REVIEW

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An Interprofessional Framework for Telebehavioral Health Competencies

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Abstract

The Coalition for Technology in Behavioral Science (CTiBS) has developed an interprofessional, evidence-based, measurable framework for telebehavioral health (TBH) competencies. The paper presents the development of the CTiBS TBH framework, identifies the theoretical rationale and need for such competencies, outlines methods used, provides two detailed discussions of applications, presents a tabulized form of the framework, and then discusses limitations and future research. In the CTiBS TBH competency framework, the term telebehavioral health is meant to include telemental health and e-therapy. The TBH competency framework is offered as an initial working document to identify and organize discreet, measurable telebehavioral practices derived from a review of the literature, technological advances, and day-to-day clinical practice. It reflects core knowledge, skills, and attitudes needed for competent telebehavioral health practice. The competency framework is directly applicable to psychiatry/medicine, psychology, social work, counseling, marriage/family, behavior analysis, and other behavioral sciences. The CTiBS TBH framework organizes seven topic domains and five subdomains according to competency level, i.e., *Novice*, *Proficient*, or *Authority*. In turn, each competency level is categorized into *51 discrete telebehavioral objectives, which are then distinguished by 149 cumulative and measurable telebehavioral practices*. The seven TBH competency domains identified by CTiBS include (1) *Clinical Evaluation and Care*, with three subdomains addressing *Assessment and Treatment, Cultural Competence and Diversity*, and *Documentation and Administrative Procedures*; (2) *Virtual Environment and Telepresence*; (3) *Technology*; (4) *Legal and Regulatory Issues*; (5) *Evidence-Based and Ethical Practice*, with two subdomains addressing *Standards and Guidelines* and *Social Media*; (6) *Mobile Health and Apps*; and (7) *Telepractice Development*.

Keywords Telebehavioral health · Telemental health · E-therapy · Competencies · Competency framework · Interprofessional · Interdisciplinary

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Introduction

In 2001, the Institute of Medicine (IOM) released a report that highlighted the inadequacies of health care professional training and assessment of ongoing proficiency to enhance patient care and safety (IOM 2001). The IOM's subsequent *Health Professions Education Summit* (*HPES*) then identified objectives for educational reform for the following health professionals in the USA: nurses, pharmacists, physician assistants, physicians, and allied health professionals, including, for example, psychologists, counselors, and social workers (IOM 2003a). The IOM thereby identified *a set of simple, core competencies that all health clinicians should possess, regardless of their discipline, to meet the needs of the twenty-first-century health care system* (p. 45). These included the ability to:

- Provide patient-centered care
- Work in interdisciplinary teams
- Employ evidence-based practice
- Apply quality improvement
- Information technology (IOM 2003, p. 45)

Since then, educational reform related to competencies has made significant advances. In fact, the above-mentioned competencies are now often considered a foundation for workforce development. They provide indicators that are necessary to develop effective curriculum for worker training, orientation, and continued staff development. They also provide indicators to inform workers and their supervisors of job performance requirements. For example, the utilization of competencies in the training of Direct Service Workers (DSW) reinforces shared values of direct service workers' skills and growth (Hoge et al. 2008; Center for Medicare and Medicaid Services' (CMS), 2013, p. 13).

Searching for these principles in TBH, a review of the TBH evidenced-based literature across psychiatry/medicine, psychology, social work, counseling, marriage/family, behavioral analysis, and other behavioral sciences produced a paucity of related research (Hilty et al. 2017). While professional guidelines and standards for the practitioner use of technology were available from various disciplines, e.g., American Psychological Association (2013), American Telemedicine Association (ATA 2009, 2013, and 2017), American Counseling Association (ACA, 2014), American Association of Marriage and Family Therapists (AAMFT 2015), and National Association of Social Workers (NASW, 2017), the only TBH competencies available were specifically developed for telepsychiatry skills, training, and evaluation (Hilty et al. 2015. The need for, outline of, and background context for such competencies are in a previous *JTiBS* publication entitled, *Telebehavioral Health, Telemental Health, E-Therapy and E-Health Competencies: The Need For An Interdisciplinary Framework* (Hilty et al. 2017).

Current Paper

In the current paper, three of the five competencies identified by the above-cited IOM outline for educational reform are detailed for TBH. They are interdisciplinary teams, evidence-based care, and information technology. More specifically then, the first area of focus is that of *interdisciplinary collaboration, education, and training*. The concepts of *interprofessional collaboration* (Harrison and English 2001) and *interprofessional education* (Barr 2002) describe occasions when professionals from two or more disciplines work together to improve collaboration and quality of care; though the terms *interdisciplinary* and *interprofessional* are often used in synonymous ways, this article will use the more contemporary term *interprofessional*.

The IOM movement is being implemented in a variety of settings, including education (Angelini 2011). The Pew Commission has also been an active force in this movement, joining the IOM in examining the many ways that a lack of interprofessional cooperation and ineffective communication can stand in the way of best practice and improved patient outcomes, as well as suggesting alternatives to facilitate interprofessional cooperation and teamwork.

The second area of need identified by the IOM and addressed herein is *evidence-based care*. Ongoing requirements for healthcare practice delivery to be evidence-based and supported in the literature have become a driving force behind the development and implementation of competency-based training models throughout healthcare. Evidence-based practice (EBP) is defined as:

> *A scholarly and systematic problem-solving paradigm that results in the delivery of high-quality health care. In order to make the best clinical decisions using EBP, external evidence from research is blended with internal evidence (i.e., practice-generated data), clinical expertise, and healthcare consumer values and preferences to achieve the best outcomes for individuals, groups, populations, and healthcare systems. (ANA, 2012, p. 16).*

The third area of need identified by the IOM and to be addressed herein is *information technology*. One of the most rapidly growing areas of use for information technology is telebehavioral health (TBH) in the delivery of behavioral health (BH) services (in this paper, BH refers to both mental health and addictions treatment). TBH has been demonstrated to be an effective mode of treatment for a variety of presenting problems, with outcomes comparable to therapy provided in-person when diagnoses and settings are controlled (Aboujaoude et al. 2015; Godleski et al. 2012; Hilty et al. 2013; Luxton et al. 2016). TBH is gaining increased acceptance both among practicing clinicians (Glueckauf et al. 2017) and consumers (Gros et al. 2016; Roberts et al. 2017). The current article then is an attempt to advance the scientific

discussion of competency-based, interprofessional practice using TBH.

Concise Review of the Literature

Historical Basis for Competencies

In the healthcare literature, competency is defined as *the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served* (Epstein and Hundert 2002, p. 227). Competencies are acknowledged as *a critical component of workforce development, satisfaction, and retention* by a variety of standard-setting groups, including CMS (2013, p. 12). The goal of competency-based training is to assess one's readiness for practice, from the perspective of direct skills and academic knowledge (Jones et al. 2011). As required by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), hospitals and healthcare agencies are also focused on competencies. The Joint Commission also requires regular validation of employee skills competency using evidence-based competency assessments.

As defined by the Joint Commission, *competency assessment* is defined as *the systematic collection of practitioner-specific data to determine an individual's capability to perform up to defined expectations* (1998). More specifically, the Joint Commission's 2008 HR standards list the following expectations for competency:

- *Standard HR.1.20: A staff member's qualifications are consistent with his or her job responsibilities.*
- *Standard HR.2.10: The hospital provides initial orientation.*
- *Standard HR.2.20: Staff and licensed independent practitioners, as appropriate, can describe or demonstrate their roles and responsibilities relative to safety.*
- *Standard HR.2.30: Ongoing education, including inservices, training, and other activities, maintains and improves competence.*
- *Standard HR.3.10: Staff competence to perform job responsibilities is assessed, demonstrated, and maintained* (Joint Commission Resources 2008; *HCPro, 2008, pp. 8–15*).

Much of the work to identify BH profession-specific competencies relate to the cognitive domain framework for educational goals conceptualized by Bloom (1956), including *knowledge, comprehension, application, analysis, synthesis, and evaluation*. To further complicate matters, BH professional training has historically evolved from having a primary focus on the *knowledge-based* aspects of competency to including *skill-based* aspects. This issue then is not yet addressed in TBH.

Furthermore, in reviewing the literature, the authors noted that the majority of scientific articles currently in the scientific literature is about the education, training, assessment, and competencies of professionals-in-training and *much less* about professionals who are already independently licensed to practice. Extending Bloom's model, and despite the lack of overt, interprofessional collaboration among the behavioral professions, there appears to be general consensus among these professional groups that competencies should now involve the three core learning features of knowledge, skills, and attitudes (Kirkpatrick and Kirkpatrick 2009).

Such consensus also reflects an *interprofessional* need and corresponding effort to identify the *broad categories for competencies* (Calhoun et al. 2008; Hoge et al. 2014; Interprofessional Education Collaborative Expert Panel 2011; IOM, 2003), so as to avoid the discipline-specific definition of competencies, which can create often insurmountable differences that may perpetuate the concerns addressed by the IOM in 2001 and 2003. The previous lack of consensus in behavioral training has led to a variety of problems, including increased challenges in state *regulatory efforts*. For example, in the USA, regulatory boards are increasingly giving more attention to skill-based competencies in the midst of a rapidly changing financing, service delivery, and billing/reimbursement environments. For instance, when deviating from routine in-person care, there may be varying laws and policies for private insurance, Medicaid and Medicare, depending on the discipline, the setting of care, as well as regulatory variations from state-to-state. In turn, insurers of all types seem to be struggling to deliver the quadruple aim: better care, lower costs, greater access, and improved provider satisfaction (Bodenheimer and Sinsky 2014). Competencies then can be an important key to stabilizing these often conflicting forces.

Physicians, pharmacists, and nurses have already incorporated skills-based competency assessments as a part of their licensure examination requirements (Philipsen et al. 2007; USMLE 2014; IOM 2003). BH professionals are slowly joining the movement toward incorporating skills-based competencies. A prime example of a group advocating for more comprehensive, skills-based competencies in BH is the Association of State and Provincial Psychology Boards (ASPPB 2014). It is developing a skill-based examination for the licensure of psychologists to complement the knowledge-based licensing examination to approve new licensees. Evidence of movement toward interprofessional competencies in BH can be found in a 2017-related publication of the journal entitled, *Child and Adolescent Psychiatric Clinics of North America*, where Njoroge et al. 2017 stated:

In order for behavioral health providers to function effectively in collaborative care models, they require specialized training and professional competencies. Cross-discipline training and professional competencies for training behavioral health providers are

recommended to support the effective provision of integrated primary care services….Child and adolescent psychiatry, psychology, and social work trainees involved in integrated primary care services should receive interdisciplinary training experiences that target these competency areas (p. 717).

Methods

To address the mounting need for interprofessional consensus regarding evidence-based assessment and implementation of TBH competencies related to core knowledge, skills, and attitudes, the Coalition for Technology in Behavioral Science (CTiBS) organized a TBH Competencies Task Force in 2014. An interprofessional organization dedicated to advancing the evidence-based use of technology in BH, CTIBS sought to develop a consistent set of core, discrete, measurable, interprofessional, evidence-based TBH competencies shared by *all* BH professions, both at the graduate and postgraduate levels. As such, agreed-upon competencies in TBH would help establish criteria for addressing the growing needs for TBH workforce training and evaluation. CTiBS also sought to shed light on how competencies might be developed for telehealth in general, since such competencies had not yet been identified in the other telehealth disciplines.

CTiBS TBH Competencies

BH is most often understood as being served by eight, professional disciplines that address overlapping yet distinct needs in the USA. These disciplines are generally understood as including addiction specialists, behavior analysts, counselors, marriage and family therapists, psychologists, psychiatric nurses, psychiatrists, and social workers. Professionals within these disciplines are increasingly being required to work together in teams (Hanley et al. 2017), oftentimes along with larger medical professionals, exposing the underlying theoretical disagreements and at times conflicts and competition related to appropriate skills and their training (Martínez-Rodrigo and Martí-Bonmatí 2008).

The term competency as used by the CTiBS Task Force refers to as a measurable human capability required for effective performance and may include individual and aggregate components of knowledge, skills, and attitudes. Meeting competency-based goals requires careful listening, systematic collecting of information, and deliberate reflection and planning (Dreyfus and Dreyfus 1980; Hilty et al. 2015; Marrelli et al. 2005; Miller 1990).

Since the literature review of TBH-related competencies yielded such sparse results (Hilty et al. 2017), the authors—also the developers of this CTiBS TBH competency set—

suggested interprofessional TBH competencies across the specific behavioral professions. Specifically, they suggested (1) novice/beginner, competent/proficient and expert levels; (2) domains of patient care, communications, system-based practice, professionalism, practice-based improvement, knowledge, and technological know-how; and (3) andragogical methods to teach and evaluate skills (Hilty et al. 2015). It noted a potential challenge to develop competencies across disciplines in terms of finding consensus, varying scopes of practice, training differences, and faculty development priorities—but this was also seen as an opportunity. The review also suggested that disciplines and organizations involved with TBH need to consider certification/accreditation and ensure quality care (Hilty, et al. 2017).

CTiBS Competency Task Force Members

A high priority for the CTiBS Task Force was to establish and maintain a broad interprofessional representation of Task Force members so as to better assure that the group's effort would represent diverse, informed, and broad perspectives. This interprofessional Task Force has substantial, notable TBH experience, including the development or review of national association standards or guidelines related to TBH, i.e., counseling, psychology, medicine, and telemedicine; appointments to national association standards or ethical boards, i.e., counseling, psychiatry, psychology, and social work; stewardship of TBH as a presidential initiative in a national association, i.e., counseling; developing and teaching TBH as faculty, i.e., counseling, marriage and family therapy, psychiatry, psychology, and medicine; board membership with a national professional association when the association's *guideline for guidelines* was re-written, i.e., psychiatry and psychology; significant regulatory board experience, i.e., counseling, marriage and family therapy, and psychology; and peer-reviewed publications related to TBH, i.e., addictions, communication, counseling, marriage and family therapy, psychiatry, and psychology. Members also have prior experience with delivering professional TBH presentations or workshops related to legal/ethical/policy issues at national association conferences, i.e., addictions, communication, counseling, marriage and family therapy, psychology, psychiatry, and social work; and/or experience in developing and assessing TBH training based on pedagogy, i.e., counseling, marriage and family, psychiatry, and psychology. One member speaks English as a second language.

Charge and Scope of the CTiBS Task Force

The Task Force was charged to develop TBH competencies for practitioners, trainers, graduate students, and supervisors to address the disparities between behavioral disciplines, which seemed to each be separately addressing the issues,

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but inadvertently adding confusion interprofessionally by re-inventing the nomenclature, basic concepts and defining relevant knowledge, skills, and attitudes within their own discipline for the use of technology but not yet reflecting the IOM call for interprofessionalism across disciplines.

The Task Force also identified an interprofessional reference list and other resources, augmented by publications that explain the rationale for a competency framework; developed the framework itself; and outlined educational/training applications of the framework (Hilty, et al. 2017). The Task Force agreed to limit the focus on broad competencies related primarily to video teleconferencing rather than those related to specific technologies, e.g., email, telephone, use of mobile apps, and texting, but many of the identified competencies are applicable to these other technologies.

CTiBS TBH Competency Framework

The CTiBS TBH competencies consist of seven general domains of expertise. They are (1) *Clinical Evaluation and Care*, with subdomains addressing *Cultural Competence and Diversity*, *Documentation, and Administrative Procedures*; (2) *Virtual Environment and Telepresence*; (3) *Technology*; (4) *Legal and Regulatory Issues*; (5) *Evidence-Based and Ethical Practice*, with a subdomain addressing *Social Media*; (6) *Mobile Health and Apps*; and (7) *Telepractice Development*. The Task Force further categorized these seven domains into 51 telebehavioral objectives, grouped according to level of expertise (Novice, Proficient, and Authority). Each of these telebehavioral objectives more specifically identified discrete areas of knowledge, skills, and/or attitudes to be expected of a professional functioning at a defined level. As a whole, this organizational structure provides the framework for 149 individual telebehavioral practices. The framework as well as the majority of the discrete telebehavioral objectives and individual telebehavioral practices can be applied more generally to telemedicine telehealth.

Task Force Approach and Process

The Task Force met via telephone approximately twice per month for the first 2 years, developing the initial draft of competencies and integrating comments obtained in the summer of 2016. Task Force Members completed individual assignments between meetings, e.g., reviewing articles, writing segments, and soliciting feedback from colleagues who were not members of the Task Force. They subsequently met weekly for 2 h for much of the last year to integrate comments and finalize the associated documents.

Task Force members conducted extensive literature reviews into how BH disciplines have defined, researched, evaluated, and used competencies in their training and practice. These reviews confirmed that BH professions lag other

healthcare professions in identifying and applying the concept of competencies in their training and practice. Although there are examples of identifying and assessing competencies for each profession (Bienenfeld et al. 2000; Blumer et al. 2015; Dombo et al. 2014; Hensley et al. 2003; Hilty et al. 2015; Kaslow et al. 2009, Melnyk et al. 2014; Meyer-Adams et al. 2011; Nelson et al. 2007; Morris and Lazenby 2011; Rodolfa et al. 2005; Swick et al. 2006; Swank et al. 2012; Tilley 2008), the uses of such competencies often are not apparent in practice once individuals have completed their training.

The review's suggestions built upon two recent efforts to identify TBH competencies for psychiatry and psychology (Hilty et al. 2015; Ohio Psychological Association 2013). In addition to a review of the pertinent BH competencies literature by profession, the Task Force also reviewed other noteworthy contributions to the literature. This review included the early Online Clinical Practice Model (OCPM) outlined by Maheu (2003) and further detailed by Maheu et al. (2004) as a foundation for identifying interprofessional competencies. Also examined were standards and guidelines published by specific disciplines (American Association for Marriage and Family Therapy 2015; American Counseling Association 2014 and 2015; American Nursing Association 2012; American Psychiatric Association 2014; American Psychological Association 2013; American Telemedicine Association 2009, 2013 and 2017; Association of Social Work Boards 2015; ASP, 2011; Canadian Psychological Association 2006; and National Association of Social Workers, Association of Social Work Boards, Council on Social Work Education, and Clinical Social Work Association 2017, and the Association for Addiction Professionals 2016 (NAADAC). Lastly, competency development studies using the Delphi method were reviewed (Coleman et al. 2013; De Villiers et al. 2005). A detailed review of nursing competencies and how they are being taught and measured at a US Department of Veterans Affairs hospital was particularly helpful in the initial stages of the Task Force's efforts to conceptualize competencies based upon demonstrated skills. Two of the members of the task force working at the Veterans Administration provided valuable insight into the specific wording for competency statements. Other pertinent publications reviewed included Johnson's (2014) proposed model of telepsychology practices in Canada, focusing on knowledge and skills, the 2016 accreditation standards developed by the Council for Accreditation of Counseling and Related Educational Programs (CACREP 2015). Each of these documents proved helpful in formulating the categories of knowledge and skills needed for TBH practice.

External Review Process

Input was requested from leaders of a variety of professional organizations in order to be inclusive. Leaders and

organizations included but were not limited to AAMFT, ACA, the American Psychiatric Association, American Psychological Association, and the National Association for Alcoholism and Drug Abuse Counselors (NAADAC; now called, the Association for Addiction Professionals (AAP) and the NASW, and the ATA). An initial draft set of TBH competencies developed by the CTiBS Competency Task Force was disseminated for review and comment by a large interprofessional sample of BH professionals. This effort was attempted in two waves delivered a year apart, in the summer of 2016 and then again in the summer of 2017. The request for comments included a letter explaining the goals of the project and asking for input.

For the first wave, an invitation to comment on the draft competencies was posted on multiple professional listservs across the involved disciplines. CTiBS also disseminated the competencies to those leaders and organizations, as well as members across the variety of disciplines via listservs, conferences, licensure lists, and other networking opportunities in counseling, psychiatry, psychology, marriage and family therapy, social work, and telemedicine. Requests were also made to numerous state BH professional organizations to share the request with their members. The comment period was open for 6 weeks.

The second wave of requests for comments was issued by CTiBS in August of 2017. For this wave of comments, the competencies were disseminated to a larger group of professionals, including the leadership of several national and international organizations. The comment period was open for 4 weeks. A rating scale was organized for each domain of the competencies through an online surveying tool (Qualtrics).

Findings

Competency Domains

The CTiBS Task Force initially identified seven TBH competency domains based on the review of the literature, technological advances, and day-to-day clinical practice. The amount of information of relevance to competencies was daunting, particularly because it continues to grow across dimensions as technology proliferates. For the convenience of the reader, the following are brief descriptions of each of the seven competency domains identified by CTiBS:

1. Clinical Evaluation and Care: TBH professionals can demonstrate how to make evidence-based decisions in the best interest of clients/patients. They can demonstrate working knowledge, skills, and attitudes relevant to TBH clinical issues as they pertain to evaluation and care as it relates to in-person or technology-based intake, triage,

assessment, diagnosis, and therapeutic services across the client/patient lifespan; cultural, linguistic, socioeconomic, and other characteristics related to diversity and appropriate documentation.

2. Virtual Environment and Telepresence: TBH professionals can demonstrate how to apply appropriate techniques to maximize therapeutic atmosphere in both physical and virtual environments as well as minimize distraction and interruptions. Professionals can show how to approximate an in-person relationship and foster spontaneity through TBH.

3. Technology: TBH professionals can demonstrate how to make informed decisions that reflect understanding their own and their clients/patients preferences for and experience with using technology. Professionals are responsible for understanding how to responsibly use the technology they choose and can demonstrate a functional knowledge of its strengths, applications, and limitations, e.g., privacy, confidentiality, data integrity, and security.

4. Legal and Regulatory Issues: TBH professionals are aware of and can demonstrate adherence to relevant federal, state/provincial, and local laws, regulations, and policies/procedures regarding TBH practice components, e.g., issues such as privacy, confidentiality, data protection/integrity, and security. They can also demonstrate adherence to relevant mandated reporting, informed consent, and documentation requirements. They are able to demonstrate compliance with legal technology-related mandates, including the appropriate use of business associate agreements.

5. Evidence-Based and Ethical Practice: TBH professionals are aware of and can demonstrate adherence to TBH interprofessional and discipline-based professional standards, guidelines, consensus, and evidence-based documents based on domestic and/or international practice. TBH professionals can also demonstrate adherence to professional boundaries and other best practice guidelines relevant to a virtual setting when engaging in social media and digital information collection sources. Professionals develop written social media and digital information policies and discuss them with clients/patients as appropriate.

6. Mobile Health Technologies Including Applications (Apps): TBH professionals choosing to work with mobile health technologies including apps can demonstrate how they are used in accordance with therapeutic goals, how they can have distinct positive and/or negative effects on the therapeutic relationship based on evidence, can demonstrate how they adhere to and apply to relevant professional standards and state/provincial and/or federal law; help clients/patients select options based on evidence; and demonstrate an understanding of the privacy limitations of mobile technologies utilized/recommended and discuss these with clients/patients.

7. Telepractice Development: TBH professionals can demonstrate how to use TBH and other forms of telecommunication technology to create and maintain one's professional identity and to engage the community at large, e.g., soliciting testimonials from current or former patients/clients, in accordance with local, state/provincial and federal regulations, and professional association standards. Professionals can show how to ensure the accuracy and validity of information disseminated.

Competency Levels

Traditional competencies organized are based on a developmental progression—usually longitudinal training (all; advanced students, residents, or interns)—to a licensed clinician (many; teaching faculty, supervisor)—to Authority/advanced practice (few; specialists in a given area like refractive mood treatment). For example, Dreyfus and Dreyfus (1980) used a five-level framework offering the "novice, competence, proficient, expert, and mastery" levels. This framework was simplified by Hilty et al. to novice/advanced beginner, competent/proficient, and expert levels (Hilty et al. 2015). A similar structure was used by the National Hospice and Palliative Care Organization (2010), offering the Novice, Proficient, and Authority levels. Following this example, the CTiBS TBH competencies were organized into three levels of proficiency for each of the seven identified competency domains, starting with *Novice*, then *Proficient* and moving to *Authority* levels. The figure below then illustrates the overall framework for TBH competencies offered by CTiBS (see Fig. 1).

Also, generally speaking, within a competency framework, a practitioner has to master all (or most of) the previous level's skills to advance to the next level. Task Force members, however, noted that with technology in particular, professionals in training (Novices) may have technology-related knowledge and skills that surpass their instructors and mentors. If such Novices have transitioned from personal use to thoughtful professional use of technology, they may be more *advanced* than clinical supervisors who have little/no experience with technology in their professional practices. Nonetheless, the TBH competencies are framed with requisite in-person clinical expertise as a minimum. The CTiBS competencies are designed to help such a clinician focus on the development of additional TBH competences to deliver relevant clinical expertise through technology to clients/patients who are not in traditional, brick-and-mortar settings.

Again, the three levels within the seven competency domains describing progressively higher professional TBH knowledge, skills, and attitudes were organized as (1) the *Novice*, used to describe expectations to be made with regard to advanced students, residents, or interns; (2) *Proficient* describes expected levels competence in professionals who are
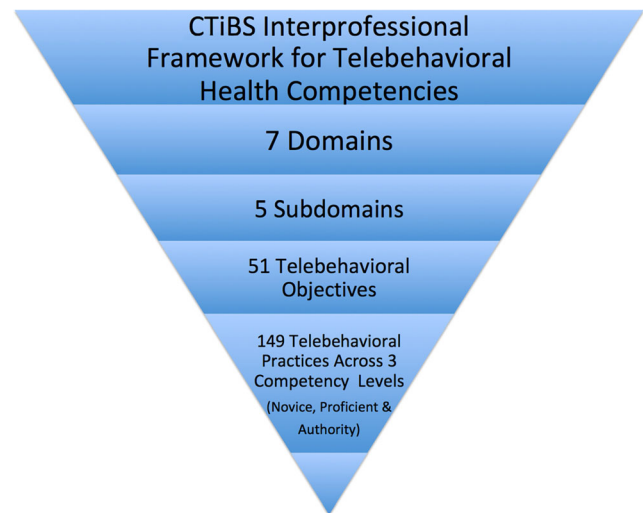
Fig. 1 CTiBS interprofessional framework for telebehavioral health competencies

nearing or have completed graduation as well as those independently practicing or supervising TBH supervisees; and (3) *Authority* describes professionals who are researching, training, and consulting at an advanced level of performance (Fig. 2).

Each of these three competency levels will be further described next. First, the *Novice* in TBH can identify and describe issues and conduct basic screening; list pros and cons of using various technologies and related strategies; protect security, privacy, and confidentiality; and, when appropriate, educate clients/patients about fundamental TBH, laws, rules, regulations, ethical requirements, policies, procedures, assessments, interventions, standards, and communication styles. They can demonstrate the basics of using computers, remote patient monitoring, social media and mobile health, and the issues related to recommending the use of apps. They also have the ability to discuss how to legally and ethically market their own services online.

Second, the *Proficient* level includes graduating residents or fellows, licensed and advanced residents, experienced practitioners, independent practitioners, faculty, and attending or interprofessional team members. These professionals are not only able to *identify and describe* the areas listed for those at the Novice level but also *implement* the use of appropriate documentation, procedures, policies, and telepractices needed for the responsible delivery of TBH. They are able to find and engage with the digital tools to facilitate telepractice while increasing client/patient comfort in compliance with expectations of professionals who are culturally competent. Their telepractices are compliant with all relevant laws, rules, regulations, ethical codes, administrative policies, and procedures for not only computers but all digitized tools they use, including mobile health, remote patient monitoring, apps, wearables, artificial intelligence, robotics, and other technological innovations prior to utilizing them with the public. This mid-level

NOVICE	PROFICIENT	AUTHORITY

Fig. 2 Competency levels within each CTiBS TBH "telebehavioral practice" reflecting core knowledge, skills, and attitudes

group also includes supervisors who help novices or other professionals to learn telebehavioral best practices. When using digitized systems to market their services, they know how to follow the relevant laws and ethical codes related to digital marketing.

Third, the *Authority* may function as an advanced faculty/attending, interprofessional team leader, scholar, researcher, policy maker, advanced practitioner, supervisor, trainer, or consultant. They may actively review policies and develop new policies and strategies based on changing criteria in the telebehavioral or related fields. Members of this advanced Authority group may assist with evaluating work flow and needs assessments. They may consult so as to help others comply with best practices, optimize settings or technologies, and maximize therapeutic alliance when using technology. TBH Authorities may also conduct telebehavioral research, integrate paradigms, and develop consensus statements across professions, disciplines, and countries. They may also develop new methods for documentation, conduct evidence-based research, identify new best practices to address inconsistencies, or resolve implementation problems with non-routine telepractice.

Lastly, the TBH competencies herein described have been developed so as to be used from either the perspective of the learner or the supervisor. The learner is to provide a self-evaluation across three levels: whether they can perform the tasks independently, they need further practice, or they have had no experience with that particular model. The supervisor is to evaluate three criteria—whether the knowledge, skills, and/or attitudes were demonstrated, or whether it was observed or verbalized, or whether it was tested in each category.

Input from External Review

The first wave of feedback from commenters shaped the TBH competencies in several ways, but overall, there was agreement on the structural approach. The input suggested changes that the language reflects more inclusivity regarding all behavioral disciplines, rather than just a few. Commenters noted that the competencies needed to be more representative of the tasks required for clinicians in private practice as well as for those employed in institutionalized work settings. They also requested that distinctions between Proficient and Authority practitioners be more discrete and measurable. Extensive revisions were discussed by the group on a weekly basis for 12 months and changes were incorporated into the document. These subsequent changes included collapsing the number of domains from ten to seven. Overall, this feedback had qualitative and quantitative dimensions.

The results of the second wave of requests for comments were issued by CTiBS in August of 2017. This second draft of the CTiBS TBH competencies was disseminated to members of professional communities of all eight previously identified behavioral disciplines, listservs, and social media groups. The structural approach was reaffirmed, the domains were well supported, and the work was seen as helpful and practical. Most of the constructive feedback amounted to changes in fine details, i.e., quantitative dimensions.

As a result, the seven finalized competency domains are: (1) *Clinical Evaluation and Care*, with subdomains addressing *Cultural Competence and Diversity*, *Documentation*, *and Administrative Procedures*; (2) *Virtual Environment and Telepresence*; (3) *Technology*; (4) *Legal and Regulatory Issues*; (5) *Evidence-Based and Ethical Practice*, with a subdomain addressing *Social Media*; (6) *Mobile Health and Apps*; and (7) *Telepractice Development*. They provided a framework to make these competencies measurable for novices, Proficient professionals, and Authorities. The framework describes 51 telebehavioral objectives and 149 discrete, measurable telebehavioral practices that include knowledge, attitudes, or skills for clinicians who cumulatively span the Novice, Proficient, and Authority levels of professional development. See ESM for details.

The TBH Competencies: Highlights from Two Competency Domains

As the reader may appreciate, detailing all seven CTiBS domains with their 51 behavioral objectives is a task worthy of an entire handbook and/or certification professional training program. However, for illustrative purposes in this introductory article, two of the 51 TBH *competency telebehavioral objectives* (including discrete telebehavioral practices) are briefly detailed below to illustrate the specificity that educational and training programs, employers, insurers, regulators, and other stakeholders may wish to consider when evaluating the interprofessional, evidence-based TBH knowledge, skills, and attitudes of competent professionals offering TBH services at various stages of professional development. The reader is given a short introduction to the domain, then the discrete telebehavioral practices at all three levels (Novice, Proficient, and Authority) for each subdomain described.

Clinical Evaluation and Care

CTiBS describes the TBH domain of clinical evaluation and care as commonly including triage, assessment, diagnosis, and therapeutic services across the client/patient lifespan. CTiBS

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draws attention to the fact that underlying best practices for professionals striving for competence not only vary across behavioral disciplines but also are defined by not only different but often incompatible federal, state/provincial, local, and professional standards. Such services typically involve a juxtaposition of not only client/patient, family, other professionals and/or healthcare team members but also the various technologies to deliver care, as potentially chosen by any given professional or team, e.g., email, text messaging, telephone, video conferencing, apps, instructional videos, machine learning, affective computing, and wearables. In spite of all these variables, professionals are expected to therapeutically engage clients/patients, communicate clearly, attend to boundaries, and adjust to TBH technology-mediated options as needed to optimize care and safety.

Other fundamental differences in clinical evaluation and care can also dominate the day-to-day delivery of TBH services. While in-person and TBH care have many similarities, e.g., interview style, treatment planning, and experiencing emotions, *substantive differences* can suddenly become apparent to those who engage in TBH practice, e.g., establishing boundaries, administering assessments, and managing emergencies. TBH professionals may also face increased management challenges at a distance with other factors, e.g., protections for privacy and security, adjustment to unpredictable settings, failing technology, uncertainty related to potential interruptions, and the need for increased caution when addressing delicate topics. The clinician's personal issues can also surface, including powerlessness in an emergency as when dealing with mutilation behavior or suicidal ideation. Failure to acknowledge and prepare for these challenges can leave the clinician at a loss for how to proceed when they arise. However, thoughtful training and preparation can be undertaken to prevent as well as remediate such challenges.

Given the complexities described above, the *Clinical Evaluation and Care* domain is the largest of all and contains three subdomains to cover its breadth of knowledge, skills, and attitudes (i.e., Assessment and Treatment, Cultural Competence and Diversity, Documentation and Administrative Procedures). The prudent professional considers the needed knowledge, skills, and attitudes for TBH care by focusing on each of these three areas and then the telebehavioral objectives in each of these subdomains. Again, due to space limitations, only the first subdomain (Assessment and Treatment) is described below. This first subdomain is further delineated into these six *telebehavioral objectives* by CTiBS:

1. Assessing for client/patient appropriateness for TBH services
2. Assessing and monitoring client/patient comfort with TBH
3. Applying/adapting in-person clinical care requirements to TBH

4. Implementing and adapting a TBH service plan with policies/procedures adjusted accordingly
5. Monitoring therapeutic engagement related to each TBH modality
6. Providing training, supervision, and/or consultation to others (for Proficient and Authority)

Again, due to space limitations, only the first of the above six telebehavioral objectives will be discussed next in the illustration (Fig. 3), below. Titled, *Assessing for client/patient appropriateness for TBH services*, this telebehavioral objective is further delineated into three discrete telebehavioral practices, that is, one for each of the Novice, Proficient, and Authority levels of competence.

The more detailed discussion below then is intended to provide the reader with yet more information with which to consider the education, training, experience, and/or consultation needed for delivering interprofessional, evidence-based TBH clinical care related to this domain.

Novice

As can be seen in Fig. 3, the TBH Novice is expected to be able to identify client/patient appropriateness for TBH. For example, these beginners could be trained, able to interact with the client/patient, administer a screening inventory for TBH appropriateness, and report on findings.

Proficient

The Proficient professional encompasses the same basic assessment skills as the Novice but can also identify and make selections for TBH based on a number of more granular considerations. Such considerations include the clinical needs of the patient given the age, intelligence, or diagnosis of the client/patient. In addition, the ability to engage in more sophisticated diagnostic approaches may be relevant, such as ability to participate in the session with or without a *telepresenter*, who is a trained third party who is present in the client/patient room/environment to assist the distant practitioner.

More specifically, at a more granular level, the Proficient clinician would understand the importance of know how to initiate a series of queries to establish the privacy of the location of the client/patient, identify possible interruptions and/or intrusions, and other factors of clinical relevance to the session. As a safety measure against being caught off guard, they may routinely implement this process at the beginning of every session in an *opening protocol*. Such clinicians engage in anticipatory thinking, creating structures that help determine which factors could disrupt a session, both on the client/patient setting, as well as their own. For example, it is particularly important when, if the client/patient is at home with children, the opening protocol query would involve questions

NOVICE	PROFICIENT	AUTHORITY
I.A SUBDOMAIN -- Assessment and Treatment	**I.A. SUBDOMAIN -- Assessment and Treatment**	**I.A. SUBDOMAIN -- Assessment and Treatment**
I.A.1 Identifies factors related to clients'/patients'[1CEC1] appropriateness for TBH services and considers that some clients/patients may not be appropriate.	I.A.1 Systematically assesses and identifies clinical, diagnostic, setting, population and other factors that would preempt, complicate or exclude a technology e.g., prisons may not allow use of Internet; adaptive devices may be needed for special populations. Identifies and resolves conflicting administrative, clinical and other barriers.	I.A.1 Develops, researches and disseminates peer-reviewed and when possible, evidence-based procedures to address complex clinical, setting, population and other factors that would otherwise preempt, complicate or exclude TBH service. Investigates conflicting administrative, clinical and other barriers.

Fig. 3 Knowledge, skills, and attitudes across three competency levels for "telebehavioral practice I.A," in "clinical evaluation and care" domain and "evaluation and treatment" subdomain

about who might be with those children at the time of the call. Similarly, the opening query would refer to who might be with elderly people if they are known to suffer from dementia and are typically in the environment. Likewise, if a spouse is often at home and perhaps even using Bluetooth Wi-Fi in the setting, is the Bluetooth turned off so that the spouse cannot listen to the clinical exchange from another room. In a more general sense, given the population of clients/patients being served, the clinician would also have a sense of potentially needed local emergency information and appropriate referrals prior to engaging with a potentially at-risk client/patient from a distance.

Again at a granular level, opening protocol questions may need to include verification that the clinician is alone with the client/patient. This process can involve pre-established code words or phrases that the client/patient would be invited to mention if indeed, an unwanted lurker is present in the room or on the other side of the wall. The clinician, then, would thereby know to disengage the exchange, perhaps feigning a reason to leave so as to not endanger the client/patient.

Different situations could call for different interventions or lines of questioning. The clinician may need to be prepared to redirect clients/patients who appear for treatment from unusual settings, such as public areas. For instance, special agreements or adaptations might be needed in advance to determine that the conversation will not be overheard by passersby.

This series of initial inquires, then, could also be used to establish the appropriateness of one technology over another. Consider the event whereby arrangements had been made for full videoconferencing, but that the connection was failing, due to a local situation. The clinician may choose to use a telephone to establish contact and/or maintain the clinical relationship rather than abandon the effort and await the next appointment. Clinician judgement then would be needed to determine whether the telephone is always an adequate secondary technology for continued care, given the client's/patient's particular clinical need. Such issues become relevant when, for example, video conferencing is used to engage and client/patient with a stress inoculation protocol or EMDR for Post-Traumatic Stress Disorder (PTSD) and the video connection fails. The clinical appropriateness of using the telephone

to re-establish contact may be important, but continuing the session via the telephone may or may not be appropriate. The Proficient clinician then would be expected to determine if continuing the session by telephone would be clinically appropriate, and he or she would document the clinical decision accordingly. A Proficient clinician in this instance would also know where to go in the TBH literature to find relevant research to clarify any related questions and done so prior to starting the treatment protocol via videoconferencing. With complications, they would make the effort to seek training and or consultation to clarify such questions for any current or future client(s)/patient(s) being served.

The discussion above can lead to yet deeper levels of granularity with competence. To be even more specific, assuming that the chosen technology is video conferencing, it is appropriate for the clinician to have developed the competencies to not only treat but also assess and triage the client/patient using video. Particularly in states where in-person assessment is not required for TBH, it is incumbent upon the clinician to have undergone adequate TBH training to know how to assess all types of clients/patients being initially served via video and not just routine or uncomplicated clients/patients.

To do so, Proficient clinicians using a video conferencing system must know how to maneuver their way through essential components of an intake and assessment process by using a camera, microphone, monitor, and speakers to not only collect essential information (relevant psychobiosocial and substance use histories), but depending on discipline and setting, also to conduct a mental status exam, a hygiene check, and a gait analysis—all of which are intake/assessment procedures that are in accord with the standard of care in a traditional, brick-and-mortar setting. Next, the clinician choosing to use videoconferencing to mediate a therapeutic relationship also needs to be Proficient at using the camera to show empathy, engagement, attunement, and at the very least emotional connection and availability with the client/patient. In this decision-making, factors such as setting, resolving technical conflicts, and population factors are also of relevance. These factors are more thoroughly described below.

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Setting The mid-level practitioner is expected to understand and control both their own setting and that of the client/patient. If working from home, the mid-level clinician would have established a communication system with their own family or other household residents to eliminate the possibility of intrusions or other disruptions to the clinical interaction with a client/patient. As hinted at above, the mid-level clinician would have the expertise to secure the privacy of the client/patient location and assure through an opening protocol and other factors that the patient is alone, preferably in a room with a locked door, and that the risk of interruption or intrusion by others in the client/patient environment would be eliminated. When the setting is not ideal, the interaction is gently terminated or clinically appropriate accommodations are negotiated and thoroughly documented.

Resolving Conflicts Another responsibility of the Proficient clinician and/or administrator is that of resolving conflicts surrounding the use of technology. The example of might involve the college counselor serving students from other states is a good example of a common TBH conflict. Similar is the plight of a clinician serving a student who travels to a foreign country for a semester yet wishes to maintain their therapeutic connection. College administrators have been reported to inadvertently require such counselors to put their own licenses at risk for practicing illegally over jurisdictional boundaries, citing the clinical need for continuity of care over licensure requirements by their counselor employees.

A second situation exists with counselors who work in residential treatment facilities, where patients may travel from other states or countries to receive care for several weeks at a time. When in-patient, these patients often are given *family therapy* whereby families from distant areas are treated by the licensed clinician in the treatment facility. A third example might be the licensed Employee Assistance professional who serves a worldwide network of employees for a Fortune 500 company, all from her office in New Jersey.

Conflicts related to the use of communication technology therefore can easily arise. They require sensitivity to all parties and understanding of the positions taken by Authorities, including licensing boards and malpractice carriers and other liability carriers. Administrators of all these services may also be under mandate to comply with a number of oversight agencies who have their own, perhaps conflicting set of requirements, e.g., Joint Commission, Council on Accreditation, Commission on Accreditation of Rehabilitation Facilities, Utilization Review Accreditation Commission, American National Standards Institute in the USA, and according to other Authorities in other countries. A Proficient telepractitioner will navigate these waters with an eye to meeting the needs of the patient first and foremost, yet also complying with program requirements as well as those of their professions and regulatory boards. As depicted above,

clinicians in some settings however often feel disempowered to address these issues, lest they incur potential sanctions from their employers.

Another situation may be experienced by a clinician who purchases a video or other type of technology platform from an online vendor. They may be seeking such a platform to migrate their clients/patients to TBH, or they may sign onto a platform that promises to introduce them to such clients/patients by listing their profile and collecting payments. Whether or not the platform allows the clinician to deliver appropriate clinical services is sometimes at question, however.

Even if digitized services are not explicitly mentioned in state laws, applicable ethical codes, or other standards and guidelines, required clinical services when working through technology include all practices that are required for in-person care. These practices may include knowing how and to whom one markets one's services regardless of technology platform engaged. That is, clinicians are not allowed to shift blame for interjurisdictional practice to a website directory that is accessed by an international community. For every client/patient accessed through technology, the clinician is expected to have ascertained their own ability to legally serve that individual, regardless of the website or technology used. An example of this principle can be drawn from the medical world, where a physician cannot shift the blame for their inability to hear a heartbeat through an otoscope. Rather, the physician's duty was to use the appropriate technology, which in most cases would include a stethoscope. Similarly, the TBH clinician is expected to use a platform that advertises a clinician's services to an international platform cannot be blamed for a clinician work with a prospective from outside their area of licensure. Defined by one's licensure and other professional affiliations, other mandates include the responsibility to set up one's office or service in a manner that is supportive of evidence-based care, including the means to conducting of full and proper intakes, mental status exams, and other assessments—all as expected in one's typical brick-and-mortar practice. They may include obtaining full and appropriate informed consent (both initial as well as dynamic), gathering a full history and giving and receiving local referrals, accurately documenting goals and the course of treatment, preventing and handling emergencies, and offering a continuity of care and meeting other typical clinical obligations. These issues, however, are often obscured to the unwitting, untrained clinician enamored by contemporary technological tools. Choosing the appropriate technology, then, can be difficult. The Proficient clinician knows when to obtain appropriate training and/or consultation and how to document both accordingly.

Population Population factors might involve issues of particular relevance to the client/patient's membership in a

particular group needing additional care. For instance, a disabled (i.e., deaf, hard-of-hearing, blind, wheelchair-bound, bedridden client/patient) may require attention to external factors that need to be in place prior to the start of a therapeutic session. These may include adaptive devices, or additional personnel who can be called if the client/patient loses control of the digital interface. Such factors may also include common cultural or linguistic expectations of working with a clinician at a distant site (see CTiBS Competencies subdomain related to *Cultural Competence and Diversity* for more information.)

Authority

Authorities may teach the fundamentals of TBH clinical care, supervision, and training to help others apply information and resolve dilemmas/conflicts in complex clinical, legal, regulatory, and other issues. They may help with the integration of clinical care across settings, clarify documentation requirements, and work with interprofessional teams where requirements can differ across disciplines. They can help resolve conflicts that might otherwise preempt TBH. An example of such a professional would be the consultant who helps a state agency meet the needs of clients/patients who are dependent on opioids. The TBH Authority, then, would assist clinicians with their respective clinical protocols, assuring that they meet all professional ethical and legal, regulatory requirements related to TBH, as well as those of their referrals sources, such as local hospital emergency departments. The Authority would investigate all relevant requirements and assist the agency in resolving conflicts so as to maximally serve the populations they seek to serve through TBH.

Legal and Regulatory Issues

The second CTiBS TBH competency domain to be discussed in this article is that of *Legal and Regulatory Issues*. As with the first domain of *Clinical Evaluation and Care* described above, due to space limitations, only the first of the four identified telebehavioral objectives will be discussed herein: *Adheres to relevant laws and regulations*.

The *Adheres to relevant laws and regulations* telebehavioral objective is further delineated into three discrete telebehavioral practices, that is, one for the Novice, Proficient, and Authority levels of competence. The discussion below then is intended to illustrate the education, training, experience, and/or consultation needed for delivering interprofessional, evidence-based TBH clinical care. This discussion will first define terms, offer a sampling of issues relevant to these three telebehavioral practices, and end with a case vignette to further illustrate the telebehavioral practices of a TBH Authority.

Legal and regulatory issues affect TBH practice internationally. The term *legal* is defined as allowable or enforceable by being in conformity with the law of the land and the public policy. *Regulations* are defined as benchmarks promulgated by a regulatory agency, created to enforce the provisions of legislation. *Federal governmental laws and regulations* for TBH practice also include the following: privacy, confidentiality, data protection/integrity, and security; interjurisdictional practice; and communications standards in the USA and other countries, e.g., Federal Communications Standards. Such laws and regulations also include: Health Insurance Portability and Accountability Act (HIPAA), Health Information Technology for Economic and Clinical Health (HITECH), and Food and Drug Administration issues related to the Ryan Haight Act and Personal Information Protection and Electronic Documents Act (PIPEDA).

State/provincial laws and regulations for TBH practice may be further defined, implemented, enforced, and interpreted, e.g., interjurisdictional practice. For example, in the USA, there are a variety of licensing boards that establish practice requirements, i.e., medical, nursing, pharmacy, behavior analysis, counseling, marriage and family therapy, psychology, and social work. Relevant state/provincial and federal laws and regulations may also overlap. Legal and regulatory issues also affect TBH practice internationally.

Non-governmental regulatory requirements and recommendations from professional organizations, agencies, and other authorities in other countries may also apply to TBH practice. Examples of such entities include Joint Commission, Council on Accreditation (COA), Commission on Accreditation of Rehabilitation Facilities (CARF), Utilization Review Accreditation Commission (URAC), American National Standards Institute (ANSI) and Healthcare Information and Management Systems Society (HIMSS) in the USA, and according to other authorities in other countries.

In the clinical arena then, the prudent clinician can develop the needed knowledge, skills, and attitudes for legal TBH care by focusing on each of the four telebehavioral objectives as identified by CTiBS within the CTB domain of Legal and Regulatory Issues:

1. Adheres to relevant laws and regulations
2. Practices in accordance with and educates others on the need to follow relevant legal and regulatory standards
3. Applies/adapts in-person standards to TBH
4. Attends to contextual and overarching jurisdictional issues in a reasonable fashion

Next, a sampling of laws and rules applicable in the USA illustrates the range of pertinent laws and regulations applicable to the three levels of the first of Legal and Regulatory domain of telepractice described (Fig. 4) below. Similar legal

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and regulatory requirements for health professionals may exist in other countries and jurisdictions outside of the USA.

Novice

The Novice is expected to be knowledgeable about the laws and regulations relevant to providing TBH services in the jurisdiction where they are located and where clients are located at the time of service. In addition to applicable professional licensure laws, relevant laws and regulations include other pertinent state/province or national laws. For instance, the Novice would be expected to be knowledgeable with HIPAA in the USA or PIPEDA in Canada. They also would need to know that additional privacy and security laws and regulations exist in some states or provinces.

Proficient

The Proficient professional not only is compliant with laws and regulations relevant to TBH but also understands the basic principles and is able to independently apply them in situations in which there may be no clear answers. This may mean for instance that when working in a geographic area where no explicit telehealth laws exist, they nonetheless understand their requirements as a licensed professional where they work. This is true, even if the practitioner calls themselves a "coach."

Continuity of Care The Proficient professional realizes that when delivering TBH to a client/patient in a foreign jurisdiction (state or country), laws regarding continuity of care may be different from their own. They are aware that licensure requirements "follow the patient" in that the clinicians need to be compliant with the law of the state/province/country when the client/patient is located *at the time of contact*. The fact that the client/patient legally resides in New York is irrelevant to the Florida licensing board if the client/patient is in Florida at the time of service delivery. Also, states such as Florida may impose yet more restrictions with out-of-state clinicians. For

instance, they may require that the clinician be licensed in Florida even if when serving clients/patients from their original states of licensure while they themselves are visiting or living in Florida. Assumptions can be problematic in that regulatory boards *should not be underestimated* in terms of their differing and, at times, contradictory requirements. Each state/province/country must be investigated individually and compliance with all state and federal/national laws is required.

Furthermore, interruption of services could occur and must be anticipated, preferably in writing. The clinician could be retiring from actively providing clinical services, the client/patient may have moved to a jurisdiction where the clinician is not authorized to provide TBH, or the clinician might determine that the current functioning of the client makes them no longer suitable for TBH. Rather, the clinician may decide that the client/patient is in need of in-person care.

The clinician in such situations is wise to have pre-determined, readily available and appropriate safety plans as well as local referrals and safety-net resources to help all clients/patients served through TBH. In fact, in many states and provinces, if such local resources have not been identified before starting the delivery of care, it is considered unprofessional for the clinician to have started the delivery of service. A competent clinician then does not initiate service if appropriate safety plans and local community safeguards are not in place. Additionally, if a clinician determines that he or she is out of their range of competence clinically with a client/patient who poses a risk of harm to themselves or others, the competent telepractitioner does not abruptly cease services. Rather, giving appropriate referrals is in order, just as it would be in a brick-and-mortar practice.

Similarly, a competent telepractitioner who realizes that he or she has been practicing illegally over state or international borders does not suddenly cease services with an established client/patient. Rather, competent professionals in both these circumstances may have a duty to obtain experienced consultation to help deal with the ambiguous clinical issues that may arise. Of course, they will also want to document the issues carefully.

NOVICE	PROFICIENT	AUTHORITY
IV.A.1 Communicates with all relevant authorities to identify and adhere to the relevant laws and regulations in the jurisdiction of client/patient (and the professional's, if different) at the time of contact, including informed consent, even if the authority does not detail updated requirements in "telehealth-related" terminology on public websites.	IV.A.1 Applies and if necessary, adapts clinical care and informed consent to relevant laws and regulations in any/all jurisdiction(s) being served (i.e. federal, state/provincial law). The professional's choice of technology and related risks and benefits must be identified in the informed consent. Professional ensures that the chosen technology, provider networks or other digital employers allow all functions mandated by relevant laws and regulations e.g, full intake, history, informed consent, mandated reporting and continuity of care in relevant jurisdictions.	IV.A.1 Consults, develops and provides potential resolutions for TBH-related legal and regulatory dilemmas or conflicts e.g., references/guidelines, different agencies, provider networks, digital employers and across different disciplines and professions. Advocates for timeliness and clarity in wording of laws and regulations, as well as in all public statements.

Fig. 4 Knowledge, skills, and attitudes across three competency levels for "telebehavioral practice II.V.1" in "legal and regulatory issues" domain

Coaching Thorny situations also may arise when a clinician licensed in one jurisdiction (state, province or country) has been calling themselves a "coach" to practice over jurisdictional lines by using technology, often including the use of the telephone. Such practice is rarely censored but nonetheless is most often illegal. As state regulatory boards develop or examine their state's definitions of telepractice, these issues are steadily being corrected in regulatory code, albeit at different places across different states and within states, across different disciplines. Until then, the prudent practitioner is wise to not engage or responsibly transition out of all such illegal activities, seek licensure in the states being served, and/or advocate for more clearly articulated regulatory statements by their boards. Regardless of what the service is called or how the therapeutic relationship is maintained, i.e., by email, telephone, text messaging, video, or apps, clinicians then must deal with how to best care for the client/patient legally, ethically, and clinically. When Proficient but previously uninformed clinicians realize the error of their ways, they remediate the situation by obtaining appropriate clinical TBH consultation along with legal counsel. As a side note, while prosecution for illegal TBH activity is rarely disciplined as a stand-alone issue by most state boards, TBH issues readily surface when a legal action is taken by a board due to some other type of complaint, i.e., abandonment, sexual misconduct, and insurance fraud.

Employment by Online Companies Another example that complicates the competent delivery of clinical services with relevant laws and regulations is when a clinician contracts with an online behavioral company to provide services to clients/patients. Such companies call their services a variety of names, e.g., online counseling, distance counseling, online therapy, telemental health, e-therapy, wellness coaching, health coaching, crisis intervention, and telebehavioral health (and many more), but many contract with licensed behavioral health professionals to provide professional services to clients/patients/consumers online. The clients/patients/consumers are typically organized and prepared for therapeutic intervention by the company, and all digital systems are chosen and maintained by the company as well.

Issues arise when such companies create unrealistic expectations or make unrealistic promises to clients/patients/consumers. They may simultaneously (inadvertently or intentionally) limit the information they provide to clinicians for meeting legal and ethical requirements when using their software platforms to deliver care. Attempting to sidestep legal responsibility for the constraints imposed on the client/patient or clinician with elaborate Terms and Conditions files posted on their websites, they in fact, frequently place full responsibility squarely on the shoulders of the often unwitting clinician. Such a shift in responsibility usually involves a written agreement to be signed by the clinician who is invited to *attest* to being licensed. Such attestation in fact has legal implications that often go far beyond the understanding of the traditional clinician. They imply that the TBH clinician is fully competent to deliver services, which means that they are aware of and fully compliant with the requirements of their professions, relevant state licensing boards, and all federal laws. As previously described, many of these requirements are not only from state to state but also from discipline to discipline. The requirements may be fully explained by the licensing boards or not mentioned at all. If they are mentioned, they may be buried in state statutes and regulations that use any of two dozen terms to refer to telebehavioral health and thus practically impossible to find without careful research. Professionals considering such contractual arrangements then need to exercise due diligence in evaluating the online service. A clinician also may—or may not—be made privy to the collection and various implications of digital information "data sets" automatically gathered by an online employer, video, or other technology platform vendor. They may not understand the implications of such "Big Data" collection systems or to whom this information is being sold.

One form of due diligence is to ask questions. Proper training in TBH may suggest to that the competent telepractitioner ask questions of their online software company such as the following:

- Does the company's website restrict referrals from clients/patients located outside the geographic areas allowed by the clinician's licensure?
- Do the company's policies and procedures for clinicians meet the clinician's legal and ethical practice standards and guidelines?
- To what extent does the company allow the clinician to provide adequate informed consent, based on the requirements of each state being serviced?
- Are clients/patients allowed to obtain services anonymously? If so, how can mandated reporting requirements be met by the clinician?
- How are community resources made available to clinicians facing emergencies when the company provides access to client/patients solicited from distant communities?
- Does the company inform the clinician of differing laws in states accessed by the company's technology, or does the company leave it to clinicians to fend for themselves with issues such as different state laws regarding mandated reporting, such as abuse, suicidality, and Tarasoff duty to warn?

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- What are the financial policies imposed on clients/patients by the company? Are they in keeping with different state regulations for licensed professionals?
- What records or data are kept by the company and who/when/under which circumstances will others be given access to those records? What is the company's policy if served with a subpoena? Where is the company's technical staff located? Do they have access to client/patient files? If in a foreign country, what assurances do they provide that all the clinician's state and federal laws are being honored?
- Is the clinician given written assurance of legal compliance? For example, does the company collect "Big Data" if so, which type? How it is analyzed, how does it benefit the client/patient, and is it re-sold? If re-sold, to whom? For which purposes? Does the company provide written, legal assurances that such digital information collection processes and datasets are indeed stripped of any protected health information (PHI)?
- Does the vendor offer a Business Associate Agreement (BAA), and if so, how closely does it match the wording suggested by the US Office for Civil Rights (OCR)?
- Can the service be discontinued by the company without cause and/or without notice?
- Does the company submit reimbursement documentation to payers, and if so, how can those documents be regularly reviewed by the clinician for accuracy?
- Does the company provide liability insurance for professionals in the case of a large-scale legal infraction, where several clinicians may concurrently seek financial reparations from the company?

Finding answers to these and other questions is important for the clinician to judge if their contracting with a company is reasonable, given their legal and ethical mandates; liabilities, reputations, and financial stability.

Authority

The Authority consults and teaches others regarding TBH-related legal and regulatory issues. They may be called upon to advise or assist in problem-solving complex legal or ethical TBH questions. The following vignette and subsequent discussion illustrates how a TBH Authority contracted by a drug treatment program provided competent TBH services:

An addictions treatment group providing residential services was seeking to grow their business by retaining program graduates after release by offering follow-up services with the client/patient's primary counselors for after-care. Benefiting from a good reputation, the group offered local services in three different states. The group was recently challenged by an influx of new clients/patients whose were immigrants and whose first language was not English. The group hired a TBH consultant to assist with the development of program policies, procedures and workflow issues, starting with interjurisdictional supervision and consultation.

The primary treatment team consisted of counselors, psychologists, a psychiatrist and social workers. All provided services in-person while client/patients were in residence. Since many referrals were coming from out-of-state, the group had begun offering "family sessions" via videoconferencing. They were delighted with the results and now sought to extend their services by offering follow-up care via videoconferencing.

The group had sent one clinician to obtain certification in TBH competencies, and learned that they and their clinicians were in violation of state licensing laws in several respects, including interjurisdictional practice. They then hired the TBH Authority to remediate their legal and regulatory policies, decide how to responsibly deal with families who were already dependent on them for care over state and international borders, and obtain proper licensure for their clinicians within the context of a business plan that would allow them to grow their services through TBH.

TBH Authorities, then, can be called upon to help with a number of complex TBH issues, including the remedying of existing services being offered by groups who had no prior knowledge of infractions but who sought to remedy their practices.

Licensure Status of the Staff In the above vignette, the social workers and counselors were licensed in only one state, where they currently offered in-person services only. Two psychologists supervised the master's level staff in all three states and coordinated medical issues with the psychiatric staff. This supervision was conducted by telephone and video teleconferencing. The psychiatrist was a full time contractor who was hired to assist with medical evaluation and medication management for the group in all three states. The group wanted the psychiatrist to be licensed in all three states. As the group offered follow-up care, all clinicians would be asked to obtain licensure in multiple states, so as to be able to offer follow-up care to residence after discharge.

Interjurisdictional Issues Interjurisdictional issues became an initial first focus for the TBH Authority. She helped the addictions group administrators confirm that the social workers and counselors are in compliance with their licensing laws

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within their state of licensure for TBH. She found that when crossing state lines with direct care, and also when receiving supervision from the psychologist in a neighboring state, these clinicians were being asked to engage in activities that ran afoul of their own licensing regulations and ethical standards. The psychologist was also practicing without a license and therefore illegally when offering supervision to clinicians outside of his own state of licensure. One state's licensing board for the master's level clinicians had adopted the national association ethics code as state law, further confusing the issue when compared to licensing requirements in the other two states. The psychologist then needed to obtain licensure in the two additional states so as to be able to deliver supervision legally. Until such licensure was obtained, the group would need to obtain alternative supervision for the master's level staff.

To further complicate matters, one of the three states' regulatory boards did not mention TBH in its licensing rules and regulations for both the psychologist and master's level staff, leaving the addictions group and its staff in a gray zone with interpret existing requirement. The TBH Authority assisted with this process, explaining that a state's lack of guidance with respect to privacy when using any technology, i.e., email, text messaging, telephone, and video, does not negate the need for the clinician and the group to protect the client/patient when using any one or combination of these technologies.

She also explained that different technologies would conceivably require different policies and procedures. For example, a client/patient's privacy would need to be protected differently with regard to the telephone, based on whether the state in question recognizes the telephone as part of their definition of telehealth, telemedicine, telepsychiatry, telepsychology telemental health, distance counseling, or by using any other terminology for TBH. Also of relevance to state regulations for privacy were two of the apps used by the staff to engage clients/patients with behavioral diaries and daily self-assessments that were transmitted to the staff, thereby qualifying at TBH services across state lines. In other words, the TBH Authority explained that if the group chose to use any form of electronic communication with clients/patients, it was their responsibility to understand all relevant issues, regardless of the lack of specificity of existing licensing requirements.

The psychiatrist was currently licensed in a state that had joined the "Interstate Medical Licensure Compact" (http://www.imlcc.org/). Luckily for him and his employer, the psychiatrist was being asked to work in a foreign state that had also joined the same licensure compact. Because of the compact, he would enjoy an expedited licensing process and would likely be able to offer services within 2 or 3 months.

The TBH Authority also informed the psychiatrist that the licensing board in the third state had differing requirements for TBH intakes. It required in-person intakes, therefore disallowing TBH until the in-person intake was completed. In response, the addictions group began a search for another psychiatrist or nurse practitioner in the state requiring an in-person intake.

Professional Training To help the addictions group efficiently and expediently manage risk, the Authority suggested that each practicing clinician obtain formal training in TBH best practices—and have that training fully documented. She recommended that the group find a professional training program leading to course completion certificates, certification, or credentialing related to evidence-based TBH competencies. She explained that such training and its documentation could help the addictions group administrators and staff develop policies and practices related to issues such as informed consent; intakes and assessments, progress notes, termination notes, and their documentation; mandating reporting, i.e., suicide, homicide and abuse reporting; continuity of care; and termination.

The TBH Authority then was able to help the addictions treatment group and its clinicians to be compliant with state laws and regulations. She provided guidance to help the group develop a competent, efficient, and confident workforce. Such focused training and consultation at program inception that allowed the group to avoid undue risk, start offering services, and commence billing for TBH services. As illustrated by the above vignette, a TBH Authority can help both groups and individual manage some of the many complexities that can arise with delivering traditional care through technology.

As discussed in the examples of the TBH competency domain of Legal and Regulatory Issues, the first telebehavioral objective (Adheres to relevant laws and regulations) implies that TBH professionals fully understand and are compliant with all relevant state, federal, and professional mandates. The discussion not only illustrates how the uninformed clinician may easily be led astray with erroneous assumptions and misinformation but also how focused TBH education, training, experience, and/or consultation can be of assistance to professionals seeking to develop responsible TBH services.

Discussion

Core TBH competencies across professions have been developed by an interprofessional Task Force of behavioral professionals convened by CTiBS in 2014. The charge of the Task Force was to identify core skills, attitudes, and knowledge shared by the behavioral disciplines of counseling, marriage and family therapy, nursing, psychiatry, psychiatry, and social work. Seven competency domains are outlined. The resulting competency domains are segmented into three levels, Novice, Proficient, and Authority, so as to differentiate between reasonable

expectations of regulatory boards, ethical boards, attorneys, employers, insurers, and clients/patients when evaluating the work of professionals engaging in the delivery of TBH. Due to space limitations, only two of 51 telebehavioral objectives describing the three competency levels are discussed by the authors to illustrate the breadth of knowledge, skills, and attitudes needed for imparting best practices in TBH education, supervision, and training. The two domains discussed to give the reader a sense of intricacies of developing a safe and competent workforce are (1) *Clinical and Care* and (2) *Legal and Regulatory Issues*. For a tabular representation of all seven CTiBS TBH domains, five subdomains, 51 telebehavioral objectives, and 149 telebehavioral practices, see ESM.

Goals

The TBH competencies reflect a consensus process that was designed to lay the groundwork for further telebehavioral health advancement in several areas: policy development, research, law, regulatory and ethical requirements, training and practice of individual and interprofessional, and integrated TBH services. Although differences in individual and aggregate components of professional knowledge, skills, attitudes, and personal qualities will continue to plague behavioral and other disciplines, recognizing common areas for policy, workforce training and development, practice, and outcome measurement will benefit both the professions and the public. As promulgated, the TBH competencies are intended to serve as a starting common frame of reference for continued interprofessional communication and collaboration.

For practitioners, they provide a way to conduct a self-assessment of one's own or a colleague's readiness for TBH by helping to identify core areas for training and professional development. For educators, supervisors, and trainers, they provide a framework for evaluating students', supervisees', or trainees' telepractice competencies. Similarly, they will help identify needed areas of future development. More specifically, Kennedy et al. (2014) note two primary barriers to trainee's ability to reach the third and fourth levels of Kirkpatrick's levels: time and resources/support at the organizational level and expertise at the individual level. In education and training, relevant issues include (1) the value of competencies in teaching and evaluation TBH, (2) strategies for teaching TBH competencies across disciplines in graduate curriculum development post-graduate professional training, and (3) learner-specific approaches to guide not only teaching but assessment and evaluation of skills and attitudes beyond knowledge acquisition.

Therefore, next steps should identify ways students, supervisees, and trainees can have access to these resources. Such access might include dedicated time that is devoted exclusively to TBH that is built into educational, supervision, and training processes. This may also require that the educators, supervisors, and trainers themselves have some level of

training and expertise to best pass that expertise on to those who entrust them with their development as professionals.

Lastly, the TBH competencies are also relevant for attorneys, administrators, and policy developers. These types of professionals may benefit from competency-based training so as to better suggest ways that interprofessional TBH could be adopted, to assist in refining TBH research and best practices, as well as to encourage and support yet more collaborative efforts.

Limitations

As a first effort, the CTiBS TBH competencies have a number of limitations. First, the limitations of the TBH competencies are aligned with the limitations inherent in any evaluation system based on the Kirkpatrick four-level model. For example, the model does not consider the idiosyncratic elements and characteristics of some learners and learning environments. Therefore, this broad competency model may not be applicable to all learning types or represent realistic outcomes in all learning environments (Bates 2004). Secondly, the assumption in the Kirkpatrick model is that the greater the demonstration of the competency, the better learned that topic and that there is a causal linkage between the different levels when the research to date supports there is no such linkage and these levels may in fact operate independent of one another (Bates 2004). Third, some of the feedback received when sent to the stakeholders provided mutually exclusive directives about how to measure some of the skills, rendering it impossible to resolve some of the comments.

Fourth, although the selection of Task Force members is considered to have contributed to its strengths because it included representatives from six of the eight disciplines generally recognized as being involved in behavioral health care, it may also be a source of bias. Although a clear attempt to address cultural and linguistic competence issues was addressed within the *Clinical Evaluation and Care* domain, the focus is not likely to be adequate for all minority groups and most certainly not internationally. CTiBS Task Force members are geographically located in different regions. They emanate from different cultural groups, use English as their primary language but the group also included multilinguistic members. They represent religious orientations, training and clinical specialty areas. However, they were all US-based Caucasians and therefore are not representative of TBH professionals overall. It is possible that more diverse clinicians, including those in non-US countries will find the CTiBS competency domains insufficient, given potential vastly different practices, settings, and technologies. Perhaps the inclusion of Task Force members from different countries with different technological infrastructures and government supports would have been more representative, and efforts would have yielded different results. For example, clinicians using different technologies as their primary means of communication with clients/patients may find that the CTiBS competencies' primary focus on video technology

to be insufficient. Different work flow issues and competency practices using audio or text-based messages or perhaps various combinations of such modalities will prevail over video for selected populations and their disorders. Without further research however, it is unclear how such selection bias may have affected the current results.

Fifth, although the list of 149 telebehavioral practices may seem extensive, it is possible that it is incomplete or not entirely relevant to all practitioners in all behavioral disciplines attempting to deliver TBH, even in the USA or other westernized countries. A different group process, such as the Delphi method (De Villiers et al. 2005), may have yielded a different group of competency items. Also, given the rapidly expanding areas of technology-related practice, such as mHealth, virtual and augmented reality, as well as the use of biosensors and artificial intelligence and will soon be included in TBH. The existing CTiBS competencies then may soon be outdated.

Last and possibly most important, although it may have been useful to rank-order the finalized competencies on the basis of strength of agreement among Task Force members, the fluctuating membership of the Task Force over the 3 years and two separate comment periods did not allow for the drawing of statistically valid conclusions about the relative value of each competency.

Future Research

Research is suggested to demonstrate the benefit of using the TBH competencies as a basis for collaboration in the educational, training, and the development of interprofessional teams for the workplace. Rigorous, clustered, randomized studies of these competencies may be needed to establish their validity and generalizability to a variety of settings, cultures, and languages. Clear measurement outcomes need to be identified and assessed over time relative to client/patient care and safety. Such research should support methodologies that will shed light into how the competencies will serve as a basis for interprofessional collaboration and outcomes when using twenty-first century technologies in BH care.

Additionally, the reader will recall that this effort and resulting paper only addressed three of the IOM's originally outlined areas of needed educational reform (IOM, 2003, p. 45). If a focus on TBH competencies is to be more complete, then subsequent research is also needed to specifically address the IOM's originally identified concerns regarding patient-centered care and quality improvement. For example, Medicaid reimbursement for continuing employee education and training has been described as indicative of the need to develop programs that *not only meet minimum training requirements and state regulations (when*

available) but also target specific competencies that workers need to deliver quality, individualized services (Robbins et al. 2013, p. 12). Such additional research into TBH-related competencies, then, are clearly needed for more complete educational reform as suggested by the US IOM.

Conclusions

Telebehavioral health is proliferating worldwide in the healthcare workforce. In the early 2000s, the IOM identified need for interprofessional competency training in all health care professionals. There is a well-defined theoretical basis and rationale for not only competencies but interprofessional competencies and their implications for workforce development in BH.

This competency study is the first known attempt at developing TBH interprofessional competencies. They are designed to serve as a starting point for future research and communication. The CTiBS TBH framework organizes seven domains and five subdomains according to competency level, i.e., Novice, Proficient, or Authority. In turn, each competency level is categorized into 51 discrete telebehavioral objectives, which are then distinguished by 149 cumulative and measurable telebehavioral practices. As such, the CTiBS TBH competency framework is offered as an initial working document to identify and organize discreet, measurable telebehavioral practices derived from a review of the literature, technological advances, and day-to-day clinical practice.

Additional consideration and research are needed for competency implementation and evaluation for education and training, faculty development, policy development, independent practice, as well as institutional support and change. Regularly published updates to both the TBH domains and their framework will be needed. Clinicians, educators, trainers, regulatory and ethical board members, insurers, and the public at large are invited to consider the implications of using these identified competencies in their respective areas.

Compliance with Ethical Standards

Conflict of interest The authors report no financial conflicts of interest. Co-author Marlene Maheu is the Executive Director for the for-profit Telebehavioral Health Institute (https://telehealth.org/), which offers professional training and consultation of the nature advocated by this paper. Tracy Luoma is Executive Director at Optum Behavioral Health Salt Lake County. Telebehavioral health task force member and table contributor, Richard Long, runs a commercial supervision service that could potentially benefit from certification processes (see http://mentalhealth-connect.com/process for pricing). The authors alone are responsible for the content and writing of the paper.

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References

Aboujaoude, E., Salame, W., & Naim, L. (2015). Telemental health: a status update. *World Psychiatry, 14*(2), 223–230. https://doi.org/10.1002/wps.20218.

American Association for Marriage and Family Therapy. (2015). *Revised American Association for Marriage and Family Therapy code of ethics.* Retrieved from http://www.aamft.org/iMIS15/ AAMFT/Content/Legal_Ethics/Code_of_Ethics.aspx.

American Nursing Association. (2012). *Scope & standards of practice.* Washington, DC: American Nurses Association.

American Counseling Association. (2014). *Code of ethics.* Retrieved from https://www.counseling.org/resources/aca-code-of-ethics.pdf.

American Counseling Association. (2015). Competencies for counseling the Multiracial Population Multi-Racial/Ethnic Counseling Concerns (MRECC) Interest Network of the American Counseling Association Taskforce. Retrieved from https://www.counseling.org/docs/default-source/competencies/competencies-for-counseling-the-multiracial-population-2-2-15-final.pdf?sfvrsn=14.

The American Psychiatric Association Resource Document on Telepsychiatry by Videoconferencing. (1998). Retrieved from: http://www.psych.org

American Psychiatric Association. (2014). Resource document on telepsychiatry and related technologies in clinical psychiatry. Retrieved at https://www.psychiatry.org/File%20Library/Psychiatrists/Directories/Library-and-Archive/resource_documents/Resource-2014-Telepsychiatry-Clinical-Psychiatry.pdf.

American Psychological Association Guidelines for the Practice of Telepsychology. (2013). Retrieved from http://www.apapracticecentral.org/ce/guidelines/telepsychology-guidelines.pdf.

Association of State and Provincial Psychology Boards. (2014). Maintenance of Competence for Licensure (MOCL) White Paper. Retrieved from http://c.ymcdn.com/sites/www.asppb.net/resource/resmgr/Guidelines/Maintenance_of_Competence_fo.pdf.

American Telemedicine Association. (2017). Practice guidelines for telemental health with children and adolescents. Retrieved from: https://higherlogicdownload.s3.amazonaws.com/AMERICANTELEMED/618da447-dee1-4ee1-b941-c5bf3db5669a/UploadedImages/Practice%20Guideline%20Covers/NEW_ATA%20Children%20&%20Adolescents%20Guidelines.pdf.

American Telemedicine Association Practice Guidelines for Video-based Online Mental Health Services (2013). Retrieved from http://www.americantelemed.org/docs/default-source/standards/practice-guidelines-for-video-based-online-mental-health-services.pdf?sfvrsn=6

American Telemedicine Association Practice Guidelines for Videoconferencing-Based Telemental Health. (2009). Retrieved from http://www.americantelemed.org/docs/default-source/standards/practice-guidelines-for-videoconferencing-based-telemental-health.pdf?sfvrsn=6

Angelini, D. (2011). Interdisciplinary and interprofessional education: what are the key issues and considerations for the future? *The Journal of Perinatal & Neonatal Nursing, 25*(2), 175–179.

Association of Social Work Boards. (2015). Model regulatory standards for technology and social work practice. Retrieved from https://www.aswb.org/wp-content/uploads/2015/03/ASWB-Model-Regulatory-Standards-for-Technology-and-Social-Work-Practice.pdf

Australian Psychological Society. (2011). Guidelines for providing psychological services and products using the internet and telecommunications technology. Retrieved from: https://aaswsocialmedia.wikispaces.com/file/view/EG-Internet.pdf.

Barr H. Interprofessional education today, yesterday and tomorrow. (2002). *Occasional paper 1.* Higher Education Academy: Health Sciences and Practice Subject Centre http://www.health.heacademy.ac.uk.

Bates, R. (2004). A critical analysis of evaluation practice: the Kirkpatrick model and the principle of beneficence. *Evaluation and Program Planning, 27*(3), 341–347. https://doi.org/10.1016/j.evalprogplan.2004.04.011.

Bienenfeld, D., Klykylo, W., & Knapp, V. (2000). Process and product: development of competency-based measures for psychiatry residency. *Academic Psychiatry, 24*(2), 68–76. https://doi.org/10.1176/appi.ap.24.2.68.

Bloom, B. (1956) *Taxonomy of educational objectives. Vol 1. (or Handbook I).* New York: David McKay Co.

Blumer, M. L. C., Hertlein, K. M., & Vandenbosch, M. L. (2015). Towards the development of educational core competencies for couple and family therapy technology practice. *Contemporary Family Therapy, 37*, 113–121. https://doi.org/10.1111/j.1752-0606.2007.00042.x.

Bodenheimer, T., & Sinsky, C. (2014). From triple to quadruple aim: care of the patient requires care of the provider. *Annals of Family Medicine, 12*(6), 573–576. https://doi.org/10.1370/afm.1713.

Calhoun, J. G., Dollett, L., Sinioris, M. E., Wainio, J. A., Butler, P. W., Griffith, J. R., & Warden, G. L. (2008). Development of an interprofessional competency model for healthcare leadership. *Journal of Healthcare Management/American College of Healthcare Executives, 53*(6), 375–397. https://doi.org/10.1080/13561820.2016.1192588.

Canadian Psychological Association. (2006). Providing psychological services via electronic media: Draft ethical guidelines for psychologists providing psychological services via electronic media . Retrieved at http://www.cpa.ca/aboutcpa/committees/ethics/psychserviceselectronically/.

Centers for Medicare & Medicaid Services. (2013). Coverage of direct service workforce continuing education and training within Medicaid policy and rate setting: a toolkit for state Medicaid agencies. Retrieved from https://www.medicaid.gov/medicaid/ltss/downloads/workforce/dsw-training-rates-toolkit.pdf, p. 12

Coleman, C. A., Hudson, S., & Maine, L. L. (2013). Health literacy practices and educational competencies for health professionals: a consensus study. *Journal of Health Communication, 18*(1), 82–102. https://doi.org/10.1080/10810730.2013.829538.

Council for Accreditation of Counseling and Related Educational Programs, (2015). 2016 CACREP standards. Retrieved from http://www.cacrep.org/wp-content/uploads/2017/07/2016-Standards-with-Glossary-7.2017.pdf

De Villiers, M. R., De Villiers, P. J. T., & Kent, A. P. (2005). The Delphi technique in health science education. *Medical Teaching, 27*, 639–643.

Dombo, E. A., Kays, L., & Weller, K. (2014). Clinical social work practice and technology: personal, practical, regulatory, and ethical considerations for the twenty-first century. *Social Work in Health Care, 53*(9), 900–919. https://doi.org/10.1080/00981389.2014.948585.

Dreyfus, S. E., & Dreyfus, H. L. (1980). *A five-stage model of the mental activities involved in directed skill acquisition.* Washington, DC: Storming Media.

Epstein, R. M., & Hundert, M. (2002). Defining and assessing professional competence. *Journal of the American Medical Association, 287*, 226–235. https://doi.org/10.1001/jama.287.2.226.

Godleski, L., Darkins, A., & Peters, J. (2012). Outcomes of 98,609 U.S. Department of Veterans Affairs patients enrolled in telemental health services, 2006–2010. *Psychiatric Services, 63*(4), 383–385. https://doi.org/10.1176/appi.ps.201100206.

Glueckauf, R. L., Maheu, M. M., Drude, K. P., Nelson, E., Wells, B., Wang, Y., & Gustafson, D. J. (2017). *Professional psychology: research and practice survey of psychologists' telebehavioral health practices: technology use, ethical issues and training needs. Professional Psychology*: Research and Practice In Press.

Gros, D. F., Lancaster C. L, López C. M, & Acierno R. (2016). Treatment satisfaction of home-based telehealth versus in-person delivery of prolonged exposure for combat-related PTSD in veterans. *Journal of Telemedicine And Telecare,* 1758–1109.

Hanley, B., Scott, H., & Priest, H. (2017). The impact of organisational change on professionals working within a Community Mental Health Team (CMHT): a psychodynamic perspective. *Psychoanalytic Psychotherapy, 31*(2), 176–194. https://doi.org/10.1080/02668734.2017.1315338.

Harrison, A. L., & English, L. (2001). Interdisciplinary health assessment of the older individual: a conceptual framework for curricular integration. *Journal of Physical Therapy Education, 15*(2), 17–22.

HCPro. (2008). *Evidence-based competency management system: toolkit for validation and assessment* (2nd ed.). Marblehead, MA: HCPro, Inc..

Hensley, L. G., Smith, S. L., & Thompson, R. W. (2003). Assessing competencies of counselors-in-training: complexities in evaluating personal and professional development. *Counselor Education and Supervision, 42*(3), 219–230. https://doi.org/10.1002/j.1556-6978.2003.tb01813.x.

Hilty, D. M., Ferrer, D. C., Parish, M. B., Johnston, B., Callahan, E. J., & Yellowlees, P. M. (2013). The effectiveness of telemental health: a 2013 review. *Telemedicine Journal and E-Health, 19*(6), 444–454. https://doi.org/10.1089/tmj.2013.0075.

Hilty D. M., Maheu M. M., Drude, K., Hertlein K., Wall, K., Long R., Luoma, T., Ford, D. (2017). Telebehavioral health, telemental health, e-therapy and e-health competencies: the need for an interdisciplinary framework. *Journal for Technology In Behavioral Science,* In Press

Hilty, D. M., Crawford, A., Teshima, J., Chan, S., Sunderji, N., Yellowlees, P. M., Kramer, G., O'Neill, P., Fore, C., Luo, J. S., & Li, S. T. (2015). A framework for telepsychiatric training and e-health: competency-based education, evaluation and implications. *International Review of Psychiatry, 27*(6), 569–592. https://doi.org/10.3109/09540261.2015.1091292.

Hoge, M. A., Morris, J. A., Laraia, M., Pomerantz, A., & Farley, T. (2014). *Core competencies for integrated behavioral health and primary care.* Washington, DC: SAMHSA - HRSA Center for Integrated Health Solutions.

Hoge, M. A., McFaul, M., Calcote, R., & Tallman, B. (Eds.). (2008). The Alaskan crosswalk: exploring competencies and credentialing for the state's direct care workforce: a report of the Credentialing and Quality Standards Subcommittee (CQSS). Anchorage, AK: The Alaskan Mental Health Trust Authority. Retrieved from http://psycnet.apa.org/record/2016-16689-003

Institute of Medicine. (2001). *Crossing the quality chasm: a new health system for the 21st century. Washington, DC: The National Academies Press.* https://doi.org/10.17226/10027.

Institute of Medicine. (2003a). Health professions education summit. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK221516/

Institute of Medicine. (2003b). The core competencies needed for health care professionals. *Health professions education: a bridge to quality.* Washington, DC: The National Academies Press. doi: https://doi.org/10.17226/10681

Interprofessional Education Collaborative Expert Panel. (2011). Core competencies for interprofessional collaborative practice: report of an expert panel. Washington, DC: Interprofessional Education Collaborative.

Johnson, G. (2014). Toward uniform competency standards in telepsychology: a proposed framework for Canadian psychologists. *Canadian Psychology/Psychologie Canadienne 2014, 55*(4), 291–302.

Joint Commission on the Accreditation of Healthcare Organizations. (1998). *Lexicon* (2nd ed.). Oakbrook Terrace, IL: Joint Commission on the Accreditation of Healthcare Organizations.

Joint Commission Resources. (2008) Comprehensive accreditation manual for hospitals: the official handbook. "HR2–HR13." Oakbrook, IL: Joint Commission Resources.

Jones, J., Douglas, M., Rosenberg, A. A., Gilhooly, J. T., & Carraccio, C. L. (2011). Perspective: competencies, outcomes, and controversy—linking professional activities to competencies to improve resident education and practice. *Academic Medicine: Journal of the Association of American Medical Colleges, 86*(2), 161–165. https://doi.org/10.1097/ACM.0b013e31820442e9.

Kaslow, N. J., Grus, C. L., Campbell, L. F., Fouad, N. A., Hatcher, R. L., & Rodolfa, E. R. (2009). Competency assessment toolkit for professional psychology. *Training and Education in Professional Psychology, 3*(4S), S27–S45. https://doi.org/10.1037/a0015833.

Kennedy, P. E., Chyung, S. Y., Winiecki, D. J., & Brinkerhoff, R. O. (2014). Training professionals' usage and understanding of Kirkpatrick's level 3 and level 4 evaluations. *International Journal of Training and Development, 18*(1), 1–21. https://doi.org/10.1111/ijtd.12023.

Kirkpatrick, J., & Kirkpatrick, W. (2009). The Kirkpatrick four levels: a fresh look after 50 years, 1959–2009. Retrieved from http://www.managesmarter.com/managesmarter/images/pdfs/trg_20090417_kirkpatrickw hitepaper.pdf.

Luxton, D., Nelson, E. & Maheu, M. (2016). *Telemental health best practices.* Washington, DC: American Psychological Association.

Maheu, M. M. (2003). The online clinical practice model. *Psychotherapy: Theory, Research, Practice, Training, 40*, 20–32. https://doi.org/10.1037/0033–3204.40.

Maheu, M. M., Pulier, M. L., Wilhelm, F. H., McMenamin, J., & Brown-Connolly, N. (2004). *The mental health professional and the new technologies: a handbook for practice today.* Mahwah, NJ: Erlbaum.

Marrelli, A. F., Tondora, J., & Hoge, M. A. (2005). Strategies for developing competency models. *Administrative Policy and Mental Health, 32*(5–6), 533–561.

Martínez-Rodrigo, J. J., & Martí-Bonmatí, L. (2008). Professional competencies: from conflict to opportunity. *Radiología, 50*(1), 5–10.

Melnyk, B. M., Gallagher-Ford, L., Long, L. E., & Fineout-Overholt, E. (2014). The establishment of evidence-based practice competencies for practicing registered nurses and advanced practice nurses in real-world clinical settings: proficiencies to improve healthcare quality, reliability, patient outcomes, and costs. *Worldviews on Evidence-Based Nursing, 11*(1), 5–15. https://doi.org/10.1111/wvn.12021.

Miller, G. E. (1990). The assessment of clinical skills/competence/performance. *Academic Medicine, 65*(9), S63–S67. https://doi.org/10.1097/00001888–199009000-00045.

Meyer-Adams, N., Potts, M. K., Koob, J. J., Dorsey, C. J., & Rosales, A. M. (2011). How to tackle the shift of educational assessment from learning outcomes to competencies: one program's transition. *Journal of Social Work Education, 47*(3), 489–507.

National Association of Social Workers Standards for Technology and Social Work Practice. (2005). Retrieved from http://www.socialworkers.org/practice/standards/naswtechnologystandards.pdf.

National Association of Social Workers, Association of Social Work Boards, Council on Social Work Education, and Clinical Social Work Association. (2017). Standards for technology in social work practice. Retrieved from https://www.naswpress.org/publications/standards/technology.html.

National Hospice and Palliative Care Organization. (2010). Interdisciplinary team competency grid. Retrieved from https://www.nhpco.org/sites/default/files/public/education/Competency_level_grid_final.pdf

NAADAC. (2016). NAADAC/NCC AP ethical standards. Retrieved from https://www.naadac.org/code-of-ethics.

Nelson, T. S., Chenail, R. J., Alexander, J. F., Crane, D. R., Johnson, S. M., & Schwallie, L. (2007). The development of core competencies for the practice of marriage and family therapy. *Journal of Marital*

and Family Therapy, 33(4), 417–438. https://doi.org/10.1111/j.
1752-0606.2007.00042.x.

Njoroge, W., Williamson, A. A., Mautone, J. A., Robins, P. M., &
Benton, T. D. (2017). Competencies and training guidelines for be-
havioral health providers in pediatric primary care. Child and
Adolescent Psychiatric Clinics of North America, 26(4), 717–731.
https://doi.org/10.1016/j.chc.2017.06.002.

Ohio Psychological Association. (2013). Areas of competence for psy-
chologists in telepsychology. Retrieved from http://www.ohpsych.
org/about/files/2012/03/FINAL_COMPETENCY_DRAFT.pdf.

Philipsen, N. C., Lamm, N. H., & Reier, S. L. (2007). Continuing com-
petency for nursing licensure. The Journal for Nurse Practitioners,
3(1), 41–45. https://doi.org/10.1016/j.nurpra.2006.11.005.

Roberts, N., Hu, T., Axas, N., & Repetti, L. (2017). Child and adolescent
emergency and urgent mental health delivery through telepsychiatry:
12-month prospective study. Telemedicine and e-Health.

Robbins, E., Dilla, B., The Lewin Group, Sedlezky, L., & Sirek, A. J.
(2013). Coverage of direct service workforce continuing training
within medicaid policy and rate setting: a toolkit. University of
Minnesota Research and Training Center on Community Living.

Rodolfa, E. R., Bent, R. J., Eisman, E., Nelson, P. D., Rehm, L., &
Ritchie, P. (2005). A cube model for competency development:
implications for psychology educators and regulators. Professional
Psychology: Research and Practice, 36, 347–354. https://doi.org/
10.1037/0735–7028.36.4.347.

Swank, J. M., Lambie, G. W., & Witta, E. L. (2012). An exploratory
investigation of the counseling competencies scale: a measure of
counseling skills, dispositions, and behaviors. Counselor
Education and Supervision, 51(3), 189–206. https://doi.org/10.
1002/j.1556-6978.2012.00014.x.

Swick, S., Hall, S., & Beresin, E. (2006). Assessing the ACGME com-
petencies in psychiatry training programs. Academic Psychiatry,
30(4), 330–351. https://doi.org/10.1176/appi.ap.30.4.330.

Tilley, D. D. S. (2008). Competency in nursing: a concept analysis.
Journal of Continuing Education in Nursing, 39(2), 58–66. https://
doi.org/10.3928/00220124–20080201-12.

United States Medical Licensing Examination. (2014). USMLE physi-
cian tasks/competencies. Retrieved from http://www.usmle.org/
announcements/?ContentId=137