hilty et al., 2019b).

The context of using technology significantly affects rapport and workflow. For team members or a specialist reaching a PCP, texts are common and helpful for brief communication. For patient care, though, prudent planning is indicated. Ultimately, the goal of the technology is to create an environment that facilitates the therapeutic engagement and emotional well-being for all parties (Hilty et al., 2002, 2013; Maheu et al., 2019). The patient's requests, needs and preferences are the provider's first priority. Reflection can help determine if and when e-mail or text can used and how it affects care. Decisions related to the suitability of any specific technology are often optimally made as part of the consent process by the patient and provider, and again later, when needs/preferences among available choices are understood (Hilty et al., 2015a; Maheu et al., 2018). If care changes over time with the addition of new technology (i.e., telephone, text messaging, app), the therapeutic relationship requires that legal and ethical mandates be attended to (e.g., privacy concerns over public and private sector versus health system sites; dealing with emergencies) (Torous & Roberts, 2017).

Shifts in Moving to Care with Asynchronous Technologies

There are several paradigm shifts happening with technology-based care. One shift is moving from in-person to video care. Video outcomes are comparable to in-person care and it has been used with a variety of models of care (Hilty et al., 2013) including collaborative care to rural federally qualified health centers and other rural settings (Fortney et al., 2013, 2015) and stepped and integrated care (Hilty et al. 2018b). But only recently, research is focusing on how technology affects the *therapeutic frame, communication, boundaries, and trust* (Hilty et al., 2019b).

Another shift in progress is the integration of mobile health, video, social media, and other technologies into clinical workflow – and part of this relates to training and faculty development. Video-based mobile health care connects participants synchronously (e.g., live feed of data to a provider for decisions) (Hilty et al., 2013) or asynchronously (e.g., text) like asynchronous video (Yellowlees et al., 2018). The challenges of learning, teaching, and evaluating these matters has led to exploration of skillsets, and more specifically competencies (Hilty et al., 2018c, 2019a). Mobile health includes also includes clinical decision support, requires prudent selection of technology and flow of information across an EHR platform.

A third shift is that correspondence via technology occurs outside the office visit and this creates a new, previously impossible, sense of continuity, connection, and ease of communication (Hilty et al., 2020b). In-time data collection (also known as ecological momentary assessment (EMA)) also yields more valid, reliable, and meaningful data (Depp et al., 2012) for provider decision-making (e.g., mood and medication management) (Thompson et al., 2014). Smartphone apps today can generate tremendous amounts of data from sensors that can give insights into the real time and lived experience of illness. For example, it is practical for a patient to collect not only their daily step count from their smartphone but also other clinically relevant data such as sleep patterns and environmental exposures. This concept, often referred to as "digital phenotyping" (Henson et al., 2020), has the potential to make measurement base care easier to implement, although barriers today include clinical decision support and standards around use of this novel data.

A final shift is extending care along the continuum of medical and BH settings. This includes emergency departments, inpatient medical, nursing home, and other places in the community (e.g., jail). Telehealth decreases rural emergency department wait times for BH patients in a group of critical access hospitals (Fairchild et al., 2019) and shortens rural time-to-provider and emergency department transfer times (Mohr et al., 2018). PCPs (61%) reported somewhat to moderate satisfaction with referral experiences. Challenges identified by PCPs for children and adolescent patients were related to: lack of timely follow-up appointments and continuity of care, lengthy referral forms, and recommendations for BH services not accessible in their communities (Pignatiello et al., 2019) – suggesting a lack of a continuum of care.

Shifting from Video to Asynchronous Skillsets/Competencies for Patient, PCP, and Behavioral Health Providers

Overview of the Approach: Attitudinal Factors

The adjustment to technology is informed by the consumer movement, traditional medical practice, and the evolution of institutional approaches to incorporate it. In business, technology is a key part of the consumer decision journey, in which people consider life choices, evaluate options, make purchases, develop loyalty, and advocate others to do the same (Edelman, 2010). There is a clash of perspectives and cultures, as people conduct their life with technology in-time, but health decisions are usually best weighed over time, based on patient–provider discussion and informed by data. More broadly, traditional medical practice and the evolution of science have stood the test of time, but moved slowly.

In the broadest sense, the approach to asynchronous care, including asynchronous video, may be stratified into clinical, technological, workflow, and other administrative factors (Table 10.2). Clinical factors include patient selection, therapeutic engagement and presence, mental status examination, and treatment. Not all patients or providers may be suitable for mobile health and social media components of care, particularly in terms of maintaining boundaries and provider availability (e.g., attempts at after-hours contact, particularly if a provider uses her/his personal device for professional care) (Hilty et al., 2015a; Parish et al., 2017). Some providers find the use of technology stressful and feel it may contribute towards burnout (Golz et al., 2021), again highlighting the need for education and training to support the use of these new approaches in care. On the other hand, mobile technologies may help providers "wraparound" patients with schizophrenia similar to the work by traditional case managers (Hilty et al., 2015a) and better distribute the clinical workload among the entire behavioral healthcare team.

Technological factors of video and asynchronous modalities include access and awareness, equipment, software, and ease of use. Video employs camera, computer, and software, while asynchronous components include e-mail, text, portable devices, and other data. Patients, PCPs, and BH providers have increasingly become aware of and use mobile, secure, and private technologies. There is rising awareness of numerous privacy concerns especially around smartphone-related tools, which are not as actively regulated by healthcare policy makers (Johnston et al., 2020). Participants are typically characterized as early-, mid-, or late adopters of technology (Rogers, 1995), but providers may be mid- to late adopters professionally, even if they are early- to mid-adopters in their personal lives.

Asynchronous technologies can have significant impact on workflow if they are integrated into care (e.g., clinic, team, communication) and administrative (e.g., policy, procedures) processes (Yellowlees et al., 2018). A recent review confirmed the ability of asynchronous video to meet National Quality Forum (NQF) domains – including access to care – as participants can communicate between in-person meetings, using specific processes defined as part of the clinical service "contract"

Table 10.2 A comparison of synchronous video and asynchronous technology clinical, technical, and administrative workflow

Clinician end	Recipient end	Synchronous video	Asynchronous	Comment/discussion
Clinical factors				
Patient selection	Patient	All	Not all, first visits and/or (usually) as the sole treatment	Fine with quick "yes/no" answers (e.g., by text) or setting up appointment time
	Consultee provider	All	All except discussions with synthetic decision-making	Telephone, e-mail, text, or video works well
Therapeutic engagement and presence	Patient	Usually straightforward, but not exactly like being there; needed for ongoing care	Less social connectedness and verbal/nonverbal cues	Substitute behavior for handshake and handing a tissue on video
	Consultee provider	Usually straightforward, though less critical	Same	Important to set the goal, engage, and then check-in/monitor
Emergent, mental status and other examination	Patient	All, though may be accompanied by another person (e.g., staff, family)	Not usually handled by asynchronous methods Get cross-sectional impression of mental status	May require some coordination with at remote site
Treatment considerations	Patient and providers	One-time evaluation and/or ongoing primary modality Similar to in-person, as built into clinic schedule (unless on-demand) Adjust for medicolegal matters	Assessments rather than treatments Supplemental to primary care consultee and/or psychiatric in-person or video Opportunity to verify diagnose and adjust treatment plan	Conjoint decisions with providers on how, what, when, and why to use
Technological factors				
Access and awareness	Patient	Increasing with mobile, secure, and private technology	For video, few specialized programs	While FaceTime and Skype are common for video, they are not secure

Table 10.2 (continued)

Clinician end	Recipient end	Synchronous video	Asynchronous	Comment/discussion
	Consultee provider	Use existing telehealth service and/or de-identify patient with FaceTime	Increasing acceptance of diagnostic and treatment recommendations	
Equipment	Patient and consultee provider	Complex (i.e., camera, codec, computer) unless portable computer	Usually not complex (i.e., e-mail, text; portable computer)	Asynchronous "clinic" mobile computer Other programs assign one to patients
Software	Patient and consultee provider	Moving from desktop to portable computer	Same, except extensive use of mobile phone	Webex, Zoom, Polycom, and other secure conferencing systems available
Comfort, ease, and learning curve	Patient	Early-, mid-, to late adapters	Many, particularly younger patients and Veterans patients prefer	Newer generations use new technologies (e.g., text, social media, apps)
	Consultee provider	Varies; some unsure of video for patients, too	Varies specific to the technology (e.g., text less than e-mail or e-consult)	Same
Workflow factors				
Clinical accessibility	Patient	Limited to regular appointments and on-demand video	Able to contact provider any time; may receive inter-appointment contacts if agreed upon	Creates sense of continuity, connection and ease of communication; if not discussed, expectations may be unclear (i.e., too high)
	Provider	Similar to in-person, built into clinic schedule (unless on-demand)	Workflow: when and how often to check data	

Table 10.2 (continued)

Clinician end	Recipient end	Synchronous video	Asynchronous	Comment/discussion
Process and quality of data collection	Patient	Similar to in-person, usually current and then update/recap of recent events +/- diary	If conjointly planned, regular and prospective data collection	Intermittent or episodic data are incomplete and less valid/reliable; ecological momentary assessment is more valid/reliable
	Provider	Few/rare inter-appointment contact and review of data (e.g., emergency; reschedule)	If conjointly agreed upon, in-time review of data between appointments	More active decision-making for treatment which accelerates care and enhances therapeutic relationship
Administrative factors				
Medicolegal	Patient and providers	Similar to in-person care, with adjustment for informed consent	Privacy, confidentiality, safety, data protection/integrity, and security adjustments	
Payment/finance & reimbursement	Patient, providers and system	Similar to in-person, but caveats within state and federal parameters	Not integrated from a policy point-of-view	Inroad shift in payment based on anticoagulant outpatient treatment (i.e., reimbursed)
System of care	Patient and providers	Similar to in-person, now with little fanfare as personal use of technology is so common	Variably integrated: common in academic settings (e.g., electronic health record), and uncommon (e.g., mobile health data)	Participant, health care system and organizational resistance and/or slow capacity for change; institutional competencies suggested

(Kumari et al., 2017). Similarly, quality may be enhanced by simple, but purposeful use of technology (e.g., switching from using three apps for BH randomly to one app validated for depression). Neither clinical quality nor medicolegal barriers appear significant, but financial and policy issues remain unresolved (Torous & Roberts, 2017). Both faculty development and institutional competencies for technology are needed for change management (Hilty et al., 2015b, 2019a). Another core challenges remains workflow consideration and these related issues are often raised as the primary concern that limits adoption (Jacob et al., 2020)

Health System and Institutional Approaches to Technology Competencies

Clinical competencies for telepsychiatry, social media, mobile health, and clinical informatics have been published (Hersh et al., 2014; Hilty et al., 2015b, 2018c, 2019a, 2020a; Zalpuri et al., 2018; Maheu et al., 2018, 2019), wearable sensors (Hilty et al., 2021) and other asynchronous technologies (Hilty, Torous et al., 2020). They help providers, teachers, and administrators shift from in-person to care via video and asynchronous modes. These competencies have used the domains of the Accreditation Council of Graduate Medical Education (ACGME) (patient care, communications, system-based practice, professionalism, practice-based improvement, and knowledge) (ACGME, 2013). The competencies fit a variety of learners as they are organized into Novice/Advanced Beginner, Competent/Proficient, and Expert levels (Dreyfus & Dreyfus, 1980).

Clinical workflow and training experiences need to include asynchronous technologies. A training model for asynchronous technologies could be best based on setting a goal (knowledge, skill or attitude), selecting an instructional method (e.g., bedside/clinic, case/discussion format, or lecture) and staging events for enjoyable experiences (e.g., pre-experience assignments) (Kolb, 1984). This may include seminar, weekly supervisory meetings, and in-time additional supervisory contact. Faculty need to be prepared to share their experiences, help trainees and peers reflect, and offer advice – this requires knowledge, skill(s) and attitudes. Administrative policies may also need to be modified.

Moving toward Skills/Competencies for Asynchronous Technologies

Asynchronous technologies pose many challenges for providers, training programs, and health systems. Social media, for example, may not seem like part of care for providers, but patients have virtually made it part of their life, and by default, part of care (Hilty et al., 2018c). Therefore, the provider needs to systematically screen what technology is used in terms of social media (i.e., Facebook[R], Twitter[R], Tumblr[R], Instagram[R], and Pinterest[R]), apps, and wearables – and for what purpose(s) (e.g., entertainment, health care, BH) (Hilty et al., 2019a). Administrative planning is suggested to manage risks (e.g. privacy, self-disclosure, cyberbullying) (Hidy et al., 2013; Joshi et al., 2019). Likewise, clinicians needs to be able to help patients make informed decisions regarding the use of smartphone apps and help patients understand both the risks and benefits of these tools. Resources like those advanced by the American Psychiatric Association's app evaluation taskforce, called App Adviser (Lagan et al., 2021), offer a practical starting point for further adaptation and personalization.

Asynchronous technologies provide opportunities and complexities related to trust and the therapeutic relationship (Hilty et al., 2019b), as best studied in the field of computer-mediated communication (CMC) (i.e., the exchange of text, images, audio, and video (Tompkins, 2003; Liu et al., 2010). These communications have a sense of immediacy and interaction that builds "trust," but transcend physical materiality (or proximity), time, space, and direct consequences (Dreyfus, 2000; Tompkins, 2003). Asymmetrical communication limits social negotiation of meaning, yet provides a sense of control regarding what messages are received and when. Therefore, users sometimes *assume* other users' intentions (e.g., being truthful) (Bok, 1989) and do not adequately investigate potential ill-intended consequences (Walther & Burgoon, 1992; Westerman & Skalski, 2009; Hilty et al., 2019b). The concept of digital therapeutic working alliance, which is between a patient and an asynchronous technology itself (Henson et al., 2019), is an emerging concept that early research efforts are beginning to validate and characterize (Goldberg et al., 2021).

Text-based communication poses some additional challenging issues. As keyboard characters have limitations, emoticons have been used since 1982 to enrich communication and comprehension (Aldunate & González-Ibáñez, 2017; Vincent & Fortunati, 2009; Lo, 2008). Studies of brain regions involved in emotional processing related to emoticons of these unnatural, iconic, and static representations of human facial expressions have revealed concerning trends (Fussell & Benimoff, 1995; Walther & D'Addario, 2001). Emoticons may not reflect a sentiment accurately nor be adequate to replace words. Users employ emoticons for different reasons and meanings. As miscommunications appear more frequent when conveyed using English as a second language (Sotillo, 2000), in general, adding emoticons to text may also cause confusion across cultures and languages (Hilty et al., 2019b).

e-Consultation (i.e., e-consult or eConsult) is commonly used in many health care systems in Canada and the U.S. (AHRQ, 2017; Liddy et al., 2016; Horner et al., 2011; Lowenstein et al., 2017). e-Consults generally involve a PCP referral for a consultation related to questions about a patient's care that is outside of their expertise. The goal of psychiatric e-consults is for PCPs to be able to more quickly diagnose and treat BH or other medical conditions. Typically, e-consults exist in text notes within the EHR between consultees and specialists, with meaningful review of patient information, data (e.g., results of tests, images), and other system information. Outcome measures focus on access to care (e.g., time first appointment), timeliness of consultation (e.g., wait times), and impact (e.g., depression scores) (AHRQ, 2017; Archibald et al., 2018; Liddy et al., 2016; Horner et al., 2011; Lowenstein et al., 2017). Specialist text e-consultations may be replaced by video, as it is more engaging, memorable, synthetic, efficient, and user-friendly (Hilty et al., 2020b; Advanced Web Ranking, 2019).

Ways That Asynchronous Telepsychiatry Can Be Integrated into Team, Care Model, and System Workflow

Team-Based Care

Asynchronous technologies promote a patient-centered approach, integrate health/BH care, and emphasize interdisciplinary teamwork. Efficient clinical operations match provider expertise (i.e., at the "top of one's license") and teamwork to meet patient needs at the point-of-service. For example, care coordinators/managers can manage secure mail, and nurse practitioner/physician assistant can initiate e-consults, and BH professionals may evaluate less complex cases – each of these options preserves physician time for analysis of data, complex cases, and supervision. Team-based care with technology ideally offers a variety of options: learning by patients and providers (e.g., curricula); levels for low- to high-experienced members; attitudes and skills in addition to knowledge outcomes; explicit activities for teams to communicate (e.g., huddles); teaching methods with case/practice in addition to lecture/didactic; and perhaps most importantly, supervision for feedback, reflection, and developing good habits (e.g., text to supervisor in time for help).

Teamwork is facilitated by a shared mental model of expectation, roles, and outcomes (Ross & Allen, 2012). Physical (e.g., schedules, huddles), virtual (i.e., onsite and distant member) and other training interventions may substantially improve team-based care –coordination, communication, and teamwork – and lead to decreased length of stay, fewer emergency room visits/readmissions, and better quality and safety (Will et al., 2019; Mazzocato et al., 2011; AHRQ TeamSTEPPs, 2019; Wen & Schulman, 2014). Specifically, technology can organize workflow, as mobile health architecture with data monitoring may alert participants to take action (Silva et al., 2015). It may also serve as a virtual team member by performing tasks previously done by others (Hilty, Chan et al., 2018; Hilty et al. 2018b). This may help organizations offer flexible work schedules without lowering quality of service and raising the frequency of errors (Havlovic et al., 2002; Stimpfel et al., 2012; Will et al., 2019).

Tele-Based Collaborative, Stepped, and Integrated Care Models

Hybrid care – combining in-person, video, and asynchronous technologies is increasing and referred to as "e-stepped care," "e-integrated care," and/or virtual care (Hilty et al. 2018b). Major professional organizations and educational scholars alike agree that current and future psychiatrists require preparation for in-person, collaborative, and integrated care (IC) services (Cowley et al., 2014; Ratzliff et al., 2015). A consensus set of IC competency domains includes: technical, assessment, relational and communication, collaborative and interprofessional, administration, medicolegal, community psychiatry and community-specific knowledge, cultural

psychiatry, and health systems (Crawford et al., 2016; Sunderji et al., 2016). Competencies, team-based care, and technology intersect as a way to meet the needs of patients and have population level impact (Fortney et al., 2015; Sunderji et al., 2015; Ratzliff & Sunderji, 2018).

e-Consults and other technologies are rapidly taking form in large health systems as part of integrating care. A retrospective study conducted in Canada of 5597 e-consults reported an average response time of 3.2 days, an average of 15 minutes for completion, and a new or additional course of action for the patient's treatment plan (62.1%) (Archibald et al., 2018). Technology may accelerate care and reduce the need for referral to a psychiatrist (Hilty et al., 2004), as happened in this study (30.7%) (Archibald et al., 2018). The Veterans Health Administration (VHA) has reported improved communication, referral appropriateness, continuity of care, and initiation of diagnostic testing prior to in-person visits; one study found no improvement in care coordination (Battaglia et al., 2015). Primary Care Mental Health Integration (PCMHI) interdisciplinary teams use e-consults as part of a stepwise approach for triaging and managing uncomplicated patients in primary care (Oslin et al., 2006; Post et al., 2010). Other systems use asynchronous technologies with website, support/chat groups, and education programs for caregivers of loved ones with neurocognitive disorders (Hu et al., 2015).

Using a Technology Mode's Strengths

Overall, in-person and video modes are good for assessments, triage, consultation, and treatment interventions (Hilty et al., 2013). For psychiatrists, the video modality permits both psychopharmacology and psychotherapy treatment. Asynchronous technologies are primarily used for assessments and consultations, which have been shown to: (1) improve access and timeliness of care, (2) reduce need for in-person and video options, and (3) accelerate care delivery (Hilty et al., 2004). Similarly, psychiatrist review of asynchronous video data is more suitable for psychopharmacology consultation since the psychiatrist cannot provide real-time psychotherapy (Yellowlees et al., 2018). Asynchronous video could be used with the PC team (i.e., PCP or a nurse practitioner/physician assistant) doing the video with a semistructured interview. This would increase clinical skill and extend/expand PC practice (Raney et al., 2017; Hilty et al. 2018b); (i.e., asynchronous video-PC). Furthermore, asynchronous video-PC could be employed as part of a collaborative care approach (Fortney et al., 2015; Katon et al., 1999; Myers et al., 2015) to enhance collaboration, build PCP team skills, and manage more complex patients (e.g., depression with comorbidities, bipolar depression, depression with dementia). Recently there has also been a focus on coaches or digital navigators as new team members to help patients use technology as part of care (Wisniewski et al., 2020). These digital navigators can help with technology set up, troubleshooting, and ongoing engagement.

Using a Team and Institutional Approach to Competencies

E-mail, text, e-consultation, asynchronous video, and synchronous options (e.g., phone, video on demand, and video) all have their advantages and disadvantages. The perspective of each group of participants – mainly patients, the PC team, and specialist/psychiatrist – may overlap and yet be distinct. Examples of how to prepare for and to use technologies within clinical workflow are provided in Table 10.3: (1) *smartphone, app and text*, for history, engagement and communication; (2) *e-mail* versus *e-consultation and asynchronous video*, for assessment and advice on treatment for PCPs; and (3) *all technologies*, for administration, documentation, and medicolegal issues.

While use of technology is exponentially growing in society, there are substantial differences in the approach, practices, and utility of personal versus professional sectors – with the latter requiring privacy, policy, and other administrative procedures (e.g., consent, licensing/jurisdiction, billing/reimbursement). The assessment of knowledge, skill/competency, and attitudes is a starting place to begin training participants to customize/focus their efforts to a common, purposeful goal rather than spontaneously assuming it will happen. As with other system best practices, it is important to monitor, evaluate, and process improve.

Organizational/institutional competencies have been suggested for synchronous and asynchronous technology implementation, (Hilty et al., 2019d; Hilty, Torous et al., 2020) as a way to align work by training directors, department administrators, and health system leaders. It has been suggested that institutions develop an approach to: (1) assess readiness, (2) create/hardwire the culture, (3) write policies and procedures, (4) establish the curriculum and competencies, (5) train learners and faculty, and (6) evaluate/manage change (Hilty et al., 2019d). Key participants include patients, trainees, faculty, and leaders; teams across professions and systems within the institution; and organizational leaders who set priorities and distribute resources.

Discussion

Asynchronous technologies improve access, reduce costs, and compliment other care options (Yellowlees et al., 2018). They are also effective from a clinical, systems, and operational perspective (O'Keefe et al., 2019) in many roles: as a practice extender (Raney et al., 2017); a virtual team member (Hilty et al. 2018b); and a mode for clinical intervention. Technology is also being used for research in diagnostic approaches (e.g., use of autonomous agents via software engineering and artificial intelligence to test environmental, social, relational, and personal beliefs) (Ferber, 1999; Perez & Batten, 2006; Hilty et al., 2020b). Technology can help health care systems increase clinical operating efficiency with care at multiple points-of-service (Davis et al., 2011; Hilty et al., 2018a).

Table 10.3 Technology clinical goals for patients, primary care provider teams, and telepsychiatrists

Patient care focus	Technology example(s)	Patient	PCP team: PCP, nurse practitioner, physician assistant, nurse or other	Psychiatrist
Patient care				
Consent History Engagement and communication Differentiate personal vs. professional experiences and practices	Text	Patients need to consider many issues. They learn from personal experience and via health care visits. Things they should reflect on whether to: Use a SP/device, app, and/or text and for what? 　Fun/social? 　Health? 　Behavioral health? What relative value does the SP/device, app, and/or text have compared to: 　E-mail 　Phone 　Video on demand 　Other If used, what is(are) the purpose(s) for health care? 　To log information (e.g., diary)? 　To send information to health care team for their use? 　To communicate with health care team? 　Get information? 　Make a decision? Does my doctor's office, clinic, and/or health system support text or not? If it is: 　How is text used? 　What hardware and/or software do I need? 　How is privacy ensured? If not: 　How important is it to me? 　Am I willing to make an arrangement to pay for it? 　What about privacy issues?	Consider factors to decide if should use text before proceeding: 　Does my team have the time, skills and knowhow to use text? 　Can text be built into information flow of infrastructure (e.g., EHR)? 　Will the practice be directly reimbursed for the time, or indirectly to avoid more costly time allocations? 　Who should I use text with? Patients? 　Does text offer something that e-mail, phone, and/or video on demand do not? 　How should it be used? Specialist consultants? 　Does text offer something that e-mail, phone, e-consultation, and other options don't? 　How should it be used? Patient care planning 　Use a screening questionnaire to focus OR 　Have a team member ask a few screening questions If used, what is one purpose using it to focus? 　To log information (e.g., diary)? 　To send information to health care team for their use? 　To communicate with health care team? 　　Get information? 　　Make a decision? Teach tips on how, when, and what uses are appropriate; what should be posted and what shouldn't)	Patients: include SP/device, apps and other technologies in informed consent Patients: elicit history and systematically screen to integrate details of personal and healthcare SP/device, apps, and/or text use 　Personal use: significant other/spouse, friends, family; individual/group 　Professional: at work, with colleagues Use privacy settings for SP/device, apps, and text Consider factors to decide if should use text (as for PCP team) with patients and colleagues All: encourage reflection and weigh impact 　Positives vs. negatives? 　The effect on therapeutic relationship 　　Communication 　　Intimacy 　　Boundaries 　Compare to other technologies Provide guidance to patient and PCP team on effective communication using SP/device, apps, and/or text Instruct on best ways to use a mHealth app 　An evidence-based app with 　An evidence-based approach 　Simplicity with purpose

Assessment, decision support, management, and treatment planning Suggest using a biopsychosociocul-tural (BPSC) approach Shoot for target state of "best practice" with focused, evidence-based approaches Monitor course, aim for process improvement, and opportunistically evaluate sentinel events	E-mail and text	Good ways I can use e-mail and text if privacy ensured: Follow-up details needed or that I left out Sending additional documents with information or completed questionnaires Reflecting on a topic assigned and writing out an "answer" (e.g., how motivated am I to stop smoking) To engage my loved one or others to provide collateral information to my team To capture day-to-day accurate accounts of a patient's emotions, functioning, and activity (i.e. ecological momentary assessment (EMA)) (e.g., monitor my mood each day with an app) To "stay in contact" with a nurse, mid-level, and/ or PCP	Goals: gaining knowledge, skill development, and clinical decision support (CDS) for assessment and treatment Apply knowledge into practice and workflow Gain support, reducing isolation and improving confidence in care Gain technical assistance on safety/risk (e.g., medication) and obtain a back-up plan if initial fails Triage simple and/or sequential workflow to target goal; triage complex, urgent/emergent issues to synchronous option (like telephone, video, and/or in-person care	Select "best" mode for a given task: SP/ device and/or apps, e-mail/text, telephone, and/or in-person Triage complex, urgent/emergent issues to synchronous (telephone, in-person) care Gain technical assistance on safety/risk (e.g., medication) and obtain a back-up plan if failure Prioritize SP/D and app options, e-mail, and tools that integrate into the HER Instruct on how to use pre- and intra-platform data feeds (e.g. questionnaire upload) into EHR to improve quality of care and be efficient
All of the above (that is pertinent)	E-consul-tation (and with video)	Not applicable	Goals: gaining knowledge, skill development, and CDS for assessment and treatment Gain support, reducing isolation and improving confidence in care Gain technical assistance on safety/risk (e.g., medication) and obtain a back-up plan if initial fails Triage complex and some chronic cases to e-consults and urgent/emergent issues to synchronous option (like telephone, video, and/or in-person care More quickly diagnose and treat BH conditions and timeliness of care improves health care system's capacity (e.g., reduce wait times, time to referral to a specialist and/or time to initial appointment for a number of medical subspecialties)	Use BPSC outline with prioritization, with adjustments for technology Help learners and staff use decision support tools based on evidence Research and disseminate procedures to prevent problems and manage clinical and administrative issues Advise on specific BH problems and specific patient populations with relative/ absolute contraindications Train, supervise, and consult to optimize assessment Be aware of legal, billing, and jurisdictional issues for medication

(continued)

Table 10.3 (continued)

Patient care focus	Technology example(s)	Patient	PCP team: PCP, nurse practitioner, physician assistant, nurse or other	Psychiatrist
	ATP	Will talk with a BH professional, though following a guided interview that is structured Able to add things here and there that is not part of the assessment, technically, but it will be captured and provide context The narrative, verbal, and nonverbal behaviors are seen and heard by the psychiatrist on review	Training in structured interviewing for reliability and validity (e.g., SCID-DSM-IV-TR) (i.e., observe a trained interviewer, then are shadowed by a trained interviewer or supervised by an attending psychiatrist to competency) and adaptations to asynchronous interviewing	Asynchronous telepsychiatry training related to context for validation and reliability Clinical workflow Primary care setting Security, privacy and confidentiality Note template
	ATP-PC	Will talk with a team member about focused complaint or two, then segue to semi-structured 20-item questionnaire used for screening It is not like spontaneously providing a detailed narrative, but it is more time with the team member than for usual practice	Assessment of clinical training related to knowledge, interview skill, and attitudes, as well as documentation Training in brief semi-structured interview and history, as well as asynchronous interviewing (i.e., observe a trained interviewer, then are shadowed by a trained interviewer or supervised by an attending psychiatrist to competency)	Clinical observation and initial evaluation compared with independent review of files for final inter-rater reliability (cases for depression, bipolar, substance, and anxiety) Video of interview and additional information = digital package

Administration and documentation Medicolegal issues[CM]: privacy, confidentiality, safety, data protection/integrity and security Problem-solving and prevention	All	Not applicable Learn best ways to use technology and what, if any, safeguards are in place for privacy, security and confidentiality Use secure forms of communication, particularly for BH information (e.g. secure e-mail within EHR not Gmail)	Seek advice in advance to plan; document about technology use Develop standard language for consent form, treatment plan, and other procedures, if applicable Consider/attend to business and financial issues (e.g. pros/cons of time used) Adhere to clinic, health system, and professional requirements Seek supervision/advice for nonroutine events, if needed Identify and adhere to laws and regulations in the jurisdiction(s) of practice and that of the patient Obtain clinical and/or legal advice, as applicable Recognize and report problems Explain ways in which a patient can better learn how to use a technology	Help administrators to: Develop standard language for consent form and other documentation Adapt current practices and develop new policies/procedures for technologies (e.g., privacy and billing) Consider/attend to business and financial issues (e.g. pros/cons of time used) As for PCP team on policies, requirements and laws/jurisdictions Teach/consult on in-person versus technology care and adapt legal and regulatory principles Evaluate new products/options and the pros/cons Assess performance issues of current systems or products Assess user requirements and determine best match for patients and other participants with technology options Diagnose complex problems and/or resolve nonroutine problems that affect team Serve as a resource to others Know/request technical assistance

Communication, professionalism and skills

(continued)

Table 10.3 (continued)

Patient care focus	Technology example(s)	Patient	PCP team: PCP, nurse practitioner, physician assistant, nurse or other	Psychiatrist
Communication	All	As per History section	Be flexible in discussing SP/device and/or apps use and communication Discuss problems if they arise with asynchronous options and arrange alternative options Discuss scope, timing, and agreed-upon plant(s) for asynchronous options Make brief, clear technology-based communications to acknowledge, clarify, and/or triage to in-person care Consider preferences of technology use (e.g. adolescent, veteran with posttraumatic stress disorder)	Discuss scope of communication with SP/device and/or apps, clarify expectations and anticipate problems (e.g. feasibility of checking mH device at other sites, clinics) Identify and troubleshoot communication issues related to technology and other Educate and provide consultation to colleagues about asynchronous technology use Clarify expectations and potential ambiguous (i.e. multiple) meanings of acronyms, abbreviations, and such communication
Attitude	All	As applicable	Show interest about patient's use of SP/device and/or apps Demonstrate capacity for self and others' reflection	Express interest, be nonjudgmental, and be spontaneous in discussing technology
Integrity, ethical behavior, and scope of practice		Recognize that personal information (e.g. health) may be accessible and monitor	Uses clinical judgment and ethical principles to purposely use technology to collect and transfer patient information Role model, teach/consult others to manage complicated ethical issues related to the use of technology in clinical practice and related to professional identity Maintain integrity by adhering to professional and governmental guidelines Attend to and evaluate how technology may alter in-person scope issues Assess if technology is licensed and reputable; avoid fraudulent practices; and use within regulations	Reflect on personal versus professional contexts and potential micro- and macro-boundary violations (e.g. texting patient after clinical hours as "convenient") Recognize boundary, privacy, and confidentiality issues with SP/device and/or apps communication Practice within scope(s) and discuss expectations with patient Keep focus on shared primary objective of care

Abbreviations: *SP* smartphone, *mH* mobile health, *BH* mental/behavioral health, *app* application, *STP* (*video*) synchronous telepsychiatry, *ATP* asynchronous TP, *PCP* primary care provider, *EHR* electronic health record, *SCID-DSM-IV-TR* structured clinical interview for diagnostic and statistical manual, fourth edition, training revision, *MINI* mini-international neuropsychiatric interview

Health systems must appraise how to help individuals' and interprofessional participants' best interface with a wide range of technologies (e.g., e-mail, text, e-consultation, smartphone apps, asynchronous video). Used wisely by all levels of an organization, technology may affirm, accentuate, and augment existing practices, and going further, it may create a culture in which people explore, engage, and experiment with ideas and involve partners in new ways (Hilty et al., 2019c).

Health systems have to help all participants in care adjust to the paradigm shifts in moving from in-person to video care, integrating mobile health other technologies into clinical workflow, expectations for correspondence via technology outside the office visit, and using/developing a broader continuum of medical and BH care settings (e.g., emergency departments, inpatient medical, nursing home). The lack of services, in general, and timely follow-up appointments create challenges (Pignatiello et al., 2019).

Many organizations are facing barriers related to technology (Moffatt & Eley, 2011) despite telehealth's impact (Yellowlees & Shore, 2018). Telehealth is underutilized by safety-net providers, including Federally Qualified Health Centers (FQHCs), due to a range of policy, organizational, and logistical barriers (Lori et al., 2020). Some of this relates to Medicaid policies, ambiguity around telepresenter requirements, lack of authorization for FQHCs to serve as distant sites, and insufficient reimbursement. But also these policies may begin to shift around COVID-19, there is renewed interest in the implementation of these technologies as it may be more feasible today than ever before. Progressive businesses practices have integrated information technology (IT) with traditional research/development, operations, marketing, and financial emphases (Ray et al., 2007) – this changes the philosophical approach to care and helps system workflow rather than just appending it (Hilty et al., 2019c).

There are limitations to this chapter, including the need for more systematic and/or scoping reviews on the topic. In part the technology is evolving so rapidly and policy changing so much around COVID-19 that the timeliest information is often days old. Second, the quantitative and qualitative research of asynchronous technologies is just beginning, in general, and with regard to implementation science benchmarks. For example, even the evidence for smartphone apps remains nascent despite their increased use and interest in because of COVID-19 (Torous et al., 2021). Each of the technologies is unique, so greater depth of analysis is needed to determine the "what, when, why, and how" they work – particularly if used by a team with varying skill levels and backgrounds. Third, county, state (e.g., university), private, and federal institutions are unique, so one approach may not fit all systems. Fourth, core competencies must be clearly defined, implemented and evaluated – particularly across professions – in conjunction with professional development and building of a positive e-culture for participants to succeed (Fig. 10.1). Lastly, major stakeholders from health care, business and education (e.g. state licensing, professional organizations, boards for certification, accreditation agencies) play important roles in health care and education, and more specifically, how patients' needs and expectations are aligned with reimbursement streams.
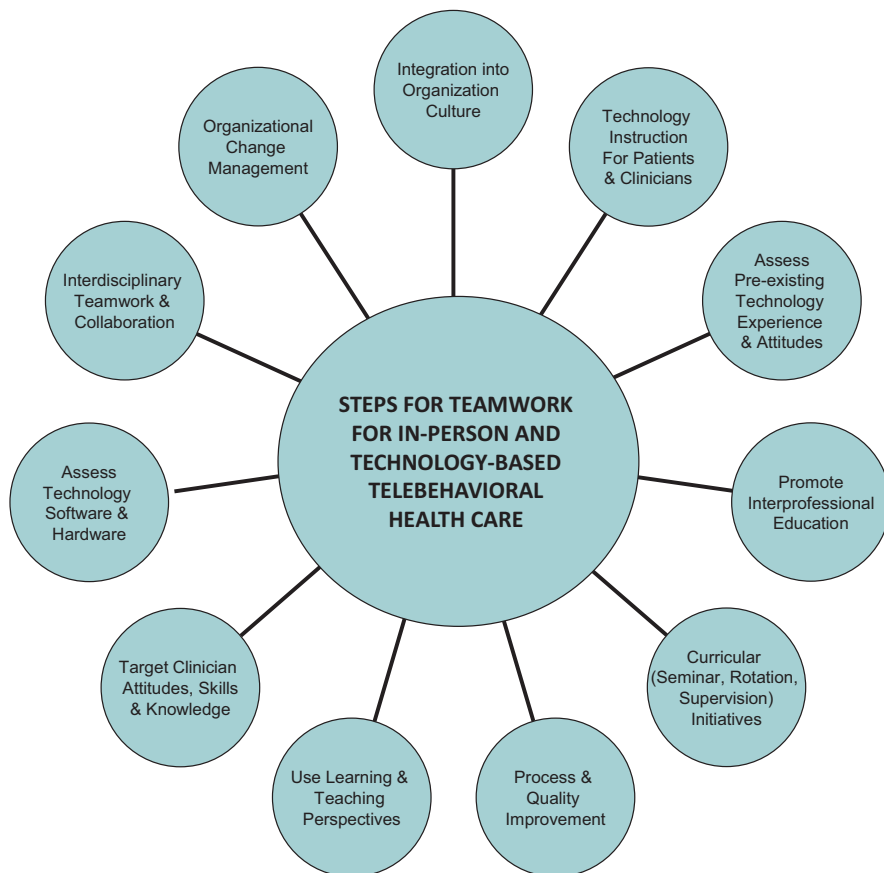
Fig. 10.1 Steps for teamwork for in-person and technology-based telebehavioral health care

Conclusions

As asynchronous technologies like e-mail, text, e-consultation, and asynchronous telepsychiatry extend to health care, steps are needed to ensure quality care, with evaluation of provider skillsets and patient outcomes. These technologies appear to contribute to clinical and administrative workflow in primary care, behavioral health, and integrated care, as they facilitate teams and help to organize approaches. Provider skillsets for in-person, video, and asynchronous technologies overlap, but the latter has unique components. Competency sets developed for telepsychiatry, telebehavioral health, social media, and mobile health may be a guide for asynchronous ones. Attention to clinical, educational (e.g., learner outcomes), administrative (e.g., system, professional organization, state/federal agencies), and technical factors is suggested.

CE/CME Questions

1. Text messaging is good for which of the following patient–provider communications?

   (a) Confirming appointment date and time
   (b) Deciding whether to keep a therapy appointment
   (c) Decision-making on therapeutic versus medication treatments
   (d) Discussing suicidal ideation fluctuations
   (e) Emoji-based (e.g., happy faces, sad faces, and other icons) sharing of feelings

2. Which of the following technologies does not affect the therapeutic frame, communication, boundaries, and trust?

   (a) Apps
   (b) E-mail
   (c) Text
   (d) Video
   (e) None of the above

3. E-consultation and asynchronous video are best used for

   (a) Appointment setting
   (b) Assessment
   (c) Discussion of diagnoses
   (d) Medication combination therapy
   (e) Psychotherapy

4. Efficiency with team-based care is enhanced

   (a) Doing as much as possible in-person instead of with technology
   (b) Focusing mostly on knowledge outcomes of members rather than skills
   (c) Explicit activities for communication (e.g., huddles)
   (d) Handwritten, detailed policies and procedures for teams to respond in-time
   (e) Limiting feedback to the direct supervisor rather than the team

5. Shifts with the use of synchronous and asynchronous technologies include which of the following?

   (a) Moving from in-person to video care
   (b) Integration of mobile health, video, social media, and other technologies into clinical workflow
   (c) Correspondence outside the office visit, and this creates a new, previously impossible, sense of continuity, connection, and ease of communication
   (d) Extending care along the continuum of medical and BH settings.
   (e) All of the above

Answers

1. (a)
2. (e)
3. (b)
4. (c)
5. (e)

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Part III
Implementation, Regulatory and Leadership Issues

Chapter 11
An Implementation Roadmap for Virtual Care in Rural and Underserved Settings

Eva Serhal and Allison Crawford

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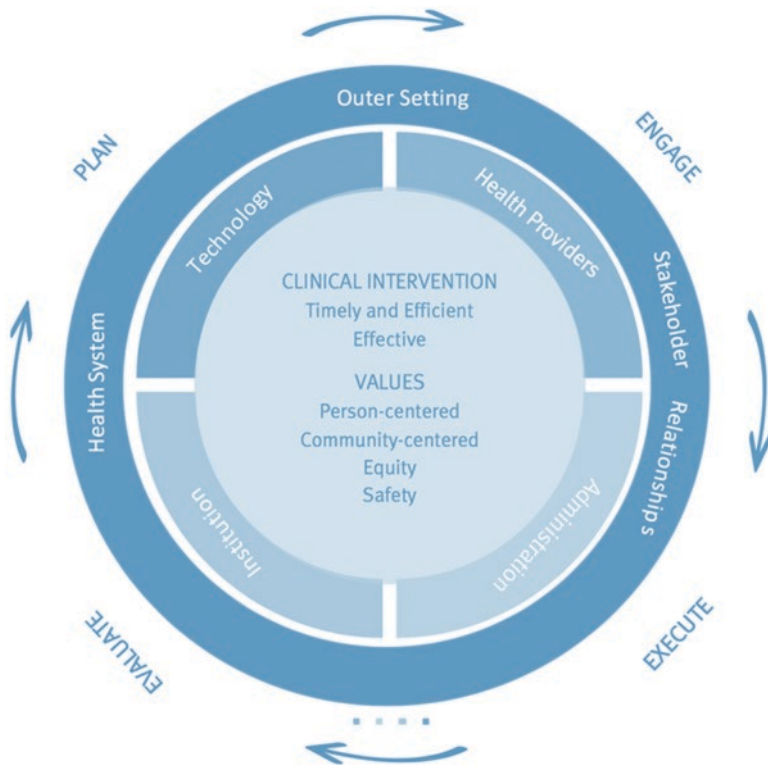
Fig. 11.1 An Implementation Roadmap for virtual care using the consolidated framework for implementation research (CFIR)

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 provider 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 outreach 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.

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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Chapter 12
Technology, Business, and System Implementation: Getting the Right Care to the Right People in the Right Place

Sarah Schwenk and Michaela Craft

Introduction

Rural telebehavioral health (TBH) is a lifeline for some communities, assuring access to high quality psychiatric services outside what is otherwise locally available. In many rural areas of the United States, a confluence of factors including stigma, minimal-to-absent access to psychiatric specialty care and a "lack of psychiatric health literacy" (Pradhan et al., 2018) have resulted in poorly addressed psychiatric needs, even in those patients with access to a primary care provider. It is estimated that as many as 65% of nonmetropolitan counties in the United States do not have any practicing psychiatrists, with over 60% of rural Americans living in designated mental health provider shortage areas (Morales et al., 2020). Many rural residents appreciate telebehavioral health because it offers greater privacy and anonymity than otherwise found in small communities.

The provision of this care, however, does have some programmatic hurdles which can be successfully mitigated by identifying patients appropriate for TBH care, understanding patient needs, and matching them with the right clinician and type of service. Through careful planning and execution, the clinical and administrative team, inclusive of both the remote clinicians and the local care team, can assure these services are clinically appropriate, high quality and evidenced-based, and functioning within the limitations and cultural nuances of the community being served.

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For the purposes of this chapter, we will refer to the people and community being served as the local care team, and the behavioral health providers (encompassing psychiatrists, psychiatric nurse practitioners, psychologists, and therapists) as the remote clinicians. The terms telebehavioral health and telemental health will be used interchangeably to indicate the provision of therapy and medication management services, which occurs via synchronous, HIPAA-secure video connection with the patient and provider located at a distance from one another. Patient and client will also be used interchangeably, reflecting the unique perspectives of the remote clinician and the local care team. The objectives of this chapter are to:

1. Provide an overview of necessary steps to develop a TBH service especially in rural communities;
2. Serve as a useable and targeted reference guide; and
3. Illustrate points with case examples.

Implementation Steps

Needs Assessment: Gain Local Understanding

We can't be all things for all people, but how do we become the right things for the right people?

A careful needs assessment should be conducted prior to initiating rural TBH services. Given the sensitivities of providing behavioral health care in rural, often low-population communities, a needs assessment should, ideally, be conducted with those receiving services as they are the experts in the needs as well as the strengths and limitations of their organization and community. This planning should also include those knowledgeable about the provision of TBH from the beginning, so the program design is respectful of the workflow of the clinicians involved. Shore et al. (2019) describes this process in detail as it relates to work with Rural Native Veterans. Although caution should be employed in applying this beyond the population studied, the core of programmatic development described in this chapter is a useful framework to consider.

A needs assessment begins, like most clinical questions, on identifying a solution to a problem, often one that currently has a poor clinical outcome. The solution sometimes arises from limitations in the provision of clinical care or may arise from persistent barriers in meeting patient needs identified by an astute local clinician or patient. In only rare exceptions should the needs be defined by those outside of the local community, as this pits intervention against tradition, and has the potential to set the remote clinicians up to be seen as putting their services *upon* the local community, rather than providing them *in service of* the local community. As Richman et al. (2019), note, "each population will optimally benefit from tailored interventions that incorporate unique shared perspectives." Although patient and community need are the most important considerations, clinicians considering whether they are

well positioned to provide TBH services should consider additional variables such as licensure, billing limitations, and malpractice. This issue is explored in greater detail in the article by Adams et al. (2018).

An important consideration for developing rural TBH services is the availability of appropriate telecommunication services, specifically high-quality internet coverage and telecommunications equipment. Rural communities have a shortage of audio/visual equipment needed and reliable internet connection. As of 2018, the Pew Research center found that in rural America 58% of people reported access to high-speed internet as a "problem" or "major problem." Prior to considering any patient as being a candidate for telebehavioral health, the agency and clinician must be sure to assess whether it is logistically and technologically feasible for the organization and the patient. Recent increases in the use of audio-only or lower-bandwidth services may provide options for those most in need of services beyond traditional synchronous services using audiovisual technologies (Samuels et al., 2020; Chen et al., 2021). Some issues to consider when conducting a needs assessment include:

1. What problem(s) is the group attempting to (re)solve?
2. What services would solve this problem?
3. How many patients per month, quarter, or year are in need of these services?
4. What is the organization willing to provide in the form of financial support, person power, technical assistance, and more to meet this need?
5. What type of provider will be most appropriate for the needs of patients and the organization?
6. What limiting factors do we anticipate might be barriers to initiating this service?
7. Do we have the technological ability to initiate these services?
8. How does the local community view the use of technology for health care?
9. Is the local community receptive to clinicians from outside the community?

Case Example: Engaging Patients in a Needs Assessment
A rural, multisite substance use treatment center serving Alaska Native and non-Native adults identifies that the mental health needs of some of their patients are preventing full engagement in care and may be compromising the sobriety efforts of their clients. The organization viewed the lack of engagement and long wait time for care as poor clinical outcomes and decided to conduct an assessment to find better solutions focused on in-home TBH care. Marie is a 38-year-old Alaska Native Woman who presents for treatment of a severe alcohol use disorder, in early remission and a history of chronic individual and cultural trauma. She lives in a rural part of her state and has intermittently sought psychiatric care but never continued due to lack of consistent access to care. She demonstrates insight as to the role that her history of physical and sexual assault places in her alcohol use. She is experiencing nightmares, hyperarousal, depersonalization, derealization, anxiety, and low mood. She wants to return to her village. Marie participated in the needs assessment and the organization found that patients were open to TBH care, that the organization was able to facilitate care, and that a larger hospital-based provider group nearby was able to assume care following the initial period of diagnostic and management

for those who needed it. The needs assessment also determined that bandwidth in general was limited, for example, Marie's village had only recently received high speed wireless internet. It was determined that a home-based TBH care program would not work, due primarily to bandwidth concerns, but a program based out of the local clinic would be a solution to wait lists and ultimately engagement concerns.

Building Your Team

It is a common misconception that telebehavioral health is as simple as placing a patient in a room with a computer and a camera, but the reality is that a team-based model assures the process runs smoothly and predictably for all involved. Therefore, once a clear vision of the need is defined, the ability to initiate and sustain a successful program is largely predicated on building a team that works collaboratively and flexibly. The connection between the patients, the clinical and administrative staff local to the patient, and the remote TBH provider and team requires the use of asynchronous (e.g., email) and synchronous (e.g., videoconference) methods. A clear understanding of each individual role, with appropriate redundancies, will help ease the provision of TBH and result in minimal disruption or concern to the patient. While it is important to focus on both technical competences such as clinical expertise and program management, the ability to understand the flexibilities and imperfect aspects of TBH and to truly understand rural patient needs and concerns is equally if not often more important. Below are some key roles to consider. Within each role it is recommended to focus on competencies such as divergent thinking, customer-service orientation, curiosity, and cultural competence mindset (Table 12.1).

Patient Selection

Patient selection is a key component to the successful utilization of TBH as not all patients will be appropriate for these services. There may be times when a clinician, utilizing their clinical knowledge as well as understanding of the program/community, decides that a referred patient may not be clinically or programmatically appropriate. This should be respectfully challenged by the local clinicians, when needed, but also supported as indicated. Appropriate patient selection is key to the success of TBH. Additionally, the patient may decide that a virtual visit is not the best fit for them. Although there are no formally described contraindications to TBH care, it is important to consider disease presentation, patient acuity, and patient–clinician preferences when determining fit of service. In rural communities, cultural considerations are also important and may be a barrier or a promoting factor to successful engagement in care. Other factors to consider when determining appropriateness of care in clinically unsupervised settings include:

Table 12.1 Key telebehavioral health roles

Role	Description	Competencies
Manager	Writes the policies and procedures for your telebehavioral health program Ensures credentialing, procures licenses Providers overarching programmatic oversight	Clinical training helpful
Site Liaison	Understands the community, its resources (or lack thereof), and the population you are serving Provides orientation to the culture Provides information to streamline appropriate patient referrals	No clinical expectations needed In-depth local knowledge beneficial Social work background could be helpful
Scheduler	Manage schedules, consider needs of patient, clinician, and facilitators	Clinical knowledge not necessary IT skills recommended Personnel knowledge (especially if multiple sites involved) key
Counselors	Onsite behavioral health counselor to provide continued engagement with the patient between psychiatric appointments Provide warm hand-off to remote clinician	Bachelor's or master's level clinician ideal for this role Nursing, social work, counseling, or other equivalent skill sets particularly valuable
Nurse or Health Aide	Medication management for residential clients Address side effects or other medical concerns if they arise as it relates to new medication	Associate degree in nursing or related field Depending on state licensing requirements, a QMAP or similar could be appropriate as well
Case Manager	Support patient in acquiring medications Support patient in establishing local care provider, as indicated	Clinical background helpful, but not required
Facilitator	Assuring patient is logged into the virtual meeting Maintaining availability during virtual clinic in case of connectivity or equipment failure	Nonclinical Technological skills required
IT Administrator	Manage, maintain, and provide end user support for the audio/video aspect of telebehavioral health	Nonclinical Technological skills required Access required

- Patient's cognitive capacity, history regarding cooperativeness with treatment professionals, personality and history of disruptive behavior, current and past difficulties with substance abuse, and history of violence or self-injurious behavior
- Geographic distance to the nearest emergency medical facility, efficacy of patient's support system, and current medical status
- Lack of a private and/or safe environment to receive services
- Limited bandwidth such that audio and/or visual connections are not seamless

Patients who have an established therapeutic relationship with a current provider may also be inappropriate if the current therapeutic relationship is effective. Other patients may benefit from a hybrid relationship where some services are delivered in-person and others via TBH. Depending on the care setting in which services are being provided, there may be legal involvement that requires certain types of providers, or providers trained in specific types of evaluations, to conduct the patient visit. As best as possible, the program should be developed in consideration of these parameters to avoid concerns arising during time better utilized in the provision of direct clinical care.

One limitation of particular importance, largely for those prescribing medications from a remote locale is the Ryan Haight Online Pharmacy Consumer Protection Act of 2008, colloquially known as the Ryan Haight Act. This act mandates limitations in the prescribing of controlled substances without having conducted at least one in-person evaluation with the patient prior to the writing of that prescription. Although regulations were more flexible during the COVID-19 pandemic, adhering to this Act remains a best practice to protect patients from inappropriate treatment and without proper examination. Therefore, patients whose presentation may require the prescription of controlled substances may not be appropriate for these services lines. The needs assessment, if carefully completed, should serve as a backbone for defining the appropriate, and less than appropriate, patient all the while approaching each case with flexibility and care.

As an additional point of note, many services provided in rural communities may involve the provision of care to marginalized populations, potentially by clinicians who are not of the same cultural or ethnic background. Myers provides an excellent assessment of this in her article on the use of telehealth specific to rural communities (2018) with particular focus on the heterogeneity of the communities that urban cores often describe under the umbrella term of "rural." Care should be taken to acknowledge and mitigate the differential presented in this relationship, recognizing that these inequities may influence the success of the therapeutic relationship. At no point should these services be put upon a patient, nor should they be framed as punishment for challenging behaviors. They should be offered freely and without judgement, and the inherent power differential should be openly and honestly explored as indicated.

Case Example: Is the Following Patient Appropriate for TBH Care?
Marsha is a 48-year-old Caucasian, divorced, gay, woman with a history of a bipolar diagnosis conferred in her college years, and notably has a history of head trauma from athletics as an adolescent. She presented for care for alcohol use disorder following an arrest for DUI. After some weeks of virtual meetings with her primary substance counselor, her behavior was best described as paranoid and erratic, and she was referred to telepsychiatry and was scheduled to be seen virtually from her apartment. Marsha is living in a boarding house at this time and is recently separated. She presents with poor internet connectivity, calling into her appointment via cell phone. She is tangential, pressured and paranoid, and is perseverative around the intentions of her ex-wife, which progresses to anger during the course of the

initial visit. She reports not sleeping, she is labile, and difficult to redirect. She reports current sobriety from alcohol and substances, but the remote nature of her visits with her substance use counselor makes this difficult to verify through typical means of urine tox screens. Marsha is nearly impossible to redirect and is paranoid about the security of her information relayed via video chat.

There are a few reasons why this patient may not be appropriate for telepsychiatry. Most pressing, Marsha presents with symptoms which could constitute a psychiatric emergency as she is manic and angry, making vague nonspecific threats against her ex-wife. She also presents with symptoms which could be consistent with active substance use, which requires us to consider whether a higher level of care for detox may be warranted. Her paranoia at baseline could make a video visit not appropriate, although a recently published set of case studies on the management of psychosis may provide a counter to traditional wisdom on the management of psychosis in the virtual realm (Donahue et al., 2021). Further, her symptoms are likely going to require ongoing management by a psychiatrist or psychiatric NP, and as such connection to the local community from the onset may be best to prevent unnecessary transfers of care. Most plainly, however, her connectivity may be compromised either by lack of privacy or inadequate bandwidth. That said, in keeping with our recognition that the remote community may not have options for care more readily available, an initial stabilization and referral could be necessary and in the best interest of the patient with the following caveats:

- *Safety*: Prior to any patient being seen, the collective care team's ability to define the process for intervening if safety is of concern is paramount. In this case, a mental health hold (MMH) may be appropriate and is likely best completed by a local clinician as law enforcement may require to be involved.
- *Warm Hand-off*: Protocols for a transfer of care to local providers should be well delineated to assure a clear, warm hand-off to providers in the community.
- *Documentation*: The remote provider, as well as the local agency, should be adept at charting the safety assessment and warm hand-off process to assure a clear accounting of all involved.
- *Team Integration*: Managing a patient like this via telepsychiatry requires a team effort. Ensuring a clear pathway as to who organizes the distribution of video links, who coordinates with local providers, who can call for a welfare check when needed is key.

Knowing Your (Local) Resources

Understanding the available resources within your patient's community is essential in meeting the complex and variable needs of your patient, as well as assuring the patient's establishment in long-term care, as indicated. To do this, the remote clinicians rely on the community know-how of the site liaison (and the rest of the local team). The TBH providers, however, can grow their knowledge exponentially

through periodic visits to the rural community. The ability to see the community firsthand, is invaluable in providing a more complete understanding of the patient. Meeting the clinical team in person provides a greater intimacy and team cohesion than can be formulated through the virtual platform alone. It is recommended that, at a minimum, the telemental health providers attend in-person meetings at least annually, and ideally twice per year. These meetings allow the remote providers, often coming from urban cores with blind spots to the unexpected challenges of working in rural communities, an opportunity to see firsthand the barriers and challenges which exist. In addition to the overarching value of aligning the care team, these meetings provide opportunity for networking with local primary care providers, as well as specialty care teams within the community, including Indian Health Service providers and the Medication Assisted Treatment teams local to the patient. These "meet and greets" serve as an opportunity to discuss the care provided by the remote team, and align interests and troubleshoot sore spots, with the goal of improving the services provided. Some of the cases described, below, describe in more detail the complexity of managing needs across the virtual divide to assure optimal patient care for all.

Working in rural communities brings a complexity to care which is often hard to appreciate by clinicians who are based in urban centers. Rural communities often serve a population spread across hundreds of square miles with limited access to specialty services. Accustomed to managing a wide range of concerns within their communities, local providers may be hesitant to embrace those from outside their community. Outside telehealth providers, however, need to nurture these partnerships in the interest of patient care and a shared sense of community. Breaking down the urban–rural cultural barrier is key to building a sustainable and well-rounded system of care which functions in the best interest of the patients (Cortelyou-Ward et al., 2020).

There is a miscellany of unanticipated challenges which arise in rural communities. Consider the case of Matthew, a 37-year-old male with a severe and persistent alcohol use disorder. The legal consequences of his drinking have left him with no options to accessing care in his local community as he has been banned or fired from the only agencies in town which provide mental health treatment and are covered by his insurance. Further, he has been banned from every store in the community whereby one could fill a prescription. Another client, Joseph, will only be able to receive his medications every 4 weeks once he returns to his home as the mail is delivered by air, yet his insurance will not cover medications for the scripts in the timeframes needed to initiate treatment through this modality. Insurance coverage, which presents a multitude of challenges broader than the scope of this chapter, can prove to be insurmountable for a provider located hundreds or thousands of miles from the patient. In all these cases, the solution requires the creative collaboration between the site liaison, the patient, and the remote provider to identify a solution.

The remote providers must not provide care within the vacuum in which they work. We must consider the larger workflow, the needs of the patient in relationship to their local community but in response to the limitations therein. The system must support the providers in caring for the greatest number of patients to access care. As such, planning for the transition to an appropriate local resource, whether that is one

of the few local psychiatric providers or whether care is reasonably transitioned back to a primary care provider (PCP) is planning that should begin at the initiation of care. This may involve creative collaboration between the remote providers and local agencies should coverage of a medication be of concern. It may involve creative problem solving to help a patient obtain a medication when they are unable to attend visits with local providers. A team-based approach, coupled with open and consistent communication will assure these barriers are surmountable and patient needs are met.

Consider the case of Keko, 24-year-old heterosexual, cis-gendered, single, Alaska Native woman who presents for management of psychosis in the context of an opioid use disorder, in early remission and is in an early (but known) stage of pregnancy. She has two living children, ages 2 and 4. The older child is staying with family, but the younger child is with her in treatment. She has no known mental health history but presents to staff in the facility as being responsive to internal stimuli and is dressing and acting in bizarre manners such as taking all the spoons from the communal kitchen and wearing a bathing suit over her clothing. She is at an unknown stage in her pregnancy, having confirmed positivity at home and having not yet seen an OB. She verbalized feeling paranoid as to the nature of her pregnancy accusing staff of being involved in the conception, "what is in there, anyway? Did YOU put something in there?".

Question: Is this Patient Appropriate for Telepsychiatry?

The answer to this is more ambiguous than in the case of Marsha. On one hand, she may be particularly inappropriate owing to the need for medical assessment and intervention as new onset psychosis in a patient without history of such likely requires labs, and physical assessment. Often, patients with psychosis struggle with virtual visits as their paranoia may be worsened by this modality. On the other, a delay in assessing this patient could result in safety concerns for her, her young child, and potentially the health of her pregnancy. As with Marsha, careful consideration will be required to determine next steps in her care.

- *Connection to Community Resources*: Reflecting on the organizational process for referring into the community is key. What features of this case increase options for access? Her pregnancy may facilitate quicker access to medical care than would otherwise be possible, which would include laboratory evaluation.
- *Safety*: An assessment of safety of self and others should be conducted. Depending on the agency's resources, this would ideally be completed by a mental health clinician on site, as placing the patient on a hold, if warranted, and transferring care to local resources is difficult when completed remotely. If no other option is available, however, the telehealth clinician will need to consider their knowledge of local resources with their ability to care for a patient legally and safely in crisis

and consider whether a safety assessment is appropriate despite the limitations presented, above.

Evaluating Your Work

As with any intervention, it will be important for formal and informal evaluation of the services provided. This evaluation, which may be multimodal in nature, should consider a range of metrics, from individual clinical excellence to continued provision of services in accordance with the needs of the served community. Payors or other organizations may conduct evaluation of clinician competence, but this alone may miss other areas for improvement. In 2021, Haidous et al. sought to understand programmatic evaluation approaches which exist in the literature. They identify a range of perspectives to consider, recognizing that clinical and nonclinical metrics should be employed. In particular, a kaleidoscopic view of the service, assessing satisfaction and outcomes from the perspective of the organization, the clinicians, the patients, and the local community may be needed to gather an adequate understanding of strengths and areas for improvement. As no single standardized tool exists to evaluate TBH programs, they recommend more investigation may be needed for their work to be fully generalizable (Haidous et al., 2021).

Conclusion

Building a successful TBH program requires a notable amount of work prior to seeing patients. It requires a careful assessment of the needs of the local community to assure that the program design will be well positioned to serve those in need. This needs assessment should account for both the limitations and needs of the local community, as well as the prospective clinicians involved. It requires the engagement of remote clinicians who are willing to support and align with the local team. The selection of patients, including recognizing those who will and will not be appropriate, is key to avoid diluting the provision of care and compromising patient safety or the quality of care. With the use of a well-designed service, evidence supports the use of TBH to fill critical gaps in care for rural patients.

CE/CME Questions

1. When considering the implementation of telebehavioral health in a rural community, the following individuals/systems should be included?

    (a) The clinicians in the local community seeking increased access to services

(b) The clinicians providing care from a remote location
(c) Representatives from the demographic community being served
(d) The administrative and technologic individuals managing the proposed service
(e) All of the above

2. Building a telebehavioral health program is as simple as turning on a computer?

(a) True
(b) False – you can use telephone only communication just as easily
(c) False – success relies on planning before the first patient is seen
(d) False – federal law prevents the provision of psychiatric prescribing via technologic means
(e) False – people do not have access to computers in rural areas

3. A patient with a current PCP provider is not appropriate for TBH?

(a) True – they should see their PCP
(b) True – you cannot bill for both services
(c) False – a psychiatric specialist can help support the PCP in improving outcomes for the patient
(d) It depends on the details of the service created, local regulations, and the needs of the community
(e) It depends on what the patient wants

4. A patient with psychosis is never a candidate for TBH?

(a) True
(b) False
(c) Depending on the patient's preference
(d) Depends on clinician judgement
(e) Both C and D

5. A comprehensive team to support TBH on the day of service includes:

(a) Patient
(b) Remote clinician
(c) Facilitator
(d) IT support
(e) All of the above

Answer

1. (e)
2. (c)
3. (d)
4. (e)
5. (e)

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Chapter 13
Implications of Legal and Regulatory Issues in Telebehavioral Health

Nina M. Antoniotti

Introduction

Starting a telebehavioral health program from scratch seems like a daunting task, and many organizations try to pave the way themselves. The telebehavioral and telemedicine communities have many resources and many programs are willing to share their experiences and lessons learned. Looking online for nationally recognized telebehavioral health programs provides many opportunities to network with other organizations. Many professional associations including the American Psychiatric Association, the American Psychological Association, the American Social Work Association, and the American Telemedicine Association act as resources as well and have many online tools available. Focusing on the specific responsibilities of the clinician to the patient, the organization to the patient, and the clinician and organization's responsibility for legal, ethical, and moral practices are key to a successful program.

This chapter: (1) highlights some of the common legal and regulatory, privacy, and security issues for healthcare; (2) discusses how those govern use of telebehavioral health; and (3) provides guidance on navigating the issues for providers and health systems.

Case Study: Starting a Telebehavioral Health Program – The Provider's Perspective

A small psychiatry practice has decided to use Telebehavioral health. At present, the group practice is an in-person practice located along the border of three states. Patients are seen from all three states. The providers in the practice are enrolled in all three states' Medicaid programs, as well as the majority of health plans as an

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in-network provider. The group practice has two psychiatrists, three certified psychiatric nurse practitioners (CPNPs), and intake and medication management registered nurses. The group also includes four licensed clinical psychologists providing therapy and two licensed clinical social workers providing supportive services. The group wants to start using telebehavioral health for medication management, therapy, and supportive services. The group is unsure where to start and contacts a local telehealth resource to begin to learn about telemental health.

At the end of each section of this chapter, an update to the case study will be found.

Analysis/Take Home
1. Legal and regulatory issues are an important part of planning and implementing a telebehavioral health program. Taking advantage of lessons-learned, templates, and other experts that are available to assist in the planning process helps a mental health provider or other organizations considering telebehavioral health to be in compliance with the legal and regulatory environment.
2. Licensure requirements for practice across state lines are not only about the process of licensure. How that licensure is obtained is only one factor. Additional factors involved include determining the scope of practice, supervision requirements for advanced level practitioners, collaborative practice agreements, patient compensation funds, and malpractice insurance. These components need to be considered and thought through as components of a multistate licensing strategy.
3. Policies and procedures play a key role in helping a mental health provider move through the steps of setting up a telebehavioral health program. These same policies and procedures are also a written validation of how a mental health provider approaches, trains for, monitors, and meets compliance regulations for audits, certifications, and quality reviews from internal processes and external agencies.

Scope of Practice

Scope of practice is defined or described as the services that a qualified health professional is deemed competent to perform and permitted to undertake in keeping with the terms of their professional license (American Nurses Association [ANA], 2021). The scope of practice is typically under the purview and jurisdiction of state law and state licensing boards. Scope of practice may vary from state to state. These requirements for scope of practice are often based on the education and training of certain health care professionals and the qualification that those health care professionals need to attain to accept full and unrestricted licensure to practice the health profession (American Medical Association [AMA], 2021). In using telebehavioral health, clinicians, whether physicians, licensed clinical psychologists (LCP), licensed clinical social workers (LCSW), or other licensed mental health professionals, must practice within their professional scope of practice, the same as in-person care. For instance, an LCSW cannot diagnose a patient, only a physician can

diagnose. An LCP cannot prescribe medication. Certain mental health professionals can order testing, others cannot. The same standards for scope of practice set for in-person care apply to all situations of virtual or remote-based care (telebehavioral health). Mental health professionals, who practice outside of the scope of their license when seeing patients via telebehavioral health, run the risk of sanctioning by the individual's state licensing board and permanent loss of license.

Many a times the scope of practice relates back to the definition of such practice, such as the definition of the "practice of medicine." The definition of specific practice will include the need for supervision or the degree of independence in which the professional may practice, prescriptive authority, the ability to independently interpret diagnostic testing (radiograph interpretation), and the need to have a collaborative practice agreement in place (Rivera et al., 2014. Health professionals who are practicing via telemedicine or telebehavioral health must be aware of all of these requirements that fall under scope of practice and adhere to those requirements as in-person care. Some of these requirements are discussed further in this chapter.

Questions about scope of practice can be directed to the individual health professional's corporate compliance or legal office or can be directed to the individual's professional association advocacy or legal teams. Individuals can also contact state licensing boards for clarification of scope of practice when using telebehavioral health, although many times, these discussions lead to more confusion. In some situations, the scope of practice may be more limited due to telemedicine laws in individual states or by individual licensing boards.

In working through scope of practice issues before a health professional begins to use telebehavioral health as a tool for access, specific questions should be answered. Questions to be answered include:

1. How is the scope of practice defined?
2. Who regulates the scope of practice?
3. When does the scope of practice change if at all?
4. Who is responsible for adherence to the scope of practice:
5. Does the scope of practice change when telebehavioral health is used?
6. Are there special conditions under the Pharmacy Act in the state?
7. Are there any other state-specific scope of practice laws for telehealth or telebehavioral health?

Using these questions as a guide will allow the health professional to identify any scope of practice issues and adapt the practice to operate within the scope of practice in addition to updating policies and procedures to reflect the scope of practice guidelines.

Case Study Implications As the psychiatry practice begins to move forward with telebehavioral health, the group considers three levels of practitioners – those that are independent (MDs and in some states CPNPs), those that have collaborative practice or supervision requirements (CPNPs, LCPs, LCSWs), and registered nursing requirements for scope of practice. Each state was reviewed for collaborative practice requirements and supervision requirements and those specific requirements

were put into a table format. The number of charts reviewed and the length of review time are examples of the types of supervision requirements that need to be documented for each state.

Ethical Practice

The use of telehealth does not remove any existing responsibilities in delivering services, including adherence to the Code of Ethics, Scope of Practice, state and federal laws, and professional association documents on professional practice, and the quality of services must be consistent with the quality of services delivered in person. When considering ethical practice issues, the health professional again must adhere to all ethical codes of conduct similar to in-person care when delivering services via telebehavioral health. For physicians, the practice of medicine is "inherently a moral activity founded in a covenant of trust between patient and physician" (Pellegrino, 2002). This type of trust and moral responsibility can and is generalized to all health professionals and upholds the belief that patients and their delegates should and need to be able to trust that the clinicians will put the patient and family needs first and foremost (AMA, 2012). Patients and families must be able to trust that health professionals will provide competent care, enough information for patients to make educated decisions, take steps to protect the patient's privacy, and will ensure continuity of care (AMA, 2017).

These same standards of ethical practice apply to telebehavioral health and other forms of remote-based care. Health professionals have an ethical duty to the patient in the forms of trust, privacy, competency, and continuity, the same as in-person care. Unethical behaviors, attitudes, or beliefs by health professionals are equally egregious via telebehavioral health as these behaviors are in person, and are subject to the same penalties, restriction or loss of license, and prison terms as the penalties for in-person care.

Unethical practices in telebehavioral health may include such behaviors as neglecting to meet with clients during the set times, changing information in a contract or client's file to make a mental health agency or professional look professional, neglecting to respond to crisis calls or visits, having dual relationships with clients, extending care for the purposes of revenue generation, retaining or using the services of an incompetent health professional, changing a diagnosis, fabricating documentation, having clients engaged in personal work for the health professional, and stalking behaviors (Anchored Child and Family Counseling, 2021).

Any questions regarding the ethical practice of telemedicine should be answered again, by the individual's corporate compliance or legal office, the health professions association, or at minimum, a review of current literature for position statements, advisory opinions, or other consensus documents on what constitutes and what is outside of the ethical practice when telebehavioral health is used.

An example of a comprehensive scope of practice, professionalism, and ethical conduct comes from the American Medical Association, which says:

"Telehealth and telemedicine span a continuum of technologies that offer new ways to deliver care. Yet as in any mode of care, patients need to be able to trust that physicians will place patient welfare above other interests, provide competent care, provide the information patients need to make well-considered decisions about care, respect patient privacy and confidentiality, and take steps to ensure continuity of care. Although physicians' fundamental ethical responsibilities do not change, the continuum of possible patient–physician interactions in telehealth/telemedicine gives rise to differing levels of accountability for physicians.

All physicians who participate in telehealth/telemedicine have an ethical responsibility to uphold fundamental fiduciary obligations by disclosing any financial or other interests the physician has in the telehealth/telemedicine application or service and taking steps to manage or eliminate conflicts of interests. Whenever they provide health information, including health content for websites or mobile health applications, physicians must ensure that the information they provide or that is attributed to them is objective and accurate.

Similarly, all physicians who participate in telehealth/telemedicine must assure themselves that telemedicine services have appropriate protocols to prevent unauthorized access and to protect the security and integrity of patient information at the patient end of the electronic encounter, during transmission, and among all health care professionals and other personnel who participate in the telehealth/telemedicine service consistent with their individual roles.

Physicians who respond to individual health queries or provide personalized health advice electronically through a telehealth service in addition should:

(a) Inform users about the limitations of the relationship and services provided.
(b) Advise site users about how to arrange for needed care when follow-up care is indicated.
(c) Encourage users who have primary care physicians to inform their primary physicians about the online health consultation, even if in-person care is not immediately needed.

Physicians who provide clinical services through telehealth/telemedicine must uphold the standards of professionalism expected in in-person interactions, follow appropriate ethical guidelines of relevant specialty societies and adhere to applicable law governing the practice of telemedicine. In the context of telehealth/telemedicine they further should:

(a) Be proficient in the use of the relevant technologies and comfortable interacting with patients and/or surrogates electronically.
(b) Recognize the limitations of the relevant technologies and take appropriate steps to overcome those limitations. Physicians must ensure that they have the information they need to make well-grounded clinical recommendations when they cannot personally conduct a physical examination, such as by having another health care professional at the patient's site conduct the exam or obtaining vital information through remote technologies.
(c) Be prudent in carrying out a diagnostic evaluation or prescribing medication by:
(d) Establishing the patient's identity
(e) Confirming that telehealth/telemedicine services are appropriate for that patient's individual situation and medical needs
(f) Evaluating the indication, appropriateness, and safety of any prescription in keeping with best practice guidelines and any formulary limitations that apply to the electronic interaction
(g) Documenting the clinical evaluation and prescription. When the physician would otherwise be expected to obtain informed consent, tailor the informed consent process to provide information patients (or their surrogates) need about the distinctive features of telehealth/telemedicine, in addition to information about medical issues and treatment options. Patients and

surrogates should have a basic understanding of how telemedicine technologies will be used in care, the limitations of those technologies, the credentials of health care professionals involved, and what will be expected of patients for using these technologies.

As in any patient–physician interaction, take steps to promote continuity of care, giving consideration to how information can be preserved and accessible for future episodes of care in keeping with patients' preferences (or the decisions of their surrogates) and how follow-up care can be provided when needed. Physicians should assure themselves how information will be conveyed to the patient's primary care physician when the patient has a primary care physician and to other physicians currently caring for the patient. Collectively, through their professional organizations and health care institutions, physicians should:

(a) Support ongoing refinement of telehealth/telemedicine technologies, and the development and implementation of clinical and technical standards to ensure the safety and quality of care.
(b) Advocate for policies and initiatives to promote access to telehealth/telemedicine services for all patients who could benefit from receiving care electronically.
(c) Routinely monitor the telehealth/telemedicine landscape to:

1. Identify and address adverse consequences as technologies and activities evolve
2. Identify and encourage dissemination of both positive and negative outcomes (AMA, 2021).

Case Study Implications The human factors of communicating online, especially when asynchronous tools are used such as email or chat, promote a sense of risk at times that people take who would otherwise not act in specific ways if physical distance were not a factor. As the world has seen the rise of social media bullying, and other inappropriate behaviors due to the anonymity of the internet, or for other reasons, it is vitally important that medical and behavioral health specialists pay strict attention to the ethical practice of their profession. The behavioral health group in the case study decided to have a subcommittee of one of each of the mental health disciplines to research, study, and write a policy regarding ethical behavior when telebehavioral health is used. In reality, the use of telebehavioral health does not change the ethical responsibilities of the clinician to the patient, thus, organizational policies and procedures must identify the differences in communicating via interactive video or asynchronous methods and put in place a policy that includes audit practices, patient complaint reporting, requirements for training for providers, and an outline of disciplinary actions that could be taken against a provider who engages in unethical practices via telebehavioral health. The responsibility chain for complaints, investigation, and decision-making, and the authority to do so, was also spelled out in the mental health group's policies. These policies also served as a benchmark for quality reporting, for state and federal audits, and for certifying bodies such as the Joint Commission and other state or federal agencies (i.e., CMS).

Supervision

Supervision requirements for mid-level practitioners do not change when the service is delivered via telebehavioral health. Health professionals either in a supervisory position or those that require supervision must be aware of the professional association and governing body requirements for supervision of students and practitioners, and if and when, those requirements change from state to state.

The requirements for supervision must also be understood which are dependent on definition. For instance, supervision requirements for residents according to the Accreditation Council for Graduate Medical Education (ACGME) defines supervision of residents in the following manner:

VI.D.3 a) Direct Supervision – the supervising physician is physically present with the resident and patient.

VI.D.3.b) Indirect Supervision:

VI.D.3.b).(1) With direct supervision immediately available – The supervising physician is physically within the hospital or other site of patient care and is immediately available to provide Direct Supervision.

VI.D.3.b).(2) With direct supervision available – The supervising physician is not physically present within the hospital or other site of patient care but is immediately available by means of telephonic and/or electronic modalities and is available to provide Direct Supervision. Common Program Requirements 15

VI.D.3.c) Oversight – The supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered (Accreditation Council for Graduate Medical Education [ACGME], 2021).

An example of how these supervision requirements are interpreted is as follows from ACGME's guidance:

Supervision may be exercised through a variety of methods. Some activities require the physical presence of the supervising faculty member. For many aspects of patient care, the supervising physician may be a more advanced resident or fellow. Other portions of care provided by the resident can be adequately supervised by the immediate availability of the supervising faculty member or resident physician, either in the institution, or by means of telephonic and/or electronic modalities. In some circumstances, supervision may include post-hoc review of resident delivered care with feedback as to the appropriateness of that care (ACGME, 2011).

Each health profession will have similar regulatory requirements for supervision as well as the individual's state licensing boards. Imperative to the health professional is the need to investigate supervision requirements, especially when telebehavioral practice is across state lines. An example of an interesting supervision requirement is found in the following example.

In a Midwest health care organization, a nutrition professional who was also a registered diabetes educator, worked in a pediatric oncology practice. The pediatric oncologist supervised the nutritionist's practice, which required direct supervision (physically present in the same location) whether the patient was seen in person or via telemedicine. The pediatric oncologist went on outreach once a week to a clinic 150 miles away and once the practice started using telemedicine, wanted the nutritionist, who did not go on outreach, to see the patients via telemedicine. The pediatric oncologist and the patient were physically present in the same location. The nutritionist was in another location. Due to the supervision requirements, even though the patient and the supervising clinician were in the same location, the supervised health professional (nutritionist) was not in the same location as the supervising clinician. This scenario, thus, did not meet the requirements for supervision and the nutritionist could not use telemedicine to see the patient. Although the scenario seems counterintuitive in that the supervisor and the patient were in the

same location, and supervision requirements are intended to protect the patient, the spatial relationship between the nutrition professional and the supervising clinician did not meet the regulatory requirements for supervision.

Important supervision questions to ask include, what is the definition of supervision that is required? Does the use of telebehavioral health change that definition or requirements for immediate availability, physical distance/presence, or timeliness? If the basic requirement of supervision cannot be met when telebehavioral health is used, then the health professional is in violation of practice acts and supervision requirements.

Case Study Implications In the mental health workgroup for telebehavioral health, supervision requirements were identified for advanced practice providers in three states. These requirements were identified during the research on scope of practice noted above and were confirmed by the medical staff services office (one person) of the practice. LCPs had supervision requirements in a few states and could practice independently in other states. LCSWs had supervision requirements in all states. A chart was developed that included each state and the supervision requirements for all advanced level practitioners. For those states that also required licensure, a licensure column was added to the chart. A policy on supervision was then written to reflect the current supervision requirements for each state and outlined what was needed to meet the requirements. The supervision program already in place at the mental health group was then updated to reflect the requirements for telebehavioral health practice. The procedure outlined the frequency and number of chart reviews, observations, and other requirements for supervision for each professional discipline. The policy was scheduled to be updated each year (instead of every 3 years) or more often if regulatory requirements changed. The medical staff services person was charged with an audit of all states in which the advanced-level practitioners saw patients via telebehavioral health on a quarterly basis and to update policies as needed.

Documentation

Documentation in the medical or mental health record is an important part of delivering comprehensive and coordinated care. In its simplest form, the reason documentation is important is that it provides all the information about a specific individual patient that the health care team may need to make appropriate and accurate assessments and decisions about that patient and is essential to meeting standard of care. Adverse patient outcomes such as medication and procedural errors that can result in death or comorbid conditions can result from poor or incomplete documentation. Ethical behaviors for all health professions include the requirement to provide adequate documentation in the patient's record to assure that standards of care are met and that patient safety and confidentiality are preserved (Kanaan, 2017).

The basic principle of documentation for telebehavioral health visits is to document the same as though the health professional had seen the patient in person. If the telebehavioral professional has a hybrid practice with in-person patients and telebehavioral health patients, and uses a common electronic health record for both, then the same documentation templates or tools should be used for both encounters, with a notation in the documentation for the remote patient that the patient was seen via telemedicine. If the health professional uses two different tools, one for in-person care and one for telebehavioral health patients, the same requirements for documentation exist in both scenarios. All elements of the psychiatric exam and assessment must be documented as done, unable to complete, or incomplete, with the appropriate notes as to findings or why each component was not accomplished. Although SOAP notes are a common documentation strategy in many telehealth platforms, these types of short notes may not be appropriate for many mental health professional encounters via telebehavioral health.

Documentation serves two other important functions – risk management and coding and billing. In health care the old saying is "If it isn't documented, it wasn't done!" Documentation must support the necessary level of billing that reflects the care delivered. If the care delivered rises to a Level III 99211 office visit, then the documentation must support the complexity of care delivered that is billed under this CPT code.

In the event of a patient complaint or an adverse event, Risk Management will look to the documentation in their investigation to determine what happened to the patient and the situation that transpired. Incomplete or skimpy documentation is not helpful when Risk Management is trying to mitigate damage or liability or to support a patient complaint. It is imperative therefore, that the mental health professional document complete and accurate notes in compliance with scope of practice, ethical, risk management, and coding and billing practices, as well as for continuity of care, when telebehavioral health is used.

Case Study Implications The mental health provider group understood from the literature and working with other telemental health groups that documentation for telebehavioral health visits must be the same as in-person care. In addition, the documentation and visit must be able to be identified as a result of a virtual type of visit. The mental health group established a different appointment type for a telebehavioral visit in their existing electronic health record and also required providers to name the document "TH" and check a box that the visit was done via telebehavioral health. That checkbox then created a link to the document, which showed in the patient's record as the telebehavioral health visit. When audits occurred, certification reviews or other performance management processes were held, distinguishing between an in-person visit and a telebehavioral visit becomes automated through database queries of the chart.

Billing and Coding

Similar to documentation, billing and coding practices should be the same as in-person care with a few caveats. Again, if the care is not documented, the coding and level of billing cannot be up-charged, even though it is well known that the health professional does uphold the standard of care. Coding can only rise to the level of documentation and health professionals do not want to leave money on the table due to lack of documentation. Coders rely only on documentation in the medical record to support the level of billing charges sent to the billing system and on to payers. Payers may audit charges and ask for supporting documentation. If the supporting documentation is incomplete or not sufficient to support the level of charges, then payment will either be reduced or denied. Coders should also not down-charge a visit simply because the visit is done by telebehavioral health. At one organization in the southern part of the United States, a coder down-charged all of the charges placed by the clinician for telemedicine visits as she thought the visits were done by telephone. Education of coders and the billing staff is imperative to retain the level of revenue associated with in-person care.

Billing for services delivered via telebehavioral health requires a matrix approach and automated billing editing processes to ensure that the right codes, modifiers, and place of service are used for billing purposes. The professional services department of any organization using telemedicine must be familiar with Medicare, Medicaid, private payer, accountable care, and other regulatory payment models for services delivered via telemedicine or telehealth. The actual requirements for billing government and private payers are extensive and would require their own separate chapter. However, for the purposes of this discussion, the following approach can be used by a health professional's billing service or department to approach and accurately submit claims for services delivered via telebehavioral health (Antoniotti, 2005). Each payer source has a different algorithm for determining payment and are *mutually exclusive!* One payer algorithm cannot be applied to another payer source for determination of payment. Remember also, that during times of national disasters or public health emergencies, that restrictions for payment for services delivered via telehealth, telemedicine, or telebehavioral health for originating sites, eligible practitioners, approved services, etc., may be waived under emergency orders. Daily checks for eligibility for payment should be done in cases of public emergencies (Fig. 13.1).

The process for determining eligibility for Medicaid is somewhat different than Medicare, which is more of a linear algorithm. Medicaid agencies are all different and at liberty to set their own policies for payment for services delivered via Telehealth. The health professional's billing company or department must ask a series of questions and then determine if there are any conditions of payment not met that would preclude the submission of a claim and payment for services. Questions to be answered are included in Fig. 13.2 (Antoniotti, 2005). If all the requirements are met, then the claim should be submitted to Medicaid. If any of the requirements are not met, do not bill Medicaid.
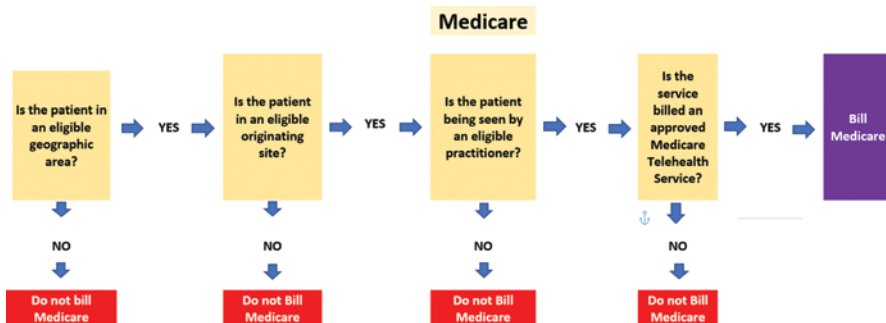
Fig. 13.1 Medicare payment algorithm

Private payers each will have their own policies for reimbursement and payment for telebehavioral health and often have more robust payment models for mental health services via telemedicine. As one of the original telemedicine services in the United States, telepsychiatry has been used since 1974, with the earliest program being in Nebraska and funded by the National Institute of Mental Health, Washington, D.C. Many Medicaid programs started payment strategies around telepsychiatry in the early 1990s.

In addition to these algorithms for payment eligibility, claims are also subject to an appropriate place of service (POS) and telemedicine modifiers. Medicare does not require a modifier except for telestroke but does require a place of service POS 02 Telehealth. Medicaid agencies typically require the modifiers of GT for telemedicine and a place of service reflecting the actual location of the patient. Some Medicaid agencies have adopted the 02 Telehealth POS. Private payers all use 95 Telemedicine as the modifier and the POS of 02 Telehealth.

Health care providers' billing systems should be set to edit any telebehavioral health encounters to apply logic to identify the type of visit (use a telehealth appointment type), then identify the payer source (Medicare, Medicaid, private payer), then change the POS and modifier based on the payer source requirements, and then submit the claim. Many organizations flag telehealth encounters or visits for a manual review to ensure that the right modifier and POS is on the claim to avoid denials. A good billing system, however, will be able to automate this review and apply the necessary logic to have the electronic claim corrected before being submitted to the payer.

Case Study Implications The mental health provider uses an outside vendor for coding, billing, and submitting claims. The mental health provider met with the vendor to discuss the need to create a process for claims management that identifies the payer source (government, state, private, self) and attached the correct place of service (02) and the correct modifier (GT, 95, none) for the appropriate and specific health plan. The vendor already had in place the necessary workflow to ensure that government payers were not billed when not appropriate and that the correct place of service and modifiers were selected for individual health plans. The mental health

Is there a restiction based on geographic area?

is there a restricion on location of the patient? Home? Outpatient Clinic?

Is there a list of eligible practitioners?

Is there a list of approved Telehealth or Telebehavioral health services

Are there other restrictions on the use of Telehealth or Telementeal health

Is a TelePresenter required?

Is an in-person visit required first?

What if any are the supervision requirements?

Are there prescribing restrictions?

Does the state have a parity law that includes Medicaid and Medicaid MCOs?

Fig. 13.2 Questions for medicaid payment eligibility

provider requested a monthly report to review all telebehavioral health visits to ensure compliance. The report included the MRN, date of service, provider, patient name and demographics, CPT or HCPCs codes billed with descriptions, the amount billed, the amount paid, discounted, patient-pay, or bad debt noted by column.

Licensure

For the purposes of remote based care, virtual care, telemedicine, or telebehavioral health, the assumption about interstate licensing is that the health professional needs to be licensed in the state in which the patient resides or is located at the time of care. There are several ways to obtain such licensing depending on the health professional and the state in which licensure is sought. Some health professions, such as genetic counselors, are licensed in some states and not in other states. Mental health therapists are called different names in different states and have different licensure requirements with subsequently different scope of practices. For instance, a master's prepared social worker may be called a Licensed Social Worker (LSW), a Licensed Clinical Social Worker (LCSW), a Mental Health Professional (MHP), etc., depending on the state. It is incumbent upon the health professional who practices across state lines to know the licensure requirements for each state of telepractice, the licensing board rules (for in-person visit, prescribing, supervision, requirements for annual CME or CEUs), the corporate practice of medicine, and any exceptions, expedited licensing, telemedicine licenses, or waivers that may be in place in order to practice via telemedicine across state lines.

   The use of interstate licensure compacts has come into favor in the last decade with the Interstate Medical Licensure Compact from the Federation of State Medical Boards being the most successful example of licensure compacts. Physicians who are licensed in a member state of the compact have portability of their home state license to other compact member states. With an application to the Interstate Medical Licensure Compact Commission (ILMCC), a physician is accepted by the ILMCC and then can add states for additional fees. Many other health professions have interstate licensure compacts including Registered Nurses (NLC), Physical Therapy (FSBPT), Emergency Medical Services Personnel (EMS Compact), Psychologists (PSYPACT), Occupational Therapists (AOTA), and others.

   Health professionals who are not licensed in a state in which they practice remotely are subject to penalties and criminal action associated with practicing without a license in that state. Health professionals should work with their Medical Staff Services or Legal Services departments to research requirements for licensing in the state in which the patient resides at the time of the visit in order to avoid any licensure sanctions.

Case Study Implications The mental health provider group took an inventory of all licensed providers including in which state that provider was licensed. In a four state market, not all states had a licensed provider status for the mental health

provider. The group decided to have one MD and two NPs licensed in each state. The physicians were licensed through the Interstate Medical Licensure Compact Commission and each nurse practitioner has to be individually licensed in all the states including meeting the requirements for collaborative practice.

Other Legal and Regulatory Issues

Health professionals using telemedicine and telebehavioral health should also be aware of the legal and regulatory issues associated with areas of legal practice that might arise depending on the level of practitioner, prescribing authority, and insurance, among others. A few of these areas are described below.

1. *DEA and Controlled Substances* – for prescribers who also hold DEA licenses with controlled substances prescribing authority, state and federal laws may restrict the ability to prescribe controlled substances via telebehavioral health. It is imperative that controlled substance prescribers are aware of state and federal regulations that govern prescribing Schedule II drugs. Many states require an in-person visit before being able to prescribe controlled substances via telebehavioral health; others do not permit prescribing at all. The Ryan Haight Act and the DEA govern legislated and regulatory requirements for prescribing controlled substances via telemedicine and should be thoroughly understood before prescribing controlled substances during or after a telemedicine or telebehavioral visit (US Dept. of Justice, Drug Enforcement Agency [DEA], 2021a, 2021b). A unique set of regulatory requirements also govern and exempt providers who are trained in Medication Assisted Therapy to treat opioid abuse and other controlled substance addictions (DEA, 2021a, 2021b).
2. *Malpractice Insurance* – Most current day malpractice carriers cover a health professional when that professional uses telemedicine or telebehavioral health. Some carriers require an additional no-cost rider or charge additional fees for coverage for telebehavioral health. Health professionals should always check with their malpractice carrier to determine if (1) the carrier covers the practice when using telemedicine or telebehavioral health; (2) in what states is the carrier licensed to offer coverage; and (3) are there any additional coverage requirements from the carrier that are needed before starting a telebehavioral component to the practice?
3. *Federal* versus *State Requirements* – Often confusing to health professionals first starting out in telepractice is the conflict that at times appears between the regulatory requirements for state and federal telemedicine or telebehavioral practice. In general, state law always supersedes federal law when the state law is more restrictive or allows for more rights to the consumer, such as a minor's right to seek certain health care services including mental health care. In other situations, federal law will supersede state law, especially in the areas of Medicare reimbursement. Health professionals who sense or discover a discrepancy between

state and federal law are prudent to retain legal counsel or use the corporate compliance or legal offices to provide an opinion on the discrepancy and recommendations on how to proceed.

4. *Corporate Practice of Medicine* – the corporate practice of medicine should always be considered when crossing state lines to practice via telebehavioral health. Currently, half of the states continue to restrict the "corporate practice of medicine" (either by statute or based on common law as interpreted in court decisions). Telehealth programs may invoke state corporate practice of medicine restrictions if services are provided by anyone other than the individual licensed professional's corporate organization that they own and control. The challenge for multistate or national programs is to work within the requirements of the corporate practice of medicine doctrine. Being able to do so requires that the health professional team and the corporate legal team work together to address issues surrounding the corporate practice of medicine and address any issues during the planning stage. Also remember that corporate practice of medicine restrictions may apply to professions other than physicians (e.g., Illinois corporate practice of social work) (Mazur, 2017).

Organizational Approach to Legal and Regulatory Issues

Each health care organization embarking upon a telemedicine or telebehavioral practice must ask a series of questions to determine and discover any legal or regulatory issues that need to be investigated and questions answered. For instance, an example of the planning questionnaire for a new program might be (Table 13.1) (Antoniotti, 2005):

Following this list of questions will generate additional questions and the need to seek additional information. A good telebehavioral health program assessment and implementation plan should always generate more questions that definitely should be answered and documented, then analyzed for a go–no go decision making process. The implementation team must include representatives from clinical practice, administration, legal, compliance, medical records, billing and coding, risk management, and optimally, patients and families (consumers). A well-represented implementation team will discover and solve any legal or regulatory issues that present during the planning phase of a telebehavioral health program.

Policies and Procedures for a Telebehavioral Health Program

Policies and procedures for telebehavioral health practice and programs follow, for the most part, in-person care with a few additions. The type of policies and procedures needed also depend on the model of care delivery – is the program a direct-to-consumer cash service? Is the program a direct-to-patient for established patients

Table 13.1 Telebehavioral health program planning questions

1. What service is being provided?
2. Who is providing the service?
3. To whom is the service being provided?
4. Where is the location of the patient?
5. What hours of service are intended?
6. What is the business model to be used?
7. What is the financial model to be used?
8. What is the relational model to be used?
9. How are referrals obtained and executed?
10. What are the payment requirements and payer mix?
11. What are the rules around payment?
12. What are the licensure requirements if interstate practice is anticipated?
13. Are there supervision and/or collaborative practice agreements required?
14. Does the current malpractice carrier cover telemedicine?
15. Is consent required for telemedicine?
16. Is informed consent required for telemedicine?
17. Is an in-person exam required before the patient can be seen via telemedicine?
18. Does the service/state/payer require an established patient–provider relationship?
19. Will a physical exam be conducted?
20. What are the prescribing requirements?
21. What are the credentialing requirements?
22. What is the technology to be used?
23. Other questions?

using insurance? Is the practice a hybrid of in-person office visits and telebehavioral health visits? Is the practice seeing patients unknown to the provider? Is the practice doing initial assessments, on-going therapy only, prescribing, or all of the above?

In addition, the location of the patient also drives specific needs for policies and procedures. If patients are seen in their own homes versus being in an outpatient clinic with a telepresenter or other health care professionals nearby, or in an inpatient unit, the need for and type of policies and procedures vary.

Basic policies and procedures include those policies and procedures that already exist in the organization for areas such as human resources (hiring, disciplinary, firing, licensure, credentialing, etc.), HIPAA and Privacy, annual training requirements, vacation/sick/PTO, diversity and inclusion, and patient rights and responsibilities. These basic policies typically do not need to be re-created for the telebehavioral practice when that practice is a part of an existing organization with in-person care. However, if the telebehavioral practice is a new practice and new corporate entity, then these basic policies and procedures governing the everyday operation of an organization with employees or subcontractors, need to be written and in compliance with local, state, and federal laws.

Advanced procedures include procedures that address the actual virtual or remote practice of telebehavioral health and identify those components of a remote practice

that differ or present unusual scenarios or predicaments not necessarily covered in the basic policies and procedures. Examples include how to respond to a patient in crisis when the patient is at home, consent and withdrawal of consent at a distance, authentication of the patient and provider, how to maintain privacy and confidentiality, and emergency and escalation procedures. Providers need to be aware of how to address patient needs at a distance (not standard of care which is a part of clinical practice, but those unusual components of practicing when the patient is not in the same room), the differences in interview and exam techniques, how to get help for the patient in crisis, and how to get advanced level of professional assistance when the provider is out of their expertise in dealing with a patient real time, for example.

The organization should also use software and hardware to access telemedicine platforms that comply with HITECH requirements (Health and Human Services [HHS], 2021). An example of such a policy is found at the end of the chapter. This example shows categories and thought processes associated with each of the categories in HIPAA and HITECH that apply to telebehavioral health encounters and the technology used to accomplish these encounters. These security policies should also include sections on how providers will be authenticated to use the systems and how patients are authenticated to download apps, use urls to access platforms, and also login procedures and how to authenticate users who need to reset passwords or forgot usernames. When proxies are used for patients (minors, incapacitated adults, ward of the courts, other), the same procedures must be in place and documented for linking the legal consenter as a proxy to the patient including written procedures that outline which documents are required to support and substantiate the legal relationship of the proxy to the patient as consenter.

Specific Policies and Procedures

Specific policies and procedures for telebehavioral health service providers include the following:

1. Clinical Practice
2. Consent and Withdrawing Consent
3. Using APPs
4. Documentation Requirements
5. Patient Safety
6. Problem Patient
7. Emergency Treatment
8. Ethics Violation
9. Training, Guidance, Management, Auditing

Several examples of such policies are noted below. When writing policies and procedures, a standard format should be used that includes the policy statement, applicability, the procedure body, definitions, other references or policies/procedures associated with the policy and procedure, and revision history. The policy owner should be clearly identified. For organizations that are Joint Commission accredited or have other certifications from agencies or groups, attention should be paid to the

required list of policies and procedures that are needed to attain such designations or certifications.

Example 1. Problem Patient Policy and Procedure

Policy/Procedure	Problem Patient	Document Number
Document Author		Last Updated Date
Policy/Procedure Owner		Revision Number

Purpose

The purpose of this policy is to outline the approach and procedures for handling problem patients or family/caregivers including escalation of such events to the appropriate level for determination and intervention.

Scope

The scope of this policy applies to all employees including nonclinicians and nonlicensed employees working at or a subcontractor to [organization name].

Policy Definitions

A problem patient is defined as a "difficult" patient who may be profoundly annoying, poorly compliant, belligerent, antagonistic, etc., and interrupts the patient–provider relationship to such a degree that the patient's progress is inhibited or halted completely.

Policy

Problem Patients.

Patients can be problematic for all staff and be physically and mentally intimidating to staff. Dealing with problem patients requires enhanced communication skills, intuition, quick thinking, and empathy. Not all problem patient situations can be resolved. The following policy applies to problem patients at [organization name].

1. All patients regardless of their interaction with staff shall be treated with dignity and respect.
2. Patient and staff safety are the highest priority in problem patient situations.
3. All staff shall be trained in dealing with difficult patients and the responsibilities to act and report when a problematic situation arises with a patient.
4. Staff must understand that anger is a manifestation of other patient concerns and it is important to diffuse the situation or end the behavior of the patient as soon as possible.
5. Problem patients at [organization name] include:

    (a) Patients who consistently do not follow the treatment plan;
    (b) Patients who misuse the [organization name] app;
    (c) Patients who exhibit inappropriate behavior or responses towards coaching or clinical staff;
    (d) Patients who repeatedly miss scheduled appointments;
    (e) Patients who misrepresent their identity;
    (f) Patients who exhibit drug seeking behavior;

(g) Patients who are angry and unable to control their anger and participate in treatment;

(h) Patients who threaten [organization name] staff;

 (i) Other safety concerns for [organization name] staff;

 (j) Patients who exhibit other repeated behaviors that are nonclinical but still a concern to staff.

6. Staff who encounter problem patients shall complete the problem patient form online and submit the form to the Patient Advocate who will investigate the situation.

7. The Patient Advocate will refer the problem patient situation to the [name of] Committee when the results of the investigation indicate a need to contact the patient regarding the behavior, request that the patient cease the behavior, or if there is a need to change providers or terminate the patient from the [organization name] service.

8. The [name of] Committee retains the ultimate right to terminate patients from the [organization name] service.

9. If a patient is terminated from the [organization name] service, the patient will receive a registered letter to the address on record and receive the same notification through the [organization name] app.

10. One week post date of the mailing of the registered letter to the patient and the notification through the app of patient termination, the patient's [organization name] app account will be turned off.

11. Patients who are terminated from the practice will not be allowed to sign up for [organization name] services for 12 months.

Related Policies, Procedures, and Other Materials

Revision History		
Revision Number	**Revision Date**	**Revision History**

Example 2. Ethics Violations Policy and Procedure

Policy	Ethics Violations	**Document Number**
Document Author		**Last Updated Date**
Process Owner		**Revision Number**

Purpose

The purpose of this policy is to outline the procedures for reporting ethics violations including patient complaints, escalation of patient needs, reporting of concerning practices, and all other suspected violations of ethical practice.

Scope

The scope of this policy applies to all employees including nonclinicians and nonlicensed employees working at or a subcontractor to [organization name].

Policy Definitions

None
Policy Provisions
Ethics Violations

1. Providers and employees must be aware of the top ethical concerns that might present in a mental and behavioral health practice including:

   (a) Client's rights and informed consent
   (b) Ethical issues with multicultural counseling
   (c) Confidentiality
   (d) Competence
   (e) Working with multiple clients (couples and groups)
   (f) Counseling minors
   (g) Dual relationships
   (h) Working with suicidal clients
   (i) Counselor Training and supervision
   (j) Law & ethics

2. Ethical violations at [organization name] include but are not limited to the following:

   (a) Practicing without a license
   (b) Intimating, developing, or having a sexual relationship with a client including minors
   (c) "Other" – poor standard of care, violation of ethics code, inadequate supervision
   (d) Inappropriate insurance or fee assessment
   (e) Failure to properly conduct child custody evaluations
   (f) Failure to inform clients of the goals, techniques, rules, and limitations of counseling
   (g) Breach of confidentiality
   (h) Failure to report abuse
   (i) Failure to report clear and imminent danger
   (j) Failure to properly form and facilitate groups
   (k) Sexual misconduct w/ minors
   (l) Nonsexual dual relationships
   (m) Practicing outside of competency
   (n) Inappropriate follow-up/termination

3. All employees at [organization name] shall complete Ethics training and be aware of and know how to access the Patient Complaint form, the Ethics Violation reporting system, and the [organization name] Patient Advocate and Legal Services.
4. All employees at [organization name] are responsible for reporting Ethics violations or suspected violations immediately and are held responsible for patient safety concerns if the employee person delays reporting in any way.
5. Employee shall follow the process for Ethics violation reporting by:

    (a) Contacting the Corporate Compliance Officer or designee and providing all information including the reporting employee's name and contact information. The Corporate Compliance Officer or designee will complete the reporting form and start an investigation.

    (b) Talk with the employee member's supervisor who will document the incident and take the matter to the [organization name] Corporate Compliance officer to complete the report.

6. Employee members who report ethics violations are not entitled to the outcomes of the investigation but will be notified that the investigation was concluded.

7. Employee members who are investigated for ethics violations will be subject to the following actions:

    (a) The investigation is complete and there are no findings. The report will stay in the employee member's file for 1 year; or

    (b) The investigation is complete and there are minimal findings that indicate clinical practice could have been different or behavior could have been more professional but no patient harm or ethical violations occurred. The employee member will be counseled and the investigation report and report of the counseling session and recommended changes will stay in the employee's file for 1 year; or

    (c) The investigation is complete and there are moderate findings that indicate clinical practice should have been different or behavior should have been more professional and patient harm could have occurred but did not. The employee will receive a verbal warning to improve behavior and/or practice with expected outcomes and the verbal warning will remain in the employee's file for 2 years; or

    (d) The investigation is complete and there are significant findings that indicate evidence-based practice was not followed or behavior violated the patient–provider relationship and patient harm could have occurred but did not. The employee will receive a written warning to improve behavior and/or practice with expected outcomes and the verbal warning will remain in the employee's file for 2 years; or

    (e) The investigation is complete and there are severe findings that indicate clinical practice did not follow evidence-based practice and/or professional behavior professional and patient harm has occurred. The employee will receive disciplinary action including a 3 days suspension up to termination of employment. The findings will remain in the employee's file for 5 years. Employees who are terminated as a result of ethics violations are not subject to rehire.

    (f) Significant or severe findings are reported to the appropriate licensure board and government agency if required by the Corporate Compliance Officer.

    (g) The employee may appeal a minimal, moderate, or significant finding, through the Corporate Compliance Officer Appeals process. A severe finding may not be appealed and the findings stand.

Related Policies, Procedures, and Other Materials

Revision History		
Revision Number	Revision Date	Revision History

Case Study Conclusions   As one can see throughout this chapter, the mental health group embarking on a plan to implement telebehavioral health uses valuable resources to educate itself, identify key legal and regulatory issues, create policies and operational procedures to meet all the legal and regulatory requirements, and put in place a quality performance program that monitors compliance. The mental health group used online resources for policies and procedures and made adjustments to those templates to make policies that reflected the practice model and philosophies of the group practice. In this way, the mental health provider group was able to launch a successful telemental health program that was compliant, successful, and generated a high level of patient and provider satisfaction.

Conclusion

Starting from scratch in writing policies and procedures seems like a daunting task and many organizations try to pave the way themselves. The telebehavioral and telemedicine communities have many resources and many programs are willing to share policies and procedures. Simply looking online for university-based programs or other nationally recognized telebehavioral health programs will provide many opportunities to network with other organizations. Many professional associations including the American Psychiatric Association, the American Psychological Association, the American Social Work Association, the American Telemedicine Association, and others concerned with public policy and clinical guidelines for the use of remote-based care in the behavioral health sciences. Remember always that the use of policies and procedures outline the specific responsibilities of the clinician to the patient, the organization to the patient, and the clinician and organization's responsibility for legal, ethical, and moral practice. In addition, policies and procedures assist organizations and clinicians in supporting the best in evidenced-based, patient-centric care that promotes organizational clinical quality.

CE/CME Questions

1. Providers must be aware of the licensure requirements when conducting telebehavioral health visits?

   (a) No license is required if telebehavioral health is provided in rural areas
   (b) Licensure is up to each state's practice board requirements

    (c) Licensing for telebehavioral health is available through some professional licensure compacts

    (d) Providers need a special telehealth license to practice virtually

    (e) Physicians cannot be licensed in multiple states for telemedicine practice

2. What key legal and regulatory issue should providers be aware of when considering a Telebehavioral health program?

    (a) Licensure, malpractice insurance, location of patient, revenue

    (b) Malpractice insurance, revenue streams, patient satisfaction, compliance

    (c) Licensure and compliance

    (d) Compliance, malpractice insurance, location of the patient

    (e) Licensure, compliance, location of the patient

3. Scope of practice issues include:

    (a) Prescribing authority

    (b) Supervision needs

    (c) Evidence-based practice

    (d) Licensure requirements

    (e) Insurance requirements

4. Policies and procedures are an important part of conducting a telebehavioral health program :

    (a) Policies and procedures govern what the patient does

    (b) Policies and procedures govern what the provider does

    (c) Policies and procedures help attorneys know what to do

    (d) Policies and procedures govern the relationship between the provider, the patient, and the health care organization

    (e) To allow attorneys to create a case against a patient

5. What is the reason that an organization must have a policy on Ethical Behavior in telebehavioral health care?

    (a) To protect the provider

    (b) To protect the organization

    (c) To protect the patient

    (d) To help win a malpractice case

    (e) To reduce malpractice insurance costs

Answers

1. (b)
2. (e)
3. (b)
4. (d)
5. (c)

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Chapter 14
Resources on Funding, Economic/Cost Assessment, and Reimbursement

Nina M. Antoniotti, Sarina Horn, and David White

Introduction

Economic stability of telehealth programs has fundamentally always been a challenge. From the early 1990s when the Office for the Advancement of Telehealth (OAT) in the Health Resources Services Administration (HRSA) in Washington, D.C., funding telehealth grants for rural health care providers, to today, health care organizations often struggle to appropriately quantify costs and revenues and use business models and strategies that create a sustainable and meaningful virtual care program.

Knowing the business model and the financial model is important to identify resources that will help with funding the initiative and then resources and revenues to sustain and maximize the Telemental Health initiative. How to determine a business model, financial model and where to find start-up capital is often a challenge for organizations just getting started with virtual care initiatives. The options also differ in terms of the type of virtual care to be delivered – live interactive traditional telemedicine, remote patient remote monitoring (RPRM), or asynchronous options such as texting, use of patient portals, or email. This chapter provides a guide to real world experiences and resources to help organizations be successful in their start-ups, particularly in underserved or rural areas. The resources highlighted in this chapter have been selected for their longevity in the telemedicine industry and their noncompetitive position on advancing telemedicine for underserved and rural populations, as well as for innovative thinking and strategic approaches.

This chapter provides a real-life, nuts-and-bolts, lessons learned approach to: (1) find and use resources to create a business approach based on economics of health care; (2) compare estimated versus real costs; and (3) maximize reimbursement.

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Case Study

Developing a Telemental Health Program for a Rural Outpatient Clinic a rural health care system comprising of a rural hospital (non-CAH), an outpatient center for procedures, and an outpatient clinic with family medicine, internal medicine, and a pediatrician. The health care system nor the local community had no mental health services available. A large mental health group in an urban area 125 miles away in the same state offered telemental health services. The rural facility desired to contract with the larger mental health provider for telemental health services. However, the rural facility had no experience with either providing or contracting for mental health services. Where to begin? The mental health provider needed to consider capacity, pricing model (per member per month, per click, fee-for service) and level of practitioners available and necessary to meet the service demands. Throughout this chapter, referencing to this case study will occur, leading the reader through an example in each area, of how to approach starting a telemental health program in each of the key subject areas. Look for "Case Study Implications" for the extended discussion.

Getting Started

Getting started with a telemedicine or virtual care initiative in 2021 is easier than ever since the global pandemic forced health care into the virtual world. Naysaying health plan payers as well as government payers suddenly waived restrictions and gave the United States the opportunity to see the full capacity and value of telemedicine and virtual care options. Not coincidently, many companies started to position themselves as "experts" in the field of virtual care and offered for fees to help organizations start a virtual program. However, there are tried and true options for getting assistance for any telemedicine or virtual care implementations.

Leading Telehealth Organizations

There are many organizations using all models of telehealth (traditional, online, concierge, asynchronous (chat, email, texting), RPRM, self-help, and artificial intelligence) that have been in existence since the early 1990s. These telehealth leadership organizations have lessons learned that go far beyond what consulting companies might be able to provide. Certainly, these organizations also have experienced the legal and regulatory environments and changing policies that provide expertise greater than what a law firm might provide as well. Telemental health programs often can learn from leading telehealth organizations that provide multi-specialty services, acute care services, and many of these organizations also provide mental health, psychiatry, acute psychiatric hospital coverage, and crisis mental health services.

One example of a leading telehealth organization is the Cleveland Clinic's Center for Digital Health and Telemedicine (Cleveland Clinic, 2021) and the Center for Healthcare Delivery Innovation. The Center for Digital Health and Telemedicine aims to bridge the gap between digital health technologies and clinical practice. The Center focuses on research and education on technologies and wearable devices and provides guidance to patients and health care providers and the community at large (Cleveland Clinic, 2021). The Center for Health Care Delivery Innovation evaluates issues in health care delivery from the perspective of patients and health care providers and encourages and seeks out innovative strategies (Cleveland Clinic, 2021).

John Hopkins Telemedicine Center (John Hopkins Medicine, 2021) is another option for a long-standing successful telemedicine program. With a long history of telemedicine innovation, John Hopkins has one of the longest list of services provided to new and existing patients and has been a leader in educating the nation in all areas of telemedicine.

Dignity Health (Dignity Health, 2021) has particular experience in all aspects of virtual care including teleICU, TeleStroke, and many of the outpatient specialty services as well as RPRM. Dignity Health serves urban and rural areas in Nevada, Arizona, and California with primary and specialty care services via virtual care.

Additional organizations include Integris (Oklahoma) and Mercy Health (Missouri). Calling any one of these organizations and asking for the Telehealth Director or Clinical Coordinator will get the caller an expert in telemedicine initiatives and often will be the link to the telemental health expert in the organization.

Leading Telehealth Experts

Many of the authors in this book have been in the telemedicine and telemental health industry for years. Any of the authors are more than willing to help organizations, either through an informal conversation or a formal consulting arrangement, to start the telemental health program on a foundation that leads to success and sustainability. Calling on any of the telehealth names one might find on an internet search also will provide the telemental health startup program with an experienced telemedicine or telemental health professional that most times is more than willing to help and answer questions.

In addition, there are other nonprofit telehealth organizations that bring together technology, health care providers, innovative strategies, and broadband providers to help leverage telemedicine and telemental health in rural and underserved areas. One of the best is Palmetto Care Connections in South Carolina (Palmetto Care Connections, 2021). Professional associations also have a plethora of information to help members start telemedicine and telemental health initiatives. The American Medical Association, the American Psychiatric Association and the American Psychological Association all have white papers, position statements and resource pages on their websites that can assist and guide decision-making for the new telemental health provider.

Telemental Health Experts

The current world of telemental health is an interesting one indeed. With the proliferation of for-profit telemental health companies and the legal and regulatory requirements to have mental health services available, it is sometimes difficult to find an existing telemental health provider who is willing to assist a telemental health service start-up. Of particular difficulty is finding a resource to assist a, fee-for-service telemental health program that desires to bill insurance and not just collect cash payments from patients.

Resources that might assist that have no competitive interest are the Substance Abuse and Mental Health Services Administration (SAMHSA, 2021), the National Institute of Mental Health (NIMH), or organizations like mentioned above, the American Psychiatric Association (APA, 2021) and the American Psychological Association (APA, 2021). The Anxiety and Depression Association of America (ADAA, 2021) has many resources for providers and excellent tips for families and patients on selecting a telemental health provider that are exceptional guides for telemental health providers looking to understand the patient's perspective. The Telebehavioral Health Institute (TBHI, 2021) is an organization specifically focused on remote virtual behavioral health and includes many of the nation's top experts in telemental and telebehavioral health as consultants, advisors, and leaders of educational programming.

Certificate Programs

Another option for learning how to start a telemental health program is a certificate course that results in certification or a knowledge certificate (proof of attendance) in telemedicine or telehealth. Although these courses cover a variety of topics, some caution should be used in the company's background, the speakers, datedness of the material being presented, etc. Certification is not required for a telemedicine program nor a telemental health program for any type of legal or regulatory status or reimbursement. Certification for a program is more of a status symbol. However, some certificate programs are good learning experiences.

Make sure to look for a certification program from experienced provider organizations such as THBI, Cornell's Telemedicine Course (Cornell University, 2021), and other online courses such as those offered by the National School of Applied Telehealth through the Southeastern Telehealth Resource Center (SETRC, 2021), one of the few Telehealth Resource Centers focused on evidence-based and scientific researched telemedicine practice. Although not specifically telemental health, the SETRC is a good place to start to learn about telemedicine and receive CEU educational programming.

Case Study Implications The rural facility put together a small workgroup including clinicians, nurses, a business manager, legal services/compliance, and a

community advocate to begin the process of investigating how to bring mental health services to the rural community. The group conducted research on the internet and collected resources from SAMSA, Telehealth.org, the state Medicaid office, and from CMS. In looking through the information, the group created a weighted attribute list of characteristics of the program that were important to the community and fit the community's needs. Included in the list were the requirements for contracting, payment models, and metrics for success. Decisions included whether or not a 24×7 crisis intervention service, 7-day-a-week outpatient service, a Monday–Friday business hours outpatient service, or the mental health provider could choose their own hours model(s) were needed and which to select. The mental health provider in discussion would need to consider whether or not 24×7 services were available and if not what services could be reasonably accommodated during which hours of the day and days of the week. Pricing models would then need to be considered in order to determine break-even points (if applicable) and profit margins.

Getting Paid

Reimbursement and payment for services delivered by virtual strategies have often been problematic for telehealth providers. The global pandemic has revolutionized payment for services delivered via telehealth, especially for telemental health and substance abuse issues delivered to the home. Understanding the payment and reimbursement landscape, the differences between government payers, Medicaid plans, private health plans, and other payers of health care services is often mind-boggling for organizations. Documentation requirements to support coding and billing as well as tracking and auditing claims for services delivered via telehealth in a hybrid environment (in-person plus virtual) add an additional layer of complexity.

Government Payers: Medicare

The Centers for Medicare and Medicaid Services (CMS, Medicare) provides a comprehensive set of resources that provide Member Learning Network (MLN) dated memos that explain specifics related to telemedicine and telemental health. Both telemedicine and telemental health are treated the same with respect to payment from Medicare. Payment is authorized and amended through the annual Physician Fee Schedule submission process (CMS, 2021) The MLNs are also specific to the area of telemedicine services. The annual MLN describes current and future approved telemedicine services based on the new Physician Fee Schedule that includes the originating site, eligible practitioner, geographic restrictions, and CPT codes approved (pp. 3–6). Specific MLN Matters might include notices such as the New/Modifications to the Place of Service (POS) Codes for TeleHealth (p. 1) or Transitional Care Management Services that outlines the use of telehealth and

qualified practitioners as well as delegated activities (CMS, 2021). There are no specific MLNs related to telemental health. For CMS and Medicare, telemental health is covered in the general guidelines.

Government Payers: Medicaid

Medicaid agencies in all states and territories have unique payment policies specific to that state. It is important for the telemental health provider to review on a monthly basis current policy and any proposed changes to reimbursement policies for telemedicine or telehealth. Often states will have separate payment policies for telemental health as mental health services are one of the earliest services to be provided by telehealth (starting in 1954). Mental health providers should search their Medicaid website for telehealth *and* telemental health payment and reimbursement policies, the state's Office of Insurance Commissioner (or similar), and the Consumer Protection Agency or Office in the state for all possible payment requirements. In addition, many states have telehealth parity laws. These telemedicine parity laws are again, all dissimilar and waiver from equal access and payment for all services under the health plan (including Medicaid managed care organizations and Medicare Advantage plans) to those parity laws that do not mandate anything. The telemental health provider should understand any telehealth parity law for the target state and any telemental health provisions. Often, the use of a reimbursement specialist or corporate attorney may be useful in understanding the legalese used in the legislation. Do not overlook regulatory language as well. Legislation is the law that is intended to set the stage for payment. Regulatory language is the conditions and language that describes the terms of implementing the law. Often, there is a discrepancy between the legislated intent and the regulatory outcomes.

Private and Self-Pay

Private payers and patients should be billed. Simple as that! Payers in a telehealth parity state do not have the option of not paying or paying less in a state with equal access and equal payment if the benefit is a covered benefit when delivered in-person.

For non-parity states, telemental health providers should bill all private health plans and then deal with denials as those denials come in. Knowing which private health plans pay for services and when those payment policies change is often again, cumbersome. The telemental health provider's revenue cycle management department or outside contracted service should have automated updates and, at a minimum, someone watching for changes in private payer payment policies, particularly reduction in payment for virtual care services.

For patients that are self-pay, and the service is provided in a traditional manner, the same billing process should be used for those patients who pay out-of-pocket.

Claims go through the standard process and either go to payment, collections, charity, or bad debt based on the telemental health provider's debt collection process.

Case Study Implications The rural health care system's case mix was 30% Medicare, 60% Medicaid, and 10% self-pay. In considering the financial implications of contracting for a service, the organization had to consider the financial impact on the budget. Two models exist for contracting in a mixed payer environment. The rural health organization could pay a contractual fee to the mental health provider, who would transfer assignment to the rural health system to be able to bill for the services. The rural health system then could recoup some of the contractual costs of purchasing the services for the community.

Staying out of Jail: Legal and Regulatory

There are many areas of legal and regulatory importance for the telemental health provider. The applicable legal and regulatory issues vary widely between modalities of telehealth and between state and federal policy and state-to-state policy. The regulation of telehealth varies by the setting and type of program. Regulators and policy-makers are concerned about the consequences of the lack of a direct clinical setting and the potential lack of jurisdictional reach. Accordingly, standards of care and licensure (and corollary concepts of other agencies such as the Food and Drug Administration (FDA) have been a primary focus of regulatory development and interest to telemental health providers. Legal and regulatory issues fall into several different categories: Licensure, Clinical Practice, Exam Requirements, Prescriptive Authority (Controlled Substances), scope of practice and practice board authority, reimbursement, supervision, and other issues.

What is of importance for the telemental health provider is to use a team of experts in clinical practice, legal affairs, and compliance to ensure that all legal and regulatory questions are answered before starting a telemental health practice. A few caveats are noted below for each area.

Licensure

For all practical purposes, a clinician must be licensed in the state in which the patient resides at the time of the telemental health visit. There are really no special telemedicine or telehealth licenses, just the standard license that would be issued for in-person or in-state resident practice.

There are different ways to accomplish such licensure requirements depending on the professional degree. During the global pandemic, full licensure requirements were waived or relaxed for physicians, but not for many other health professionals. Licensure for physicians can be accomplished through the Interstate Medical

Licensure Compact Commission (ILMCC, 2021) or by applying individually to each state in which the physician will see patients via telehealth. Licensure for Advanced Practice Professional (APP – Advanced Practice Registered Nurses, Physician Assistants, Certified Nurse Anesthetists, Midwives) mental health providers is more complicated with each of the states having a different set of requirements for licensure to practice via telehealth. An APP must look at each state and meet that state's requirements for collaborative practice agreements and supervising clinicians before a license can be obtained to see patients via telehealth. All other health professionals, social workers, licensed clinical psychologists, licensed counselors, must also check each individual state for the requirements to practice and licensure via telehealth.

At this writing, there are several licensure compacts that help facilitate licensure portability for practice via telehealth. Registered nurses have the Nurse Licensure Compact (eNLC, 2018) through the National Council of State Boards of Nursing. Psychologists have the PSYPACT (2015) that allows a psychologist to practice telepsychology and/or conduct temporary in-person, fact-to-face practice in participating states. Physical therapists, EMS personnel, and speech and language therapists also have active interstate licensure compacts.

Clinical Practice

The patient–provider relationship exists in a virtual environment and all aspects of clinical practice apply when the patient is seen via telemental health. The clinician must maintain standards in practice and uphold the appropriate scope of practice. In addition, the clinician must understand the environment of care and the patient–provider relationship. Clinicians must feel comfortable in practicing telemental health and understand the limits to such practice. The scientific literature is very positive in terms of clinical outcomes for the mental and behavior health sciences when telemental health is used, but, for some patients and some situations, telemental health may not be appropriate. The bottom line is that the clinical practice does not change from in-person care when telemental health is used. The clinician is still responsible for the same level of assessment, evaluation, plan of care, intervention as in-person care and also, to know when telemental health is not being effective and to stop and schedule the patient for in-person care.

Scope of Practice

The Scope of Practice again does not change simply because the telemental health provider is using virtual care strategies. The telemental health providers still must know how the scope of practice for each health professional is defined, who regulates the scope of practice, and if there are any situations in which the scope of

practice might change or become more restrictive if telemental health is being used. The ability to prescribe controlled substances is one of the few areas in which scope of practice does change when telemental health is used. In addition, during the global pandemic, several components of scope of practice were waived to allow clinicians to better serve populations with COVID19. Telemental health providers especially, must be aware of the date when the emergency orders for the pandemic expire to ensure adherence to scope of practice requirements.

Ethical Conduct

The use of telehealth does not remove any existing responsibilities in delivering services, including adherence to the Code of Ethics, Scope of Practice, state and federal laws, and professional association documents on professional practice, and the quality of services must be consistent with the quality of services delivered [face-to-face].

Physical Exam Requirement/In-Person Visits

Some state laws and federal regulations for prescribing controlled substances require the patient to be seen in person or to have a physical exam conducted in-person prior to using telehealth or writing prescriptions for controlled substances. Some of these laws are simply to keep out online urgent care companies and others are intended to protect patients from unscrupulous online pharmacies. Unfortunately, these laws inhibit the ability of telemental health providers to completely and adequately serve their population through telemental health. Mental health clinicians typically do not do a physical exam and, therefore, could not meet such a requirement before using telemental health. The question of what constitutes a physical exam for a patient with mental health issues is also unanswered by policy-makers. Having an in-person visit prior to writing a prescription for a controlled substance is also impractical and at times unfeasible, and defeats the purpose of using telemental health as a tool for access for remote, rural, and underserved populations. If the population could get an in-person visit, the population most likely would not need telemental health.

With respect to remote prescribing, the same principles for in-person care apply. Does the patient need a prescription? What is the prescription for? Can the prescription be delivered electronically through a secure e-prescribing system? There are different methods that can be used depending on the patient's location and the type of medication being prescribed to get the prescription to the patient. The prescription can be generated and sent to the pharmacy electronically, called into the pharmacy by the health care professional's office staff, a paper prescription can be mailed to the pharmacy or the patient, or the telemental health provider can

recommend a course of medication therapy to a primary care provider who then writes the prescription (particularly in the case of controlled substances). If the substance is a Schedule II, III, IV, or V substance, specific regulatory requirements must be met including a special controlled substance DEA license before such prescriptions can be generated (DEA, 2020). Each state also has specific requirements for controlled substances and DEA registrations. There are also specific waivers during the global pandemic for the prescribing of controlled substances via telemental health (Health and Human Services, 2020a).

Legal and Regulatory Resources

There are many resources available to the telemental health provider to research, know, and understand the legal and regulatory issues surrounding the use of virtual care strategies. All of the authors listed in this book also are experts in legal and regulatory issues in telemental health. Some additional resources are included below:

1. Rural Health Information Hub – The Rural Health Information Hub, formerly the Rural Assistance Center, is funded by the Federal Office of Rural Health Policy to be a national clearinghouse on rural health issues and is committed to supporting healthcare and population health in rural communities (ORHP, 2021) The Legal and Regulatory Toolkit for Implementing a Telehealth Program is a comprehensive resource for listing the items to be considered
2. Health and Human Services, Washington D.C. – Telehealth for Behavioral Care is a comprehensive summary of elements for starting a telemental health program, billing, and preparing patients for telemental health (HHS, 2021)
3. Substance Abuse and Mental Health Services Association (SAMSA) – The Substance Abuse and Mental Health Services Administration (SAMHSA) is the agency within the U.S. Department of Health and Human Services that leads public health efforts to advance the behavioral health of the nation. SAMHSA's mission is to reduce the impact of substance abuse and mental illness on America's communities (SAMSA, 2021) SAMHSA has published a guide for using telehealth modalities for serious mental illness and substance use disorders (SAMHSA, 2021)
4. Telehealth.org (Formerly TBHI) is a comprehensive website that has been focused on legal telehealth compliance and ethical telehealth practice since 1994. Resources include international, interprofessional faculty, 100% online, self-paced, self-directed training, industry leaders in legal, ethical, technical implementation, CME and CE hours available for 14 disciplines, as well as books, articles, papers, and other peer reviewed literature (telehealth.org 2021)

Case Study Implications The rural health system identified licensure, level of professional practice (Psychiatrist, Licensed clinical psychologist, etc.) and therapeutic evidence-based practice requirements as key elements in the contractual relationship. Background checks including the National Practitioner Data Bank, the

National Sex Offender Registry, and other necessary checks are requirements of the mental health provider organization. Specific levels of insurance, dual-indemnity clauses, and other required Business Associate Agreement (BAA) were also identified as important in the contract language and terms. The rural health provider also sought the advice of outside counsel to review the contract language and to assist with any redlines from the potential mental health provider. The mental health provider has its own BAA but did have policies in place that would accept with review the terms and conditions in the contracting organization's BAA.

Prescribing of controlled substances if needed was an area that took some discussion to find a workable solution with which local primary care providers were comfortable and that worked for the prescribers. Several options existed. As the mental health provider could use one of the DEA exceptions, that the patient was in a facility with a DEA licensed provider and the facility was registered as a DEA facility, the prescriber could write a controlled substance prescription as a result of a telemental health visit (DEA rules in force as of 10-2021. For current rules, go to www.Dea.gov at the time of reading). The prescriber could also write a medical note to the primary care referring provider and indicate recommendations for drug therapy and the local primary care provider could write the prescription. Many primary care providers are not comfortable with writing prescriptions for controlled substances to treat mental health conditions, but with the input and monitoring of the prescription and drug therapy by the mental health team, many primary care providers have taken on this role. In the case study, the mental health provider chose to write the prescriptions as long as the patient was seen at the local health care system physical location. Any patient seen at home for the telemental health visit would have to see their primary care provider for prescriptions for controlled substances.

Financial Validation of a Telemental Health Program

Creating a meaningful fiscal valuation of a telemental health program as well as understanding the cost burden and whether or not the program adds to the bottom line of the organization is at times challenging. The typical return-on-investment or break-even analysis simply do not work for a telemental health program. What is more important is to understand the actual costs of the program as well as the cost avoidance, cost reduction, and utilization of high cost access points.

One of the best ways to determine how much a telemental health program costs is to use activity-based costing. Activity-based costing is a method to calculate the actual cost of an activity based on the number and type of resources consumed. This model uses the financial calculations of all costs associated with the activity (one telemental health visit). The most common financial calculation used by health care organizations is revenue over expense. However, a revenue over expense calculation does not consider actual resources consumed by a single activity (one telemental health visit), rather, calculates all expenses incurred applied to all revenues earned.

Calculating how much a single telemental health visit costs considers all activities and resources consumed in that one activity. For instance, in a 50 min telemental health visit, (activity), one would calculate the costs associated with the resources used (practitioner, nurses, telepresenters, EHR, reception, scheduling, technology, etc.), broken down into 1 min increments. The following table is an example of calculations based on activity-based costing of a telemedicine consult versus an in-person visit (Table 14.1) (Antoniotti, 2004).

One can see that providing services to patients over telemental health costs less as an activity than seeing the patient in person. Even when one pays for the patient site support staff (person assisting the patient at the patient end) in situations where the same corporate entity owns both locations, the costs are still comparative to in-person care (adding back in the support staff costs at $23.45 [45 min of time] only raises the costs $7.79, which is significantly lower than the costs associated with outreach). In addition, providers who use traditional telemedicine interspersed into their daily in-person schedule, see more patients per clinic day than in physical outreach, which decreases the number of hours in an outreach clinic day due to travel. If one considers all these factors, the financial impact of using traditional telemental health, especially if the telemental health provider is at home providing the service, is less of a financial burden on the organization than in-person care.

Conducting outreach has the same implications when using activity-based costing. If an organization were to evaluate its outreach using an activity-based costing model, the results would show that the revenue produced by the outreach activity does not cover the actual costs of the outreach activity. In an example of calculating a 30 min telemedicine visit versus a 30 min in-person visit, the results indicate that the in-person visit costs $154.32 and the telemedicine visit costs $141.66, a cost savings of $12.66. Multiplied by thousands, and the cost reduction becomes significant. Outreach may be necessary and ethically the right thing to do. The organization's care delivery goal is to reduce physical outreach but maintain presence and patient–provider relationships through the use of telemental health, but the financial goal is cost reduction.

Table 14.1 Activity-based costing comparison of in-person vs. telemedicine visits – 15 min

Resources	In-person	Telemedicine
Psychiatrist – average salary per hour = $250 = $4.16 per minute	$125	$125
Support Staff – average salary + benefits = $65,000 = $.52 per minute	$15.66	$0
Scheduling/Reception – average salary $35,000 = $.28 per minute	$8.41	$8.41
EHR Costs	$.25	$0.25
Technology software license	$0.00	$1.00[a]
Patient Site Staff Costs	$0.00	$0.00[b]
Indirect Costs[b]	$5.00	$2.00
Total	$154.32	$141.66

[a]Cost for concurrent use video license per use

[b]Indirect costs are always lower when telemedicine is used as the exam rooms, consumables, HVAC, etc., are not consumed as the patient is not present

Break-even analysis often does not work as a financial model for telemental health. Revenues are often poor and the time commitment is typically much greater than medical or surgical specialties or urgent care online programs. If revenue is $56 per visit, activity-based costing shows that the costs are $110 per visit, the organization is already at a loss. Considering the number of widgets per hour is not an appropriate model of productivity to use for telemental health. The value of activity-based costing is the real true data that reflects where cost savings, cost reduction, and cost avoidance strategies will have the greatest impact.

Activity-based costing is also of value when contracting for telemental health services. If a contract is being negotiated for a per visit or hour fee, the telemental health provider needs to know where to set the price in order to have a margin. If the cost is $75 per hour and the fee charged is $60 per hour, obviously, the telemental health provider is going to lose money. Pricing on a model of per patient per month also has disadvantages. Typically, pricing based on a fee per click (visit) is the optimum financial model for a contractual telemental health service. A contractual hourly rate is also a good financial model when the costs per hour are accurately calculated.

For instance, if a telemental health provider is considering providing services to a health plan, primary care practice, or a government agency, selecting a per-click fee or a per-member-per-month (PMPM) fee can either make or break the financial outcome. The following example shows how the difference between a per-click rate and a PMPM fee structure causes the bottom line to shift.[1] Using the capitated PMPM rate, the telemental health organization loses money using either a physician or nurse practitioner. Using the per-click rate, the telemental health organizations achieve positive revenue. The same will hold true for other mental health professionals who may provide the contractual services (Table 14.2).

Case Study Implications The mental health provider used activity-based costing to determine the actual cost of each activity (outpatient scheduled visit, on-demand crisis intervention) and then could reasonably set pricing based on covering costs and achieving a profit margin. There are differences between per-click rates and per-patient-per-month rates and the telemental health provider chose per-click rates as being more closely tied to covering costs and creating a small profit margin. The rural health system decided to use a certified medical assistant for the receptionist, vital signs, and information sharing/patient check in functions of the telemental health clinic. This level of certification provided the legal authority to provide information to the mental health providers (vital signs) and also do medication list checks prior to the visit.

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[1] Antoniotti, 2019. Unpublished presentations.

Table 14.2 Comparison of payment options for telemental health contracted services PPM vs. per-click rates

Capitated PMPM Rate
$7.00 per employee per month
1000 employees = $7,000 revenue
Time spent in online care visit = 7–11 min
50% of employees call in one time per month
Payment to physician = $12,500
Payment to NP = $9,000
Software costs = $7 per click = $3500
Total costs MD covering = $16,000 (−$9,000 per month)
Total costs NP Covering = $12,500 (−$5,500 per month)
Per Click Rate Fee Structure
$49 × 500 = $24,500 revenue
Total costs MD covering = $16,000 ($8500 per month)
Total costs NP covering = $12,500 ($12,000 per month)

Conclusions

The case study shows an example of all the components necessary to achieve a successful telemental health program from the start. Although the finite details are covered in other chapters, one can see that an organized approach, with a team of key stakeholders, armed with accurate and legitimate information, can create a business plan around implementing a telemental health program. This business plan is similar to and as successful as implementing any other health care service, as long as the homework is done and all questions answered.

Key metrics for any telemental health program are different at key stages in the program. Pre-implementation should identify a checklist and ensure that the checklist is completed and all key stakeholders are in agreement with the implementation plan and clinical, financial, technology, and outcomes metrics. Implementation measures how well the program was implemented, were there any course corrections in the first few weeks of implementation, and whether or not clinics ran on time, patients and providers were able to connect on time and without issues, did visits go well with no technological interruptions, were there any untoward events (lack of crisis plan, inability to get ahold of the telepresenter or provider, etc.), etc. Evaluations include provider satisfaction for the telemental health provider with the program, the referral process, and the technology. For patients, satisfaction with telemental health, ease of access, etc., are important metrics for the patient experience. Financial metrics should be monitored weekly and include obtaining a weekly report of all consults including date of service, time of service, patient MRN, name, and DOB, provider name, CPT code and name billed, health plan billed, payment(s)

received including insurance payment, contractual discounts, patient payments, other discounts and write-offs to track which health plans are paying (are all paying in a state with telehealth parity laws?) and comparison to contractual amounts paid minus billable revenue collected (to determine actual cost of service).

Take home messages from this case study are (1) starting a TeleMental Health program can be easy or hard. Having a detailed checklist of all the items to discuss, investigate, research, decide, plan, and then implement can make the process much smoother and prevent bumps in the road for missed areas of planning. The financial components of reimbursement, capital funding, start-up costs, sustainability, and financial success metrics are key to success; (2) Resources are available through national agencies such as CMS, SAMHSA, ORHP, as well as Telehealth Resource Centers, other telehealth programs, and national experts who have worked in the field for years. Having a good source of information and advice is one of the most valuable components of implementing a TeleMental Health program. Ensuring that the financial discussions are concrete, backed by data, and take an innovative approach helps to create a sustainable well-funded program; and (3) Don't be afraid to ask for help. Even the most experienced TeleMental Health providers have questions in an ever-changing legal and regulatory environment. Keep the patient in the center of all decisions and ensure that all questions are answered in a manner that fits into the mission and vision of the organization. If it does not feel right, it is not right!

The laws and regulations governing telehealth are fast-changing, but deregulation in certain key areas to promote the advancement of telehealth programs is occurring.

There are tried-and-true pathways to complying with the applicable legal and regulatory requirements – but all pathways require ongoing monitoring and assessment. Some final words of wisdom for the telemental health professional to stay out of trouble is to be confident of your clinical programs; be sure to check your facts regularly; involve the team when necessary regarding legal and regulatory questions; and know your legal friends and enemies!

CE/CME Questions

1 What is the best method to get assistance when starting a new TeleMental Health initiative?

   (a) National mental health organizations
   (b) Telehealth Resource Centers
   (c) Office for Rural Health Policy
   (d) Other telemental health programs
   (e) Trial and error

2 What legal and regulatory policies need to be reviewed prior to starting a TeleMental Health initiative?

   (a) Licensure, ethical practice, DEA prescribing, patient preferences
   (b) Licensure, insurance benefits, patient internet options
   (c) Licensure, ethical practice, medical staff requirements, Joint Commission
   (d) State licensing requirements, practice board rules, ethical practice, scope of practice
   (e) Joint Commission requirements

3 Activity-based costing is important to Telemental Health in that the accounting approach:

   (a) Identifies where a provider is inefficient
   (b) Identifies where an organization can make money
   (c) Helps an organization understand the real costs of providing health care
   (d) Points out where organizations can cut costs
   (e) Makes the provider compliant with billing

4 Physical exam requirements for telemedicine visits:

   (a) Vary by state
   (b) Are the same as in-person care
   (c) Must be documented in the record the same as in-person care
   (d) Do not have to be done for any telehealth visits
   (e) Should be completed by the lowest level licensed practitioner

5 Getting paid for services delivered by Telemental Health depends on: (check all that apply)

   (a) The payer source – government (Medicare, Medicaid, private health plans)
   (b) The eligible practitioners
   (c) Approved services to be delivered via TeleMental Health
   (d) Patient insurance benefits
   (e) State-based telehealth parity laws

Answers

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

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Chapter 15
A Health System's Perspectives on Integration, Planning, and Implementation Behavioral Telehealth Solutions

Marie D. Lee and Tania S. Malik

Introduction

Access to behavioral health services is limited to many of the estimated over 41 million U.S. adults that report having mental illness, with providers not evenly distributed in areas that have the highest concentration of patients (American Psychological Association, 2014). Additionally, adults are suffering from mild to moderate depression and anxiety, but do not recognize or report that as mental illness. Primary care providers (PCP) increasingly are asked by their patients to address mental health concerns; however, time spent in a typical office visit is short and does not provide adequate time to address, diagnose, and determine an appropriate treatment plan. Patient assessments such as the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001) and generalized anxiety disorder (GAD-7; Spitzer et al., 2006) can assist the PCP with determining mental health needs and severity of illness. Some patients require long-term therapy and are best cared for via more traditional behavioral health programs. Patients with mild to moderate symptoms are best served through a shorter series of appointments that can be conducted in the PCP office or from the comfort of their home or other chosen location.

The Collaborative Care Model (Katon et al., 1997) provides an evidence-based approach to caring for patients in a partnership between primary care and behavioral health. To address the challenge of a small number of behavioral health providers serving patients from a large geographic area, telemedicine provides an effective approach. Mental health providers are in a centralized location, or even practicing

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from a home office, and patients present to their local community health center, their PCP's office, or are able to connect from a chosen location using a device that allows for real-time audio and video. Setting up a telemedicine program requires minimal additional infrastructure as most offices already have access to high-speed internet. Providers must ensure they have a device that allows for high quality audio and video, a location that is private and conducive for treating patients over video, and must employ some basic "webside manner" skills to empathically connect person-to-person even when not physically in the same room. Patients must be educated and oriented to the process and meet basic equipment and internet connectivity standards if connecting from their own location. In a Collaborative Care Model, patients are treated in a series of appointments. The licensed clinical therapist monitors medications, teaches coping skills, and provides brief therapy while coordinating care between the patient's primary care provider, a staff psychiatrist, and psychiatric pharmacist. The staff psychiatrist consults on all cases and provides medication recommendations to the primary care provider who prescribes and manages the medications for the patient. Key Performance Indications ("KPIs"), including a reduction in patient PHQ-9 and GAD-7 scores, are assessed at every visit and are closely monitored. Patients who reach remission of symptoms are surveyed and provide compelling anecdotal assessment of the success of the program. These patients receive periodic assessment to determine if the interventions have been successful over time or if additional intervention is required.

When you've completed this chapter, you'll be able to:

1. Identify the requirements for setting up a real-time audio/video therapy session where a provider is in a clinical setting and the patient is in a primary care clinic or in their home environment.
2. Define opportunities to provide evidence-based behavior therapy to individuals in situations where significant barriers to effective treatment exist (e.g., few providers, patients comfort level with accessing care).
3. Design a 100% virtual program that allows patients to participate regardless of their access to and comfort with technology.

Infrastructure Requirements

There are several key requirements for a successful telehealth session: reliable internet access, computing device of some type, and readily available technical support. We also touch on technical specifications and data integration.

Reliable internet access for successful audio/video connections requires at a minimum an 8Mbps data rate. This is recommended to support a wide variety of video platforms. A platform agnostic technology assessment tool (Tech Check) developed by Henry Ford Health System (2022) is one of several ways that patient (and provider) device readiness can be determined, whether on a computer or a mobile device.

While the goal was to have a tool that could be used immediately prior to a video visit, one of the "lessons learned" was that depending on how the website is used and on what device, the ability to connect to a video visit may be compromised. This is because the "technical check" uses the device's camera, microphone, and speaker to perform the test and if not properly closed out, those key items would not be available for use when connecting with the provider. The development team was able to take this feedback as users were reporting issues and redesigned the testing site with the following features:

- The camera and microphone are only engaged on the page where the device is actively being tested
- After 1 minute of inactivity or the user navigates away from the page without closing out, the web page automatically redirects them to the patient portal.

Providers and patients require a computing device that allows audio/video connectivity. For behavioral health, the best practice would be for the provider to have a static setup, likely a computer or laptop, with a camera positioned about eye level. To ensure a good experience for the patient, the provider should look directly at the camera lens as much as possible. The provider should also be in a private, well-lit location and have an unobstructed microphone to best be understood by the patient.

The patient should also be in a well-lit, private location. They may be using a smartphone, tablet, or computer. If using a mobile device, best practice is for the patient to set the device on a stable surface, about eye level. Patients should treat the video visit as they would an "in person" office visit and be dressed appropriately and not engaged in other activities (i.e., driving).

For our medical providers, a white coat is encouraged while on video. In all cases, the provider identification badge with name and organization should be worn at collar level and be able to be viewed in the video frame by the patient.

Technical support for providers via an internal help desk support must have the appropriate resources to assist with any technical issues related to video visits. They should also be able to escalate any issues to the appropriate team for resolution.

Patient technical support is conducted in various ways, both proactively and reactively. Written instructions are provided to patients in appointment reminders. Additionally, YouTube educational videos provide visual, step-by-step instructions for patients to get connected to the video visit with the provider.

Best practice is for clinic staff to reach out to patients identified as having the potential for difficulty connecting to video visits. Based on several criteria, this should take place several minutes to a full day prior to the scheduled visit to ensure the patient's ability to interact with the technology and get connected with the provider at the scheduled appointment time.

Consider implementing a customer support center with a group of advocates that assist patients with the patient portal or however they access video visits. Patients can call to obtain assistance getting connected. These advocates can also contact the clinic directly if needed, provide another connection option for the patient, or assist with getting the encounter converted to an audio-only visit.

All this, of course, demands some rigorous technical specifications. Video platform vendors typically define minimum specifications required for optimal connectivity such as operating system and software versions. In addition, health system network security must work with the vendors to ensure that the data traffic carrying the audio/video streams is approved and allowed on the network. Audio and video connections need a relatively large amount of bandwidth that is prioritized to reduce any lag in transmission that would cause audio and/or video delays or degradation.

Measuring Outcomes

Background

As of 2017, one in five Americans will struggle with some form of mental illness. Sadly, the National Institute of Mental Health estimates that nearly half of the individuals with mental illness in the United States will not receive treatment.

The content in this chapter is sourced primarily from the experiences of the Henry Ford Health ("HFH") in implementing a collaborative care behavioral health model in rural settings and is adapted to be helpful to any large health system implementing the same.

The Behavioral Health Integration (BHI) program at HFH is based on the AIMS Center Collaborative Care Model (2022) and was created to improve access and increase patient comfort while seeking treatment via a 100% virtual program. Therapists are located at a central clinical location and can deliver care using real-time audio and video. The aims of the BHI program following a successful pilot were to:

- Improve access to mental health care for patients with mild-moderate mental health needs
- Track patients on a registry, treat to target, and implement relapse and prevention techniques
- Spread behavioral health integration across primary care sites in a large geographic region through the use of virtual care/telemedicine.

This telemedicine approach allows a small number of therapists that are licensed throughout the country to care for patients across the health system providing evidence-based treatment with proven clinical outcomes compared against care provided by a primary care physician alone. Important process considerations include:

- Developing a standardized plan to engage primary care physicians and staff to encourage referrals, patient engagement, and program completion
- Adapting program processes to local clinic environments, including staff training and improved patient messaging regarding interaction via telemedicine (real-time audio/video) with psychotherapist/psychiatrist
- Refining a population registry to track patients, touchpoints, and outcomes

- Implementing standardized depression and anxiety treatment algorithms
- Utilizing a dashboard/database to track program access and effectiveness

Patients are treated in a series of appointments at their PCP's office or from the comfort of home. The licensed clinical therapist monitors medications, teaches coping skills, and provides brief therapy while coordinating care between the patient's primary care provider, a staff psychiatrist, and psychiatric pharmacist. Therapists are trained in the provision of Cognitive Behavioral Therapy, Dialectical Behavioral Therapy and Trauma Informed therapy employing the short-term solution focused approach to support the established standard of care to ensure tele-behavioral health is at or above expectations. The staff psychiatrist consults on all cases and provides medication recommendations to the primary care provider allowing the psychiatrist to treat over 200 patients per week versus their usual weekly caseload of 60 patients.

Initial visits with the therapists were intended to be in a primary care clinic location connecting over a video platform to the therapist with subsequent visits being either in a clinic location or at another location of the patient's choosing. These visits taking place in a clinical location accomplished many goals. From a patient perspective, holding the visit in the clinic ensured that the patient would not have to navigate unfamiliar technology and would be using a high speed, wired network that would help ensure a clear and consistent video connection. Clinicians believed that an in-clinic visit helped to ensure patient safety, especially if a patient being seen had more severe behavioral issues than initially thought and could be assisted if additional intervention was required. Clinicians also wanted to ensure that patients had a secure, private location to discuss their behavioral health needs. Finally, more payors covered telemedicine if the patient location was a medical center and fewer would cover the visit if the patient was at home. The pandemic altered the program and most visits occurred in the patient's home (or other location of the patient's choosing) and not in a clinic. As the pandemic subsided, patients began to opt for an in-clinic video visit. Moving forward, the patient home is a covered location for many insurances and will likely continue as a preferred location for patients seeking behavioral health care.

KPIs include a reduction in the patient PHQ-9 and GAD-7 which are assessed at every visit. Overall, the program looks to "graduate" all patients who begin the program. To date, patients are on average achieving remission after completing eight sessions. BHI is also intended to be a quick intervention where all patients can be seen within 2 weeks, with most patients completing their first visit same day or within 1 week. Patients are also asked to complete surveys at the conclusion of their program where a very compelling anecdotal assessment of the success of the program is gathered.

Methods

BHI with primary care was developed following the collaborative care model. The collaborative care model is a population-based approach to treating depression and anxiety in primary care by demonstrating meaningful improvement in symptoms for patients with depression.

After a successful pilot of BHI in 2017, the aims of this project were to:

- Improve access to mental health care for patients with mild-moderate mental health needs.
- Track patients on a registry, treat to target, and implement relapse and prevention techniques.
- Spread behavioral health integration across 27 primary care sites through virtual care/telemedicine.
- Reach patients close to their home by providing the services at the primary care offices, typically located close to patient populations.
- Serve patients in their home using video visits eliminating the need for travel and making care possible for those who otherwise would be unable to drive to an office for therapy.

The following process changes were implemented following the pilot program:

- Developed a standardized plan to engage primary care physicians and staff to encourage referrals, patient engagement, and program completion.
- Adapted program processes to local clinic environments, including staff training and improved patient messaging regarding interaction via telemedicine (real-time audio/video) with psychotherapist.
- Refined a population registry to track patients, touchpoints, and outcomes.
- Implemented standardized depression and anxiety treatment algorithms.
- Utilized a custom dashboard to track program access and effectiveness.

Challenges

The primary challenge solved using telehealth was few psychotherapists trying to serve multiple patient locations. Having a hub and spoke model enabled the small number of resources to effectively service many patient sites. Some clinicians can cover multiple sites based on a structured schedule. For example, one clinic in Minnesota may need a child psychiatrist 3 days a week and another clinic in Kansas could contract for the other 2 days. With proper licensing and credentialling, coverage can significantly improve access to care with one clinician. The additional benefit includes providing the psychiatrist a differentiation in practice which has been found to be beneficial for retention of staff. Telehealth also allows for the availability of appointments for new patients to be seen within 2 weeks of referral but can

often be seen same day if requested/required as there are schedule holds in place to accommodate urgent need.

The second challenge was primary care staff communication and education. Providers needed to understand what the program was designed to provide for patients, what patients were appropriate for the service, why this was beneficial for both the PCP and patient, and how the patient would be referred and seen by the psychotherapist. This challenge was met through presentations at staff meetings that included both a primary care physician and a psychotherapist reviewing the program and reinforcing the benefit of the team approach to patient mental health.

Frequently PCPs have little or no access to consultation with a behavioral health clinician. Studies have demonstrated that collaboration between a psychiatrist and primary care team leads to improved behavioral health outcomes and overall health measures including a reduction in A-1C, blood pressure, and weight loss.

The third challenge was implementing staff and patient education regarding participating in the therapy session via telemedicine. It is important for the patients to understand that they would not see a therapist who was physically at the same location. However, they would see that therapist via video.

The initial visits were conducted in a clinical setting. That meant that rooming workflows needed to be developed to include setting up the telehealth video call as well as determining how to effectively conclude visits and get patients the after-visit paperwork as required. Each clinic, depending on staff and physical setup, needed to create a workflow that would best utilize staff and be efficient for patients. Because of the pandemic, the model had to shift to where the initial and follow-up visits occur in the patient's home and not in a medical clinic.

Outcomes

Metrics are tracked in a variety of ways. From a growth perspective, the total number of referrals from primary care is tracked along with the number of completed referrals by the BHI program. The numbers increased steadily.

Some patients who had previously completed the program did return, in large part, due to increased depression and anxiety that was triggered by the pandemic.

Therapists' utilization to determine the overall value and cost-efficiency of the program has been tracked. This metric indicates the percentage of available clinic openings that have been scheduled. On average, the utilization is 80%, due mainly to holds in the schedule for same-day appointments as well as patient no-shows. The program has been able to maintain a lead time of 7 days or less for 90% of patients that requested an appointment following a referral to the program.

Clinical outcomes are measured by the percentage of patients who achieve remission of symptoms. The program has shown an 80% remission rate for patients within five therapy sessions, where the patient PHQ-9 score or the GAD-7 score is below 5. Comparatively, only about 20% of patients that are treated with medication

and managed by their primary care physician alone show substantial clinical improvements (Pence et al., 2012).

Lessons Learned

Integrating behavioral health services with primary care has been very successful especially as there is often a perceived stigma associated with patients seeking and receiving care for behavioral issues around depression and anxiety. Virtual care options were critical to program implementation allowing a limited number of therapists to serve a large number of primary care clinics spread over a large geographical area.

Here are the critical success factors:

- Successful implementation requires the engagement of all stakeholders in the process and close communication to keep everyone involved in achieving desired outcomes.
- Communication with providers, patients, staff, and the entire team is vital for implementation and improvement.
- Employee engagement increases the quality of care. A team that enjoys its roles and ability to impact patients has created an increased level of engagement in meetings with other team members and primary care teams. Patients report a high level of satisfaction with care as they feel connected to and supported by the BHI team.
- To properly track and monitor the progress of the patients in BHI the patient registry was pivotal.
- Standardized processes drive the implementation process and a thorough Plan-Do-Check-Act cycle drives improvement.

Patient and family involvement was also critical to the ongoing development and improvement of the program.

Consider establishing a Patient Advisory Council to solicit feedback on the program, messaging, and marketing materials. Patient stories, example quotes below, are continually collected and are shared regularly with physicians and staff. For Henry Ford, patients responded:

> I don't know, I didn't want to do this process of skyping, but we hit it off so well right away and it was so amazing that I couldn't wait to get here. At first, I thought this was so lame but now I'm very grateful. I probably wouldn't have done it at all. And I trust Dr. S so that helped too, he told me to just try it once and I'm so glad I did.

> I don't even want to think about it. I'm sure I'd still be depressed and think everybody hates me and I'm worthless. I really appreciate how consistently you spoke to me and the tools you gave me.

Best practices would include having the therapists return to the primary care site to review workflows and perform analysis based on access, utilization, patient feedback, appointment timeliness, therapist, and primary care staff feedback. Any team can make process corrections from identified opportunities where alterations by

clinic are needed or error prevention tools can be used. These improvements can increase utilization, same day access, higher percentage of appointments scheduled within 7 days, and PHQ-9 and GAD-7 score reductions.

Replicability/Next Steps

The BHI program was successfully rolled out to all primary care clinics. At the program inception in 2017, funding was partly supported by a 2-year $192,000 grant from the Flinn Foundation but is now self-sustaining.

Revenue for primary care is generated by Collaborative Care Codes, special billing codes for this type of behavioral integration. Revenue is also generated by the therapists for visits. In addition, analytics and epidemiology studies should be used to understand the impact that a collaborative care program has on downstream cost and utilization as it has been proven repeatedly that caring for patients who have both medical and psychiatric conditions is very costly.

In addition to integration with primary care, HFH uses this model with pediatric patients as well as post-partum obstetrics patients and is exploring other specialties to determine need and interest for this type of integrated behavioral health service.

Patient success can be monitored through tracking the number of sessions that patients require to achieve remission. The goal is to have all patients complete the program. In cases where patients drop out of the program, follow-up should be performed to try to get patients to the correct level of care and support the primary care provider as they manage the health of the patient.

Success of the program can also be assessed via patient and provider surveys as well as the overall value of care provided, as patients are matched to an appropriate level of mental health treatment often mitigating a host of other health problems.

Conclusions

For health systems, implementation of integrated behavioral health into existing care pathways is now more critical than ever. About 4 in 10 adults will experience mental health illness or a substance abuse diagnosis at some point in their lifetime. Nearly 7 in 10 of these adults with a behavioral health disorder do not get treatment, due to lack of access to care, an unwillingness to seek care, or an inability to understand how behavioral health interventions could be helpful in treating their condition. Approximately 20% of primary care visits are related to mental health concerns with primary care providers writing over 1/3 of all behavioral health-related prescriptions. About 2/3 of primary care providers report difficulty connecting patients with outpatient behavioral health providers due to a shortage of mental health providers and health insurance barriers. This gap in care has worsened exponentially over the past few years during the COVID-19 pandemic.

To meet this challenge, a collaborative care model that meets the needs of patients in an existing primary care and community mental health infrastructure providing evidence-based care via a 100% virtual telemedicine service can be implemented to reach a maximum number of patients over a large geographic area. Keys to program start up include the identification of physician champions in both behavioral health and primary care or community mental health clinics to ensure support, collaboration, and partnership to address the critical community mental health needs. Infrastructure requirements for providers often involves using existing high speed internet access as well as audio- and video-enabled devices. If required, high-definition cameras can be purchased for less than $100 and readily available headphones and/or speakers often provide quality sound. Patients may have access to devices and high-speed internet access allowing them to connect to care from a location of their choosing; however, patients without access to the appropriate technology can be cared for in a clinical location in their community (PCP office or community mental health center) instead of traditional care that may require them to travel long distances to seek care.

The PCP engages the therapist directly, and the consulting psychiatrist indirectly to create a team approach to the mental health care of the patient using this Collaborative Care Model. Patient progress is tracked and monitored through the course of care and to follow-up after patient completion of the program via a patient registry. The use of telemedicine enables a smaller number of providers to care for a large group of patients spread over a large geographic area. Outcomes of this program meet the triple aim of care quality, patient satisfaction and cost-effectiveness. Patients are much more likely to achieve remission from their symptoms when working with a care team consisting of primary care and behavioral health versus a primary care physician trying to manage patient symptoms and medications without support. The COVID-19 pandemic has amplified the need for mental health services and stretched resources to care for patients. A team approach to mental wellness, using telemedicine, has potential benefit for all patients in need regardless of their location and access to technology.

CE/CME Questions

1. Patient support for telehealth visits when being conducted outside of a clinical setting (i.e. patient's home) should include all of the following EXCEPT:

   (a) Pre-recorded instructional videos
   (b) Verbal instructions at the time the visit is scheduled
   (c) Written materials/files that can be sent in advance of visit
   (d) Clear instructions in an appointment reminder
   (e) Medical staff outreach to patient within 24 hours of scheduled visit

2. When implementing a behavioral telehealth program, the following process considerations should include the following EXCEPT:

   (a) Create a new plan for each primary care location as local offices have unique needs
   (b) Create a population registry to track patients and outcomes
   (c) Implement standardized treatment algorithms
   (d) Use a dashboard to track program access and effectiveness
   (e) Adapt patient messaging and staff training to local clinical environments

3. Critical factors for a successful rural telehealth program include all of the following EXCEPT:

   (a) Communicate in a clear and open manner with providers, staff, and patients at every step of care pathway
   (b) Ensure employee engagement to increase overall quality of care
   (c) Engage key stakeholders early in process to focus on desired outcomes
   (d) Successful programs should not be reviewed or updated
   (e) Monitor and track patient progress on patient registry

4. An objective measure of patient success in the behavioral telehealth program is reflected via:

   (a) Patient uses telehealth for other medical services
   (b) Patient stops prescribed medication for behavioral health issue
   (c) PCP determines patient participation is no longer required
   (d) Patient decides not to return for future visits
   (e) Reduction of PHQ-9 and/or GAD-7 scores

5. Challenges to delivering quality behavioral health services in a rural setting include all of the following, EXCEPT:

   (a) Ensuring the patient has access to high speed internet
   (b) Obtaining provider licensure in states where patients are located
   (c) Documenting visits properly and collaborating with PCPs to ensure maximum reimbursement for services
   (d) Determining when to schedule readily available appointments for new patients
   (e) Ensuring access and ability to use a device that can transmit audio and video

Answers

1. (b)
2. (a)
3. (d)
4. (e)
5. (d)

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