Training in Telepsychiatry

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Abstract

Telepsychiatry (TP) is an effective, well-received, and a standard way to practice mental health care provision on distance. Both residents and young practitioners

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have significant interest and there is a growing demand for telepsychiatrists. Many are making strides towards addressing some of these needs and gaps in services for patients and trainees around the world. Traditionally, too, there was emphasis placed on knowledge acquisition, and more focus is needed on TP skill competencies for clinicians to practice effectively and achieve good clinical outcomes with their patients. TP competencies have been published and structured at novice or advanced beginner, competent/proficient, and expert levels. Curricula include seminar, rotations, and supervision, with accompanying feedback. Continuing education/medical education events may also help clinicians, programs, agencies, and other institutions. Both residents and young practitioners have significant interest, and there is a growing demand for telepsychiatrist. Many are making strides towards addressing some of these needs and gaps in services for patients around the world, but fewer are focused on competencies related to TP. This chapter will attempt to move forward the emphasis on skills (e.g., interviewing, assessment), attitudes that ensure quality care and knowledge (e. g., appropriate model, legal standards, privacy) by reviewing the history and scope of practice related to TP and other e-mental health (eMH) technologies. Readers will be encouraged to reflect, self-assess, and evaluate strengths and weaknesses, then consider clinical and curricular methods for improving. TP will also be explored on a spectrum of other eMH technologies used for clinical care, for which additional competencies may also be indicated.

Introduction

Cecil Wittson started tele-education and a TP program in the Psychiatric Institute in Nebraska (USA) back in 1959. However, the term "TP" was first used in a report from Massachusetts General Hospital in Boston, MA, USA, in 1973 (Dwyer 1973). The field grew slowly until the 1990s when improved technology paved the way for further growth and development. The primary impetus has the capacity to provide services to rural and underserved communities with further expansion to other underserved populations. Slowly but undoubtedly, TP in form of videoconferencing became a well-documented modality, developed in order to provide psychiatric services from a distance. It allows the patient and clinician to see and hear each other and interact in real-time despite distance. In its sixth decade, TP has increased access to care in urban, suburban, and rural settings – with patient, clinicians, and healthcare systems very satisfied with it for a wide variety of services and cultures (Hilty et al. 2013; Yellowlees et al. 2013; Mucic 2010).

There is now a substantial body of evidence to support the feasibility and effectiveness of TP (Hilty et al. 2013). TP has been shown effective for diagnosis and assessment across many populations (e.g., adult, child, geriatric, and ethnic), for

psychiatric disorders in many settings (e.g., emergency, home health), and been found to be comparable to in-person care. It has been used with a variety of models of care (i.e., collaborative care, asynchronous, mobile, telemonitoring) with equally positive outcomes (Hilty et al. 2013).

There are two models of TP in use nowadays: "real-time" synchronous TP (STP or videoconferencing) and asynchronous TP (ATP, formerly store-and-forward). TP may include direct assessment of a patient; "indirect care" of patients, such as through case consultation and supervision; education for healthcare learners, physicians, and/or interprofessional healthcare providers; and program development (Myers and Turvey 2013; Sargeant et al. 2010; Hilty et al. 2004; Volpe et al. 2013; Shore 2013).

Cross-cultural TP may be defined as delivery of cultural appropriate mental healthcare from a distance, preferably via a patient's respective mother tongue or in a language shared by the doctor and patient (Mucic et al. 2016a). The current refugee crisis within the European Union (EU) challenges mental health care systems throughout. There is a number of research describing difficulties in dealing with cross-cultural patients. An international TP service developed in Denmark is a role model for others in serving underserved cross-cultural patient populations and has been successful by using bilingual clinicians across national borders (Mucic 2009).

TP competencies for clinicians to practice effectively and achieve good clinical outcomes have been identified, outlined, and are beginning to be measured and evaluated (Hilty et al. 2015b). These are described at novice or advanced beginner, competent/proficient, and expert levels. For clinical care, feedback from patients, trainees, and faculty is useful. For continuing education/medical education events, pre- and postassessment and interactive feedback methods are suggested. TP skill competencies can be developed in training programs, seminars for agencies, local/regional/national continuing education/medical education events, and through leading organizations (e.g., American Telemedicine Association). Andragogical methods are suggested for use in clinical care, seminar, and other educational contexts; cross-sectional and longitudinal evaluation employs both quantitative and qualitative measures. Individual clinicians, programs, agencies, and other institutions may need to consider adjusted approaches to patient care, education, faculty development, and funding.

With the availability of increasingly sophisticated technology, TP's applications for education and supervision are continuously growing. In order to develop a successful TP training program, the focus is on increasing clinicians' competencies with patient care. Without formal exposure and education, psychiatrists may be hesitant to adopt TP into their practice, particularly if they view TP as an unfamiliar modality requiring specific technical and clinical skills (Sunderji et al. 2015). As with most other trainees, psychiatry residents are introduced to TP services delivery anecdotally during their clinical rotations, but actual training may lay a foundation that stimulates interest in TP as a mode of practice and provide the confidence and skills necessary to incorporate TP into future practice (Volpe et al. 2013; Glover et al. 2013).

To date, there are clinical guidelines, policies, and other developments across the world, but to our knowledge, this is the first chapter addressing TP training, based on

international research and contextualized experience. The first clinical guidelines were published in the United States, but the American Telemedicine Association is an international organization (Yellowlees et al. 2010). Policies and guidelines for the practice of TP have also been published in Australia (RANZCP 2013), South Africa (Chipps et al. 2012), and Canada (CPA 2013). On the other hand, development of TP in Europe has been much slower, and training programs are very limited or almost nonexistent. To our knowledge, this is the first chapter offering ideas and suggestions related to training in TP in European context, based on international research and European TP-related experiences.

This chapter will attempt to move forward the emphasis on skills in a variety of ways (e.g., interviewing, assessment) while attending to key attitudes that ensure quality care (e.g., appropriate model, legal standards, privacy). The objectives will help the learner to

1. Be aware of the history and scope of practice related to TP and other e-mental health (eMH) technologies
2. Self-assess and evaluate strengths and weaknesses in alignment with pre-competencies, (core) competencies, and advanced TP competencies
3. Consider clinical and curricular methods for TP skill development (e.g., bedside, continuing education/medical education training)
4. Begin to explore other eMH technologies within a broader context of care and consider additional competencies that are indicated

A TP Service, Its Components, and How to Set It Up

But before speaking more about important aspects of training in TP, it may be useful to briefly outline the basics of what a TP service is and how to set one up (Jones et al. 2006; Myers et al. 2008; Mucic and Hilty 2016). Principles for establishing of such a service are in Table 1 (Myers et al. 2008).

Equipment

The main requirements are a room equipped with a computer, a camera, a screen, a microphone, and speakers and a method of conveying the information between the respective TP stations. It is also useful to have a telephone in each TP station so that a contact can be made in the event of rare failure of the video equipment. Occasionally, too, this is used to add in an interpreter if a common language is not available and an interpreter is not available on site.

There are a number of considerations when choosing equipment. In the past, cost was likely to be a limiting factor for many services, but now so many low cost systems are available. Many services use computers with a built-in video camera, videoconferencing software (e.g., Skype Business, Vi-Vu, Lifesize softphone), a

Table 1 Principles for establishing a TP service

1. The need for services and whether TP is an option should be determined
2. The sustainability of the service should be determined
3. The patient population, model of health service delivery, and services to be offered should be determined
4. The required infrastructure should be determined
5. Legal and regulatory issues should be reviewed
6. Management strategies for the service should be established
7. Appropriate equipment and technological specifications should be determined
8. Quality and clinical outcome indicators should be developed
9. Rapport, confidence, and collaboration with staff at the patient site should be fostered
10. Informed consent and assent procedures should be established
11. The physical setting should be arranged and the virtual relationship should be established to produce an optimal clinical encounter
12. Method of conducting the assessment should be determined including who, if anyone, should be present with the patient
13. Procedures for prescribing medications should be established
14. Patients and families should be informed about procedures for care between TP sessions, including procedures for emergency or urgent care

remote control camera, and encryption safeguards. Additional options preferred by professionals are a mobile laptop computer with an external camera and microphone that can go from site to site or home to home. This also enables a healthcare professional to have consultation with a senior colleague. Nowadays, it is most common to use iPad in such situations or even iPhone via "Face-Time" function if it maintains privacy standards.

The model that is most expensive, but in the exchange offers many more options without compromising with the quality, is the use of so called "stand alone" video cameras. These are more expensive, but on the other hand do not require additional use of computers and are more safe and stable. Stand-alone camera shall be connected to the TV screen and to the Internet. Typically, stand-alone video cameras may also be remote controlled. This enables the doctor to move the patient's video camera (e.g., zoom-in and zoom-out in order to observe the body language or check for a tremor) during the consultation. In the EU with refugees and other underserved populations, such opportunities are typically limited with "built-in" video camera.

The mode of conveying the sound and pictures between the TP stations is one of the most important considerations. The main issues are bandwidth, cost, and security. Earlier, and for many decades, it was usual to use a T1 line (i.e., 6 ISDN telephone lines) in order to "transport" the sound and the picture on distance in real-time. Nowadays, internet broadband enables transmission of highest quality for usually very low cost. The "security" issues are to be solved by simple use of encryption when using the computers. However, some professionals prefer the use of "stand alone" model as the risk for security/safety errors is lower compared to the use of computers.

Positioning of Camera Relative to the Screen

It is commonplace for the TP user to naturally look at the image of the person they are communicating with on the screen rather than directly into the camera (i.e., if the camera may be on top of the unit or elsewhere). This can give the impression to the remote viewer that the individual is not making eye contact. This happens even with laptop built-in cameras. In addition, a camera placed below the screen gives the remote viewer the sense that they are being "looked down on." It is common practice for the camera to be placed on top of the screen, and if the users sit a little farther away from the camera (approximately 2–4 m), this reduces the angle between eye, camera, and screen; this improves the impression of eye contact. The camera should be set up to capture a head and shoulders view for most interactions.

A small version of the outgoing video picture in the corner of the clinician's screen ("picture-in-picture") is useful for the clinician to check their own position relative to the camera to make sure that the patient's view of the clinician is good. The picture-in-picture should be turned off on the patient's screen as this may be distracting and can make the patient self-conscious.

The Room and Appearance

The size and layout of the room is very important and influences the user's perception of the system. The room should appear as much as possible like a normal consulting room. It should preferably have windows for natural light, be quiet/soundproofed, and have adequate heating or air conditioning. Above all it should be pleasant to use, as negative attitudes towards TP can develop based on experience of the working environment rather than on the quality of the interaction. This is particularly important for practitioners who spend a good part of the day or nearly full-time TP.

The background should be plain and uncluttered. It is unwise to set up a camera facing either a window or a door. Too much backlight from a window will silhouette the appearance of the individual on camera, and background movement seen through a window or glass pane in a door will be distracting. The color of the background should be neutral although some still suggest blue-colored background, which is considered to allow better viewing of individuals with different complexions.

The clinician's appearance should be professional as usual. This is part of the work routine, which is important – even if practicing from home. Similar to television broadcasts, clothes with solid colors and for gentlemen ties without striking patterns may be best. Overall, telepsychiatrists may "need" to be an additional 15–20% more active and attentive – clinically, administratively, and in overall efforts to connect at a distance (Hilty et al. 2004).

The room should be large enough for at least one to two adults to attend and be included on screen. If more individuals will typically interact with the youth and provider at one time, such as team-based assessments or group therapy, a larger room should be considered. For care with children, for example, the room should allow the child to move around, both for the child's comfort and to allow an appropriate

examination of his/her skill, particularly for younger children whose motor skills and exploratory abilities may be compromised.

Development of a Protocol

As for the general telemental health guidelines, there are no established indications or contraindications for telemental health services with young people, other than the youth or parent refusing services. A brief discussion about the care, use of technology, and a few nuances is part of the informed consent process by the clinician or one of his/her designees. Most programs have written information about the service prior to exposure of the patient to TP, with attention to clinical care, legal, privacy, and other issues. It is key to assure patients that the sessions are not going to be recorded and that the Internet connection is encrypted/safe. Written consent should be obtained, documenting that the patient is voluntarily involved with TP, as well as he/she may stop with TP whenever during the course of treatment.

At the very beginning of the each session, the patient should be introduced to everyone that is at the distant TP station and giving a view of the entire room will reassure them that no one else is observing the interaction. Further, the patient should be told that the microphone is sensitive and the patient does not need to shout. Most community-based settings utilize a presenter (often also the telemedicine coordinator) in the telemental health encounters for both quality care and reimbursement requirements. The provider should determine the scope of the presenter's assistance before the session (with scheduling, paperwork, and socialization to the behavioral health system) and after the session (with implementing recommendations, facilitating referrals, and coordinating with the system of care).

If care is delivered in a traditional clinic setting, the provider shall alert staff to any risks to the youth's safety so that they can be aware of need to assist or notify security or other resources. If care is delivered outside of a traditional clinic setting, such as a school, additional planning may be necessary. On occasion, a presenter may be needed during the session (with technical and clinical support, including taking vital signs and assisting in emergency situations). The provider may decide when to include the presenter in the session. If the presenter remains outside of the room, the provider should determine how he/she will contact the presenter to join the sessions should there be a need for assistance.

Involved clinicians should receive preliminary training in the operation of the equipment. They should be aware of local policy regarding the actions that should be taken in the event of accidental equipment failure. In such case the clinicians should have the option to use the telephone and speak to the patient while the Internet connection is about to be fixed. More detailed aspects of necessary clinician-competencies will be reviewed later in this chapter.

Finally, after the TP session, the clinician dictates the statement that may be electronically transferred to respective authorities and/or the respective clinic where the patient is located/belongs (e.g., general practice, psychiatric department, outpatient clinic, asylum center).

Factors That May Affect Willingness to Learn About TP

There is very little research on training clinicians to optimize patient encounters when utilizing video conferencing. It is important that such training be provided, because maximizing the use of TP requires experience and an appropriate understanding of the unique challenges associated with this technology. It is not simply a matter of doing the same things that one does in a face-to-face session via video conferencing. As already mentioned, the literature on TP training is sparse, heterogeneous, and primarily descriptive. Even brief learning experiences may increase the likelihood that residents will incorporate TP into their future practice (Hilty et al. 2015a). Nevertheless, certain factors were found to be associated with trainees' interest in TP.

The majority of trainees in recent survey were interested in TP and believed clinical exposure is an important aspect of training (Glover et al. 2013). Despite trainees' high interest levels, only 21% reported that didactic exposure was offered and only 18% had direct patient care experiences via TP. In addition, only 29% of trainees planned to use TP upon completion of training. These results suggest that training programs may want to include TP experiences into the curriculum. A majority of trainees with clinical exposure reported that their experience increased their interest. Therefore, increased exposure during training may ultimately increase the number of psychiatrists practicing TP and improve access to care (Glover et al. 2013).

That information led to a broad call for more work in telepsychiatric education (Balon et al. 2015) related to a significant gap identified in the literature (Sunderji et al. 2015). A survey of 46 programs revealed only 21 have a curriculum or informal experience and 12 have only a curriculum (Hoffman and Kane 2015). A key issue, though, is whether our learners – the residents and fellows – and those teaching them have kept up with the growing evidence base of TP. The outcomes, satisfaction, and range of clinical services should be well known, but are they aware that many of these above concerns about TP have been widely discounted?

A survey of 270 participants in psychiatric training programs throughout the USA, including 123 residents and fellows, was completed (Hilty et al. 2015d). This included general psychiatry (54%), child and adolescent (33%), and other fellowships (13%; forensic, geriatric, psychosomatic and substance). In terms of geography, 76% of responders were practicing in an urban setting, 5% practiced in a rural setting, and 19% were from both settings. Residents and fellows reported practicing in urban setting (81%) and 66% were interested or very interested in TP and 10% were very uninterested or uninterested.

Overall the top ten most common concerns and reasons that the participants viewed TP as hard, daunting, and/or difficult to implement were that one cannot perform a physical exam (54%), poor Internet connection is a roadblock to implementing TP (52%), liability risks involved with TP are unknown (47%), certain cultures will be less accepting (39%), nonverbal cues are missed (36%), privacy is an issue (33%), TP is not as effective as to face to face psychiatry (32%), one cannot manage emergencies related to safety with TP (30%), residency is insufficient for

one to become competent in TP (30%), and paranoid patients do not like TP (26%). Other concerns were at a rate of less than 5%. R/F specifically had concerns about: one cannot perform a physical examination 67% (up from 54% overall), poor Internet connection 57% (same), liability risks 52% (higher than 47% overall), certain cultures will be less accepting 52% (much higher than 39%), and paranoid patients using it 42% (much higher than 26%).

The findings of this survey are in three distinct areas. First, interest in TP is high and increases with exposure. Second, education/training is not seen as adequate, but now with TP competencies and methods delineated, programs may subcontract out clinical experiences and perhaps utilize online modules. Third, concerns of R/F, program directors, and faculty appear to relate to the effectiveness of clinical care, including nonverbal cues, managing emergencies, dealing with patients' paranoia and cultural acceptability; the question about doing a physical exam may have been interpreted in too many ways. The exposure/experience increases interest and reduces concerns about effectiveness (e.g., nonverbal cues, engagement).

TP Competencies

Overview

Specific questions in the development of competencies remain unanswered: (1) how do skills required for the practice of TP compare to in-person care? (2) are skills required for TP part of a broader set of e-mental health (eMH) competencies (including use of telephones/e-mail, social media, electronic health records (EHRs), mobile apps, and Internet-based interventions)? and (3) what are the optimal andragogical methods for teaching trainees TP? Therefore, a competency-informed approach is needed to answer these questions and to contend with other barriers to TP implementation.

Competencies have also been organized in medical education at different levels:

- Level 1 – novice (medical student)
- Level 2 – advanced beginner (first-year resident)
- Level 3 – competent (senior resident)
- Level 4 – proficient (graduating resident)
- Level 5 – expert (expert in TP) (Dreyfus and Dreyfus 1980)

For the TP competencies published (Table 2; Hilty et al. 2015b), this was simplified to three levels and this stratification fits better across disciplines and learner levels:

- Novice or advanced beginner (e.g., advanced medical student, early resident, or other trainees)
- Competent/proficient (e.g., advanced resident, graduating resident, faculty, attending, or interdisciplinary team member)
- Expert (e.g., advanced faculty, attending, or interdisciplinary team member)

Table 2 An ACGME framework for social media/networking competencies for psychiatric assessment and treatment

Area/topic	Guiding questions	Novice/advanced beginner (ACGME milestone level 1–2)	Competent/proficient (ACGME milestone level 3–4)
Patient care			
History-taking	Does informed consent change? What is the best way to screen for what technologies used?	Document if patient is using SM/N and for what reasons Standard history, with questions such as: • Are you using SM/N and for what? • Are you using SM/N for healthcare?	Reflect on the pros/cons of the use of SM/N versus other technologies, discuss options within treatment (if applicable), and include in informed consent Screen more systematically with questions such as: • Which SM/N do you use: Facebook, Google+, LinkedIn, Twitter, Tumblr, Instagram, and Pinterest? • Do you use SM/N more or less than other technologies (e-mail/text, apps)? • Do you use SM/N for healthcare? • Do you use SM/N to share/discuss mental health (MH) issues in a forum where you expect others to respond? • Are you aware of risks (e.g., privacy, self-disclosure, cyber-bullying)?
Engagement and interpersonal skills	How do we engage them and support their initiative? How do we help the patients reflect, self-assess on the pros/cons of SM/N? How does SM/N affect the therapeutic relationship?	Discuss impact of SM/N use with others if it arises Incorporate SM/N impact on personal and professional life into care	Ask preferences with SM/N and how it has influenced relationships with family, peers, and professional colleagues How is SM/N versus in-person or other technologies for communicating with others? Help patient reflect on link between SM/N use and MH Consider how SM/N affects processes of intimacy, emotion, and perception; (how) does it affect boundaries (see Professionalism)?

Mental status (MS) examination	What can use of SM/N tell us about MS at one point in time or longitudinally?	Use SM/N as a parameter of the MS	Compare MS via SM/N to in-person Contact patient with technology or in-person care to check MS? Assess what MS can and cannot be realistically assessed with SM/N
Assessment	How do we include SM/N in our overall assessment? Is SM/N being used healthily or does it predict problems (i.e., personality) or overuse (e.g., impulsivity)?	Assess if SM/N use is a relevant issue in personal life and/or healthcare Assess if SM/N "should" be used by a patient and in what manner	Assess SM/N's role in personal life and healthcare: healthy and/or unhealthy? Consider the need for collateral info from in-person care or others Include SM/N components into in-person evaluation Demonstrate flexibility and decide with the patient the role of SM/N in patient's needs and preferences
Management and treatment planning	What treatment model(s) is(are) best and/or conducive with SM/N? In what ways might SM/N affect the therapeutic alliance? Are there patient-clinician differences in use, fluency, and communication?	Integrate SM/N into biopsychosocial (BPS) approach Monitor ongoing SM/N use Identify and document memorable and problematic events as they occur If reasonable, focus part of a visit on the use of SM/N and other technologies to talk in-depth	Integrate SM/N into the BPS outline with depth Focus the use of SM/N on one treatment goal to monitor and engage Blend SM/N as a topic in with regular clinical discussions and consider if it affects the therapeutic alliance and/or facilitates reflection between visits Identify safety and risk factors of using SM/N Consider pros/cons of giving advice via SM/N re-medication issues Triage complex, urgent/emergent issues to in-person care
Patient and family education	Do patients understand the pros/cons of SM/N use, options, and privacy matters? What is "appropriate" on SM/N and what is not?	Understand reliable/healthy and unreliable/unhealthy SM/N options Value of using SM/N in healthcare and when to use it	Recommend how to use SM/N in healthcare (e.g., tips on how to do so, if/when to post emotional/mental issues, and what should be posted and what should not) Offer "good" choices for SM/N use in personal life and healthcare

Table 2 (continued)

Area/topic	Guiding questions	Novice/advanced beginner (ACGME milestone level 1–2)	Competent/proficient (ACGME milestone level 3–4)
Administration and documentation	Is SM/N in policies/ procedures? What are the clinic, health system, and professional standards related to asynchronous technology? Are there business, financial, and legal angles to SM/N?	Adhere to clinic, health system, and professional requirements for in-person care for documentation and consider amendments for SM/N and other technologies use Seek supervision/advice for non-routine events, if needed	Adhere to policies/procedures and adapt "best practices" in administration for both in-person and SM/N care Develop standard language for consent form, ongoing care and sentinel events on the pros/cons of SM/N use, inclusion in treatment plan and management of sentinel events Consider development of policies/procedures for SM/N and other non-routine telepractice; seek advice in advance to document longitudinally Consider/attend to business and financial issues
Medico-legal issues[CM]: privacy, confidentiality, safety, data protection/integrity, and security	How do we maintain privacy and security of data for all parties? Is it appropriate to search public information on others, and if so, when? See Professionalism	Identify and adhere to relevant laws and regulations in the jurisdiction(s) of practice and of that of the patient Clarify if SM/N site is public, private, or within EHR Is aware that others search for information about him/her	Apply in-person relevant laws and regulations in any/all jurisdiction(s) to SM/N, and if necessary, adjust clinical care Educate patient about SM/N and adapt existing laws if none exist for SM/N and other telepractice Obtain clinical and/or legal advice, as applicable Adjusts content and settings of professional (and personal) information available on public sites
Interpersonal and communication skills[MS-IPSC]			
Communication	What do we communicate, how, and when? What are the best ways to be clear using asynchronous methods in order to avoid/prevent miscommunication?	Be flexible in discussing SM/N use, attempts at communication with provider and understand it Discuss problems if they arise with asynchronous options and arrange alternative options Seek advice on merit and method of responses, if any, to patient's communication	Discuss scope of communication with SM/N use, clarify expectations, and anticipate problems Educate patient about pros/cons of asynchronous options: scope, timing, and agreed upon plan(s) Make brief, clear SM/N communications to acknowledge, clarify, and/or triage to in-person care Clarify potential ambiguous (i.e., multiple) meanings of statements/behaviors

Evaluation and feedback	*How do we adjust and/or add to regular methods (e.g., faculty, 360 degree, patient survey)?*	Use evaluation parameter(s) as a starting point for decision-making and care Review examples with learner/supervisor	Adjust regular evaluation parameter(s) to incorporate real-time examples Co-review of in situ examples of communication with patients with learner/supervisor
Cultural, diversity, and social determinants of health	*How do these affect asynchronous methods?* *What is the impact of:* *• Technology fluency?* *• Idioms, "shorthand" expressions, and acronyms?* *• Generational differences?*	Show interest and flexibility in discussing diversity and technology issues Be aware of how social determinants affect in-person care and apply this information to use of SM/N	Ask about the impact of culture and diversity on preferences related to SM/N and other technology use Promote reflection, discussion, and awareness of how social determinants affect interest in, use of, and experience with technology Ask about immigrant/assimilation, generational and other cultural factors that impact family
Language issues	*How does this affect asynchronous communication?*	Identify communication issues that may affect in-person care and these methods	Anticipate issues, make adjustments, and manage language impact on in-person and asynchronous technology
Special populations	*Are there differences, and if so, what are they for SM/N?*	Notices positive and negative trends in patient populations (e.g., generation Y or Z, autism spectrum)	Proactively **read**, more assertively **screen**, and **routinely engage** about SM/N use or preference for intensive use (e.g., adolescent, veteran with posttraumatic stress disorder Be aware of trends across asynchronous technologies (e.g., e-mail/text, apps)
Professionalism MS-P			
Attitude	*Are we open to including technology, specifically SM/N, in practice?* *How does patient use of SM/N affect the provider's impressions of patient?*	Flexible and open to learning about patient's use of SM/N Demonstrate capacity for self-reflection Consider all sources of information in sizing up patient, including technology	Understand, educate, and participate on how SM/N impacts care: communication, relationship building, and spontaneity Role model willingness to engage, if appropriate safeguards are in place

(continued)

Table 2 (continued)

Area/topic	Guiding questions	Novice/advanced beginner (ACGME milestone level 1–2)	Competent/proficient (ACGME milestone level 3–4)
Integrity and ethical behavior	What are the pros/cons of interacting with patients via SM/N? How is the therapeutic relationship (e.g., engagement, boundaries) be affected by SM/N?	Maintain integrity by adhering to professional and governmental guidelines Recognize boundary issues with SM/N communication and searching sites Attend to privacy, confidentiality, and professional boundaries associated with SM/N use	Uses clinical judgment and ethical principles to consider the pros/cons of searching for patient information (i.e., does so for emergent situations, but not just out of curiosity). Encourage reflection about personal versus professional contexts and potential micro- and macro-boundary violations Recognize that personal information (e.g., SM/N, property ownership, political activism) is accessible and regularly monitors and adjusts personal and professional corridors of information
Scope and therapeutic objective(s)	How does SM/N use change (expand) the scope of practice? What use of SM/N is appropriate to include and not include?	Attend to in-person scope issues and observe for how SM/N may alter Keep focus on shared primary objective of care	Practice within scope(s) Provide education/feedback to patient on scope issues Trouble-shoot problems Offer services with components like SM/N included (or not), as licensed, avoid fraudulent statements/practices and market within regulations (e.g., Federal Trade Commission substantiation rule)
Systems-based practice			
Interprofessional[MS-IPSC,CM] education (IPE) and team work	What are the educational needs of the team, its members, and/or the system? If we work as a team, who does what?	Learn about SM/N and other technologies, participate in defined role, and share information with others	Discuss SM/N issues for patients with other team members to enhance care and communication Work within the team and outline who takes initiative with SM/N (e.g., a care coordinator monitors a Facebook site)

Care models	What, if any, technology is used in what model and how? Can SM/N be embedded into the EHR?	If SM/N is part of the treatment plan, incorporate data into care	Give input to administration on (in)efficiencies and opportunities. What part, if any, of the "therapeutic hour" is allocated for staff to attend to SM/N, e-mail/text, and other technologies as part of care?
Safety (see Patient Care and Professionalism)	How does SM/N interface with safety? How do we ensure patients reach out appropriately for emergencies? How do we reduce errors?	Educate patient to call and/or set up additional appointment for emergencies. Seek advice/consultation, when needed	Prevent, identify, and risk stratify potential problems based on past history in order to proactively not include SM/N from treatment plan. Educate patient to use in-person or synchronous (e.g., video, telephone) communication for emergencies. If SM/N is part of the treatment plan, develop regular plan to check sites
Practice-based learning[MS-PrBLI]			
Evaluation approach	In addition to in-person standards, what additions are needed for SM/N? How can structure and process be enhanced?	Learn from/participate in global evaluations from interdisciplinary team about in-person and technology-based care	Be aware that in-person, SM/N, and other technology-based care have similarities and differences; customize approach. Develop/promote attitudes and skills for consistency, quality/specificity, and stability of evaluation
Quality improvement (QI)	What in-person (and new) standards need to be monitored? What methods of assessment/review inform participants?	Participate in chart review, case/M&M conference, and other activities related to in-person and technology-based care	Apply/adapt in-person QI principles to SM/N in order to adjust assessment and/or care. Educate participants on technology-specific principles and measures
Learning, feedback, and teaching practices	How do evidence-based guidelines (if any) and QI inform clinical, curricula, rotation, supervisory, and continuing education options?	Add technology-based learning opportunities to regular activities	Continue lifelong learning via seminars, cases, and system discussions. Seek out technology-specific education. Develop additional technology-specific education short- and/or long-term

(*continued*)

Table 2 (continued)

Area/topic	Guiding questions	Novice/advanced beginner (ACGME milestone level 1–2)	Competent/proficient (ACGME milestone level 3–4)
Technology			
Adapt to technology	What skill(s) are needed for SM/N? What "little" things can be helpful/add value when using SM/N (e.g., smiley face)?	Use basic etiquette Identify differences between in-person, TP, and SM/N care Clarify/spell out brief communications Keep SM/N contact proportioned to treatment plan	Acknowledge and/or engage the patient after his/her initiation; initiate (e.g., benign post) if clinically indicated (e.g., for a depressed patient) Expect and plan for differences between participants Prevent, identify, and manage barriers, obstacles, and miscommunications Clarify expectations in-person rather than asynchronously Adjust how to "project" self and express empathy
Technology operation[CM]	What technology knowledge, skill, and experience is needed?	Pilot 1 or 2 SM/N sites with peers to learn communication options	Gain experience with multiple sites and technologies (e.g., Facebook, Google+, LinkedIn, Twitter, Tumblr, Instagram, and Pinterest) Navigate options, if needed, and advise patients
Knowledge	**Guiding questions**	**Novice/ advanced beginner**	**Competent/Proficient**
Definition of SM/N	What do providers need to know about the definitions and forms of SM/N?	Recall definition of SM/N Name 2 or 3 SM/N platforms with pros/cons	Describe SM/N definitions and various applications, uses, and risks/benefits to patients Professionally familiar with 2–3 SM/N platforms, in addition to personal use Knows standard principles and apply them to different settings Serve as resource for others
Evidence-base	What evidence is there that SM/N use is helpful or harmful to patient care and professional identity?	Know basic "do's or don'ts" of SM/N for clinical care, as adapted from in-person care	Knows the data, concepts, and principles of SM/N protocol from national evidence-based guidelines (if any) and summative/advisory statements

Problem-solving and prevention	What capability is needed to prevent problems, solve them, and triage issues?	Recognize and report problems Perform basic diagnostic work Explain how to use product	Evaluate new products/options Assess performance issues of current systems or products Assess user requirements and determine best match for patients and other participants with technology options Diagnose complex problems and/or resolve non-routine problems that affect team Serve as a resource to others Knows where/when to request technical assistance
Patient care	What are the approach, procedures, therapeutic relationship, treatment plan, and other foundational principles?	Ability to answer questions, discuss and adjust SM/N in comparison to in-person care, including consent, privacy, data protection/integrity and security, safety, and documentation	Ability to answer questions/teach, discuss/clarify, and adjust/develop options for SM/N in comparison to in-person care in additional areas of scope of practice, communication, culture and diversity, ethics, and care models
Risks of using SM/N	Is the provider aware of HIPPA and clinical/therapeutic risks of SM/N use by providers and patients?	Identify 1 potential patient risk of SM/N use (i.e., privacy violation) Identify 1 potential provider risk of SM/N use (i.e., boundary or privacy violation)	Identify 2–3 potential patient risks of SM/N use and advise how to prevent, mitigate, or eliminate them (e.g., use privacy settings; avoid self-disclosure; manage cyber-bullying) Identify 2–3 potential provider risks of SM/N use and prevent, mitigate, or eliminate them (e.g., use privacy settings)

Abbreviations: *TP* Telepsychiatry, *SM/N* Social media/Networking, *PA* Psychiatric apps, *e-BH* e-Mental health, *CM* based on submission for CanMEDS TP competencies, *MS* US milestones; consistent with non-TP, regular competencies of the Accreditation Council of Graduate Medical Education (ACGME), *PC* patient care, *K* medical knowledge, *PrBLI* practice based learning and improvement, *SBP* systems based practice, *P* professionalism, and *IPSC* interpersonal skills and communication, *Example is MS-PC* milestones patient care, *PE* physical examination

While competencies are the consensus for moving forward with education, there are different ways to organize them. At the level of medical students, the American Association of Medical Colleges (AAMC) outcomes are evidence-based, including the domains of medical knowledge, patient care skills and attitudes, interpersonal and communication skills and attitudes, ethical judgment, professionalism, lifelong learning and experience-based improvement, and community and systems-based practice (American Association of Medical Colleges 2015).

Perhaps the best approaches TP competencies for all clinicians and those in training is the milestone approach from the Accreditation Council on Graduate Medical Education (ACGME 2013) and the evidence-based CanMEDS framework (Royal College of Physicians and Surgeons of Canada 2005). The ACGME specifies patient care, medical knowledge, practice-based learning and improvement, systems- based practice, professionalism, and interpersonal skills and communication domains. The CanMEDS framework describes the knowledge, skills, and abilities that specialist physicians need for better patient outcomes, based on the seven roles that all physicians play: medical expert, communicator, collaborator, manager, health advocate, scholar, and professional.

The most important area described in the TP competencies is patient care. It is divided into two parts: (1) clinical – history, interviewing, assessment, and treatment and (2) administrative-based issues related to care – documentation, electronic health record (EHR), medico-legal, billing, and privacy/confidentiality. Systems-based practice includes outreach, interprofessional education (IPE), providers at the medicine-psychiatric interface, geography, models of care, and safety. Attitude, integrity, ethics, scope of practice, and cultural and diversity issues were grouped within professionalism. An additional domain, technology, was added to include some behavioral, communication, and operational aspects. Communication, knowledge, and practice-based learning are included for completeness, although many skills in this domain are similar to skills needed for in-person care.

Expert TP Competencies and Additional Considerations

Expert-level competencies for TP have been distilled into three main areas: (1) TP-specific complexity, (2) clinical, reasoning, and other patient-based skill issues (whether in-person or TP care), and (3) complexity based on system-based practice. Examples illustrate the complexity of integrating regular assessment, adapting to a setting, and working by TP:

- Completion of a Mini-Mental Status Examination (MMSE) (Folstein et al. 1975) by TP. This involves efforts to preserve the MMSE testing integrity and ensure optimal communication, and other clinical reasoning is used to determine whether, for the sake of convenience with TP, a substitute item can be used without altering test integrity.
- A child/adolescent patient evaluation includes the patient and parent, sibs, and teacher who may telephone in. This requires extra time management, toys on-site, the sequencing participation, and technology combinations.

- For an evaluation of a Latino teenager, a parent and a pediatrician may be needed in a rural setting. This involves management of language (e.g., teenager fluent in English and a parent who needs an interpreter), cultural, and primary care/pediatrician needs. Ideally, a culturally competent bilingual clinician would be available if the patient has limited language proficiency.

Training programs should consider incorporation of a brief TP experience to fulfill both trainees' interest and the growing demand for psychiatrists. Such training should address competencies that are (1) technical, (2) collaborative/interprofessional, and (3) administrative (Sunderji et al. 2015).

The above description shows that settings in which TP is used partly shift participants' roles and the competency goals. A key dimension is the primary care provider (PCP) specialist relationship, that is, developing trust, a working relationship, and availability of the specialist by telephone, pager, or e-mail (Hilty et al. 2004, 2006, 2015c). Collaboration at a distance requires a systems perspective, with heightened awareness of the available resources and attention to using them efficiently. The needs and abilities of referring and other providers in distant communities need to be clarified, rather than making assumptions; joint negotiation of the type of assistance is useful. Timely, precise, relevant, and useful documentation is especially important when TP is the predominant means of interacting with distal providers. Careful listening is needed to recognize team formation and dynamics at a distance.

A variety of models have been used. For in-person work, a consultation care model to primary care provides patient education, case-based PCP education, and technical assistance to aid the PCPs' prescribing medication (Katon et al. 1995). A randomized trial of disease management for depression by TP was successful (Hilty et al. 2007). The collaborative care model uses a long-term approach to build relationships with PCPs through continuing education and medication co-management (Katon et al. 1995); trials for PTSD and depression by TP have also been successful (Fortney et al. 2013, 2015).

Integrated care models are increasingly being adopted (Gilbody et al. 2006; Kates et al. 2011; Archer et al. 2012; Fortney et al. 2013; Woltmann et al. 2012), and competencies have been spelled out for residents and the psychiatric consultant for communication, training/supervision, collaboration, and leadership (Cowley et al. 2014; Hoge et al. 2014; Ratzliff et al. 2015). In addition, greater attention is suggested regarding roles in care coordination, system navigation, longitudinal training/mentoring, balancing the "leadership" and "equal team partner" roles, and providing mental health care outside of health care settings (e.g., residential settings and community agencies) (Sunderji et al. 2015).

Teaching and Assessment Methods for TP Competencies

TP competencies add complexity to regular teaching plans and for curricular program directors, training directors, and staff. A combination of methods is suggested to address the many factors involved, with adjustments to facilitate skill development over time (Table 3). These methods may be used in curricula, continuing

Table 3 Teaching and assessment methods for telepsychiatric (tp) education in relationship to competencies

Teaching/method	Context	Competencies addressed	Learner assessment methods
Didactic teaching			
Brief didactic	Classroom or clinical setting in person, by TP, or web-based	Patient care, systems-based practice, primarily at the pre-competency and competency levels of knowledge about technology	Written tests: multiple-choice questions, short-answer questions
Grand rounds or longer didactic	Classroom in person, by TP, or webinar	To provide overview of research, trends, and relevance of TP; correct misconceptions To engage/interest learners in further educational opportunities Provides content knowledge but less effective for developing attitudes and skills	
Case-based learning			
Brief vignettes	Individual learning (in-person or web-based) or in small groups	Patient care, system-based practice, Technology – knowledge for all levels of competency, depending on the complexity of the case Deepens content knowledge and begins to apply and generalize knowledge to real-life examples In-depth cases are a good way to scaffold pre-competency to competency level	Case-based written tests: multiple-choice questions, short-answer questions
Complex, multi-step cases		Good for developing treatment/management plans Effective for highlighting key competencies that may not clearly emerge in live clinical consults due to time and foci	

Patient interviews			
Observing faculty	Live in TP suite; by distance; or previously recorded	Patient care, communication, technology – primarily at the pre-competency level Useful for pre-competency level introduction Can also be used to demonstrate more complex skills (e.g., coordinating a physical exam at a distance)	Reflection journal
Group observed or co-interviewing	Group all in TP suite; learners take turns with assessment; group and supervisor feedback Can use separate room or 2-way mirror	Patient care, communication, professionalism, technology – primarily at the pre-competency and competency levels Systems-based practice – primarily pre-competency level Good context to adapt to technology Can focus on engagement, interpersonal, and communication skills Allows for group/discussion and reflection so can be used to explicitly address elements of professionalism; and also to reflect on cultural and social factors Builds consensus on pros and cons of TP	Mini-CEX (Clinical Evaluation Exercise) completed by faculty on each learner and direct verbal feedback
Observed	Supervisor observes in-time live or via distance	Patient care, communication, systems-based practice, professionalism, technology – all competency levels Good across range of competencies Particularly good for all skills related to patient care Exposure to multiple cases ensures learning to work with various populations Supervisor may identify challenges with communication and professionalism Obtain patient feedback as part of the 360 degree evaluation, if possible with interdisciplinary team	Mini-CEX completed by faculty and direct verbal feedback Review of completed report

Table 3 (continued)

Teaching/method	Context	Competencies addressed	Learner assessment methods
Independent with review and/or distance supervision	Learner conducts interview on own with later review of video or case presentation	Patient care, communication, systems-based practice, professionalism, technology – primarily competency to advanced competency levels Good to practice and solidify competencies once achieved under observation Development and review of management plans Independence/autonomy can aid development of roles of manager, collaborator, and administrator – necessary for establishing own practice patterns	Mini-CEX (if video is viewed) or case-based discussions (CbD) Review of completed report
Simulation – with video or standardized patients	Use of standardized patients or pre-taped video clips	Patient care, communication, systems-based practice – primarily competency to advanced competency levels Ability to watch/reflect on own performance and style Ideal for more advanced skills that require start-stop and in-action reflection and feedback (e.g., administering tools; challenges with safety/risk; practicing use of interpreter; trouble-shooting communication problems)	Feedback in real time OSCE
Research and quality improvement			
Case write-ups Literature reviews Quality improvement projects	By trainee with mentorship. Can be for individual feedback or submission for conference presentation or publication	Systems-based practice, practice-based learning – all levels of competency Synthesis of complex cases Awareness of policy-oriented factors or areas of more advanced knowledge gaps Good introduction to administration and use of evaluation and outcome metrics Systems-level thinking and health planning and resource allocation	Written or verbal discussion and feedback Feedback through peer-review process

Role as educator – learning through providing education using TP

Program consultations via TP	Learner observes/participates/leads with distal primary care teams (e.g., review cases)	Systems-based practice, practice-based learning – pre-competency level for observation, other levels for direct participation Learning to consult to interprofessional teams across distance Systems-based practice skills Collaborative care models	Reflection journal for observation Mini-CEX for direct participation in consultation Feedback solicited from distal primary care team
Provide didactic sessions via TP	Learner observes/participates/leads with distal primary care teams	Systems-based practice, practice-based learning – pre-competency level for observation, other levels for direct participation Learning to work with an interprofessional team Adapting communication to multiple people For more advanced skills, such as enhancing capacity and competencies in distance staff (e.g., teaching to use technology, or assessment tools, or in physical exam)	Reflection journal for observation Evaluation forms completed by distal participants Mini-CEX adapted for provision of teaching
Group and interprofessional learning (e.g., journal club)	Live or via web/social media	Systems-based practice, practice-based learning – pre-competency level for observation, other levels for direct participation Can enhance interprofessional and collaborative skills Build professionalism skills Can establish community of practice and outreach relationships	Evaluation forms completed by distal participants Mini-CEX adapted for provision of teaching

education/medical education programs and in other contexts. Some mainstream program evaluation methods can also be used in (Tekian et al. 2015).

Assessment

There is no shortcut for observation, feedback, and evaluation in measuring the progressive acquisition of skills. The evaluation process includes adopting standardized measures, use of measures with specificity, timely, accurate and brief completion, and collection of data prospectively rather than retrospectively (Hilty et al. 2014). Kirkpatrick stresses that evaluation should include four different levels: (1) reaction, (2) learning, (3) behavior, and (4) results (Kirkpatrick and Kirkpatrick 2009). Level one evaluation assesses a participant's reactions to setting, materials, and learning activities, ensuring learning and subsequent application of program content (Rouse 2011), and can be captured through satisfaction ratings. Level two of evaluation involves determining the extent to which learning has occurred, often employing performance testing, simulations, case studies, plays, and knowledge exercises (e.g., pre- and posttest). Level three attempts to determine the extent to which new skills and knowledge have been applied "on the job," such as in the healthcare setting. Level four of evaluation involves measuring system-wide or organizational impact of training.

Assessment of TP clinical outcomes can inform program evaluation, particularly at Kirkpatrick's levels 3 and 4 (Shore et al. 2013; Hilty et al. 2014).

As is obvious, these evaluations have moved beyond general satisfaction – to the issues of feasibility, validity, reliability, cost/economics, and clinical outcomes. In addition, effectiveness is favored above efficacy-only approaches (Hilty et al. 2013). Learners' skills can be gauged through these program and systems-level variables, and simultaneously, learning to incorporate quality assurance and evaluation as an important TP competency.

TP Education via Relationship Building by eMH (e.g., TP Consultation to Primary Care)

TP is part of a much broader e-health and eMH movement. Since traditional in-person care may be costly, unavailable to many, and insufficient alone, many patients and caregivers are seeking e-health information and eMH services from non-traditional sources. The Internet provides all of us education, resources, social connections, and other meaningful activities – even for those with obstacles (e.g., geographic distance, physical immobility or agoraphobia) and generational preferences (i.e., teenagers who prefer technology-based communication) (Hilty et al. 2015a, e).

With regard to primary care, three levels of intervention are possible:

- *Low-intensity* patient services include materials for psychoeducation, with tips for self-assessment (e.g., diabetes, depression, and self-help and support groups).
- *Mid-intensity* options are informal online provider consultation, formal education programs, and asynchronous communication with providers (Odor et al. 2011).
- *High-intensity* options are TP, Internet-based cognitive-behavioral therapy (ICBT) or in-person MH services with professionals (Celio et al. 2000; Clarke et al. 2005; Andersson et al. 2006; Christensen et al. 2006; Ritterband and Thorndike 2006; Ljotsson et al. 2007; Mucic et al. 2016a).

Institutional Learning and Progress

This level of intervention requires a look at leadership, change management, and other factors. The main current barriers to TP are human factors related to providers, healthcare leaders, and other decision-makers. There are five categories of technology adopters: innovators (2.5%), early adopters (13.5%), early majority (34%), late majority (34%), and laggards (16%). Innovators and early adopters are more likely to make a leap of faith and thereby believe in a new technology or innovative process. This contrasts with the early majority, which has to be convinced by evidence that an innovation works well before they will use it (Nadler et al. 1999; Luo et al. 2006). Leaders in TP clinical care and education should consider how ready repetitive stakeholders are, in terms of adopting specific clinical, educational, and administrative aspects related to TP.

As a result, there are two approaches needed to implement TP widely within any health system. First, leaders need to acknowledge the generational leadership change that is starting to occur in healthcare providers, with younger providers being early adopters who should be included in leadership roles in these programs as clinical champions. The increasing body of evidence on the effectiveness of TP may be used to convince others of the necessity of TP adoption to move from theory to practice. Institutional competencies for TP may include: Patient-centered Care; Measurable Outcomes; Trainee/Student Needs/Roles; Faculty Clinical and Teaching Roles; Faculty Leadership Skills; Institutions and Institutions Within; Finance, Organizational Structure, and Funding; Change Management; and academic health center–community partnerships (Hilty et al. 2015b). From a technological perspective, there are relatively few barriers to the implementation of TP programs between clinics and health systems or to patients' homes in the community. Such a platform could also facilitate e-curricula and TP training for programs, departments, and institutions, under a broader distance education approach.

A number of federal resources in the USA could be adapted to assist with telemedicine adoption, including telemental health with youth. This includes the Office for the Advancement of Telehealth (OAT)-funded Telehealth Resource

Centers (TRCs). The TRCs span all states and provide assistance, education, and information to organizations and individuals who are providing, or interested in providing, healthcare at a distance. The TRCs also provide resources related to program development and evaluation, operations, reimbursement, legal and regulatory questions, marketing, training, and other concerns. The Center for Connected Health Policy (http://www.cchpca.org/) specifically addresses telehealth policy for the 50 states. The Substance Abuse and Mental Health Services Administration (SAMHSA)-HRSA Center for Integrated Health Solutions also has telebehavioral health training resources (https://www.samhsa.gov/).

Discussion

TP competencies related to skills, attitudes, and knowledge, which are stratified across levels, might help trainees, faculty, and other interdisciplinary clinicians across the world. Behaviors that reflect core competencies help with measurement and evaluation. An approach is needed to select, align, and contextualize teaching and assessment methods to achieve the desired outcomes. Development and use of competencies is an ongoing process, though (Harden et al. 1999; Holmboe et al. 2010). The first steps involve discussion, needs assessment, implementation, and evaluation from champions across administrative levels (Capobianco and Schultz 2007). Such TP competencies may help us to better meet access to care, trainees' interests, and support patients' rapid uptake of technology for care. Advanced competencies are suggested, but need further review and analysis. Faculty development for teaching, supervision, and evaluation is also needed (Litzelman et al. 1998; Skeff et al. 2007; McLean et al. 2008; Srinivasan et al. 2011).

The institutional context is critical to the uptake of technology-mediated healthcare. Stakeholders have to be convinced that technology significantly contributes to patient care and population health in order to gain buy-in. If only one group champions the value of TP, adaptation of new competencies is unlikely (Fairchild et al. 2004). Leaders adapting to changes related to eMH care may need to consider a change management plan to streamline clinical service delivery (Armstrong et al. 2004; Hatem et al. 2006) and consider building/upgrading an integrated e-platform. Such a course considers current and emerging infrastructure like wireless options. Start-up, ongoing, and context-specific funding is crucial and the use of TP could leverage clinical resources (i.e., specialists, interpreters, social workers) and offset costs.

Conclusion

TP is effective and it is moving into mainstream medical education due to its clinical relevance, many additional technologies that are shaping clinical care and increased interest from the current generation of psychiatry residents. Indeed, since TP is only part of a larger spectrum of clinical care based on how technology is now being used

(the eMH care spectrum), competencies will grow in importance. TP competencies for trainees and clinicians grounded in healthcare, business, and andragogy will help learner objectives align with patient-based evaluation. Cross-sectional and longitudinal evaluation of nearly all participants is needed iteratively to improve the process. Exposure to TP care in training and opportunities for clinicians to train at the bedside or in interactive continuing education/medical education programs may yield a greater impact. Outcome, learner, and program evaluation that drives the training – rather than is tacked on to it – is needed.

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