Telepsychiatry

Effective, Evidence-Based, and at a Tipping Point in Health Care Delivery?

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KEYWORDS

- Telepsychiatry • Telemedicine • Models • Integrated and stepped care
- Effectiveness

KEY POINTS

- Telepsychiatry is effective compared with in-person care for adults and many populations, disorders, and settings.
- Telepsychiatry adds versatility to clinical practice and new models of care, if applied judiciously and incrementally.
- Good telepsychiatric care depends on time-tested principles of good patient-doctor engagement, the therapeutic relationship, communication, bio-psycho-socio-cultural treatment, and integrated care.
- Participants in care, particularly patients, feel empowered through technology and inform us of virtual care options for the future.

INTRODUCTION

Telepsychiatry is at a "tipping point" and, after more than 50 years of slow clinical implementation around the world, is finally being widely introduced. This article helps the reader to (1) learn and be able to apply the evidence base on telepsychiatry to

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clinical practice; (2) adjust or change current systems of care as they implement telepsychiatry (eg, how to use technology, get paid, and adhere to legal issues), and (3) compare telepsychiatric models of care to in-person care for different ages, disorders, and bio-psycho-socio-cultural treatment modalities. The article uses a clinical vignette to illustrate the objectives.

HOW CAN THE EVIDENCE BASE FOR TELEPSYCHIATRY TO CLINICAL PRACTICE BE APPLIED?

Patient-centered health care confronts us with a question about how to deliver quality, affordable, and timely care in a variety of settings,[1] without stigma and with sensitivity to culture and diversity.[2,3] Technology and empowerment have been linked for some time,[4] and patients have been very satisfied with telemental health (TMH) care. Systems are trying to increase clinical operating efficiency by integrating care and providing care at multiple points of service[5] and use it to leverage interdisciplinary team members' clinical, administrative, and other care coordination expertise.[6] The World Health Organization, too, is surveying telemedicine opportunities and developments in member states.[7]

Evaluation of telepsychiatry TMH has gone through 3 phases.[3] First, TMH was found to be effective in terms of increasing access to care, acceptance, and good educational outcomes.[3] Second, it was noted to be valid and reliable compared with in-person services.[8] In addition to comparison (or as good as) studies, telepsychiatric outcomes are not inferior to in-person care (ie, noninferiority studies).[9] Third, frameworks are being used to approach complex themes like costs and models.[8,10,11]

Most clinicians, administrators, and other leaders want to ensure good care, do it ethically, and be remunerated. Time-tested quality care in psychiatry is mostly attributed to the patient-doctor engagement, the therapeutic relationship, shared decision-making, the role of stories and narratives, and biopsychosocial treatment.[12] As for technology as an innovation, folks accept "innovation represents a potential efficacy in solving a perceived need or problem."[13] Systems of care and their leaders are moving fast now with traditional video/synchronous telepsychiatry (STP), novel (eg, asynchronous or asynchronous telepsychiatry [ATP], social media), and emerging (eg, Web- and mobile/wireless-based) models.

Clinical Vignette

Identification Info

A 14-year-old Latino American boy was struggling in school, in social situations, and at home. Parents attributed this to "ADD." He had a 9-year-old sister, a 7-year-old brother, and a 3-year-old brother. They lived in small rural community of 12,000 with a small K-12 school, one private and one public health clinic juxtaposed, and one adult mental health (MH) therapist (social worker for adults).

History of Present Illness and Referral

The boy was born in Mexico, and his father and mother immigrated 10 and 6 years earlier, respectively. A public health nurse with 25 years of experience supported the physician ordering the consultation, because the pediatrician was not sure how to proceed. "It seems like attention deficit hyperactivity disorder (ADHD), but I am not sure as there may be some depression, too," according to the brief consultation request faxed to the academic center 100 miles away. The concerning events had been focused in these 2 areas: (1) inattention, poor follow-up on homework, being seen as "hyperactive" in class, and (2) "moody," "angry," and making comments like "I might as well be dead."

Consultation and Technology

The telemedicine consultation used a unit with transmission speeds at 384 kilobits per second (KBPS) and far-end camera control for the provider of an academic health center. Payment for the visit was only through Medicaid/Medicare, which did not cover the true costs.

Evaluation

A 90-minute telepsychiatric consultation was completed by a general telepsychiatrist; child psychiatrists were not available. The interview was in stages: the child, mother, and 2 older siblings; the child; the mother; and all parties. Findings included some mood change (probably depression), no imminent suicidal ideation, disruptive behavior linked to teen-father issues (discipline, absence of the father for truck-driving work), and some decent relationships with peers; no clear use of substances or conduct disordered behavior.

TELEPSYCHIATRY IS EFFECTIVE

For specifics of evaluating outcomes, there are 3 main resources in the literature. The first resource is the American Telemedicine Association (ATA) TMH expert consensus that produced a lexicon for outcomes in the following areas: patient satisfaction (ie, access, distance to service, use of), provider satisfaction, process of care (eg, no-shows, coordination, completion of treatment), communication (eg, rapport), reliability/validity (eg, assessment, treatment vs in-person), specific disorder measures (eg, symptoms), cost (ie, length of service, travel, hardware and software), and other administrative factors (eg, facility management, team staffing).[10] Second, another resource looks in-depth at clinical, cost, program evaluation, and other areas of TMH care—the focus is on how to prioritize, make decisions, and implement program change based on iterative feedback.[11] Finally, a review on effectiveness systematically describes patient outcomes, models of care, and how to adjust TMH to different populations and settings.[3]

Clinical Outcome Evidence

More information is available over the last decade to compare TMH services with in-person care (**Table 1**). Telemedicine simulates real-time experiences in terms of audio and video quality at 384+ KBPS. Comparison and noninferiority studies show TMH is as good as in-person care in terms of diagnosis and treatment.[9] Reports include less length of hospitalization,[14,15] more medication use,[14,16] symptom reduction of disorders,[14,16] and therapy judged as evidence-based for posttraumatic stress disorder (PTSD).[17,18]

Child telepsychiatry research is now beyond feasibility, acceptability, and good initial outcomes.[19] For some populations (eg, autism spectrum patients), it might be better than in-person care (**Table 2**).[20] ADHD is being treated as synchronous and asynchronous collaborative care partly using Web-based data systems.[21]

Geriatric data are emerging, but more studies are needed in medicine and TMH.[22] Obstacles include access to service, functional challenges, primary care provider (PCP) attitudes, and lack of psychiatrists,[23] and perhaps what could be called a lack of nursing home "ownership" by any one provider to formalize a clinical approach. Nursing home TMH studies have been effective in terms of informal measures, mainly focusing on depression or dementia, with evaluation more facile and more efficient use of consultant time; some would have gotten no service otherwise.[24] Assessment, cognitive intervention, and outcomes have been similar to in-person and a new

Table 1
Summary of clinical/outcome studies by population age, disorder, or culture

Study	N	Patients	KBPS/Frames	Location	Comments
Geriatric					
Lyketsos et al, 2001	NAP	Geriatric outpatients	NS	USA	Video reduced "unneeded" hospitalizations
Poon et al, 2005	22	Geriatric dementia patients	1.5 Mb	China	Significant, comparable cognitive improvement in video and in-person; high satisfaction; feasible assessment, intervention, and outcomes
Rabinowitz et al, 2010	106	Nursing home residents	384	USA	Reduced travel time, fuel costs, physician travel time, personnel costs
Weiner et al, 2011	85	Adult and geriatric dementia patients	NS	USA	Feasible alternative to face-to-face care in patients with cognitive disorders who live in remote areas
Adult					
Graham et al, 1996	39	Adult outpatients	768	USA	Video reduced "unneeded" hospitalizations
Zaylor et al, 1999	49	Adult depressed or schizoaffective outpatients	128	USA	Video equals in-person in GAF scores at 6-mo follow-up
Hunkeler et al, 2000	302	Adult primary care outpatients	NS	USA	Video by nurses improved depressive symptoms, functioning, and had high satisfaction vs in-person
Ruskin et al, 2004	119	Adult veterans	384	USA	Depression outcomes video and in-person equal as were adherence, satisfaction, cost
Manfredi et al, 2005	15	Adult inmates	384	USA	Feasibility from an urban university to rural jail; less need for inmate transport
Sorvaniemi et al, 2005	60	Adult emergency patients	384	Finland	Minor technical problems occurred Assessment and satisfaction fine
Modai et al, 2006	24/15	Adult outpatients	NS	Israel	Video > in-person cost per service and more hospitalization cost (less available per usual care)

Urness et al, 2006	39	Adult outpatients	384	Canada	Video < in-person for encouragement; improved outcomes for both
O'Reilly et al, 2007	495	Adult outpatients	384	Canada	Video equal to in-person in outcomes Satisfaction: 10% less expensive per video
Yellowlees et al, 2011	60	Nonemergency adult patients	NAP	USA	First ATP to demonstrate feasibility
All ages					
De Las Cuevas et al, 2006	130	All ages: outpatients	384–768	Spain	Video equals in-person, including those in remote areas with limited resources
Depression					
Ruskin et al, 2004	119	Adult veterans	384	USA	Video equals in-person for adherence, patient satisfaction, and cost
Fortney et al, 2007	177	Adult outpatients	NS	USA	Video can help adapt collaborative care model in small primary care clinics and symptoms improved more rapidly in intervention group vs usual care group
Moreno et al, 2012	167	Adult patients	NS	USA	Video may close gap in access to culturally and linguistically congruent specialists; improves depression severity, functional ability, and quality of life
Fortney et al, 2013	364	Adult patients	NS	USA	Video collaborative care group > reductions in severity than usual care
Titov et al, 2011	37	Adult patients	384+/Internet	USA	Depression reduction at 3-mo follow-up after 8 weekly CBT sessions
Johnston et al, 2013	129	Adult patients	384+/Internet	USA	Both sole diagnosis and those with comorbid disorders had significant symptom reduction by CBT
Posttraumatic stress disorder or panic disorder					
Bouchard et al, 2004	21	Adults, panic disorder	384/NS	Canada	Video 81% of patients panic-free posttreatment and 91% at 6-mo follow-up via CBT

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Table 1
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Study	N	Patients	KBPS/Frames	Location	Comments
Frueh et al, 2007	38	Adult male veterans, PTSD	384/NS	USA	Video equals in-person in clinical outcomes and satisfaction at 3 mo follow-up Video < comfort vs in-person in talking with therapist posttreatment and had worse treatment adherence
Morland et al, 2010	125	Adult male veterans, PTSD	384/NS	USA	Video CBGT for PTSD-related anger is feasible for rural/remote veterans, with reduced anger
Germain et al, 2009	48	Adult patients, PTSD	NS	Canada	Video equals in-person in reducing PTSD over 16–25 wk
Hedman et al, 2014	570	Adult patients	384+	Sweden	Video CBT over 6 wk significantly improved symptoms
Fortney et al, 2015	296	Adult patients in VA community clinics, PTSD	384+	USA	Cognitive processing therapy for the treatment group > usual care group over 12-mo follow-up
Substance abuse					
Frueh et al, 2005	14	Adult male outpatients	384/NS	USA	Video had good attendance, comparable attrition, and high satisfaction
Developmental disability					
Szeftel et al, 2012	45	Adolescents	NS	USA	Video led to changed Axis I psychiatric diagnosis (excluding developmental disorders) 70%, and changed medication 82% of patients initially, 41% at 1 y and 46% at 3 y Video helped PCPs with recommendations for developmental disabilities

Hispanic					
Moreno et al, 2012	167	Adult patients	NS	USA	Video lessens depression severity and raises functional ability and quality of life; improves access to culturally and linguistically congruent specialists
Chong et al, 2012	167	Adult patients	NS	USA	Video acceptable to low-income depressed Hispanic patients, but its feasibility is questionable
Yellowlees et al, 2013	127	English- and Spanish-speaking patients	NS	USA	ATP equal for English- and Spanish-speaking patients
American Indian					
Shore et al, 2008	53	Male adult patients	NS	USA	Video equals in-person assessment, interaction, and satisfaction; comfort level high and culturally accepted
European					
Mucic, 2010	61	Adult outpatients	2 Mbit (Denmark) 10 Mbit (Sweden)	Denmark	Video improved access, reduced waiting time, and reduced travel to see bilingual psychiatrists; high satisfaction Video preferred via "mother tongue" rather than interpreter-assisted care
Asian					
Ye et al, 2012	19	Adult outpatients	NS	USA	Primary language facilitates expression of feelings, emotional discomfort, or social stressors
Sign language					
Lopez et al, 2004	1	Adult woman, deaf since birth	NS	USA	Video communication fine with American Sign Language interpreter and psychiatric symptoms improved

Abbreviations: GAF, global assessment of function; NAP, not applicable.
Data from Refs.[2,14–18,21,24,65,118–142]

Table 2
Summary of clinical outcome studies for child and adolescent telemental health (not inclusive of satisfaction-only studies)

Citation	Design	Sample	Assessment	Findings
Blackmon et al, 1997	Descriptive	43 children, parents	Routine clinical	All children and 98% of parents report satisfaction equal to in-person care
Elford et al, 2000	RCT	25 children, various diagnoses	Diagnostic interviews	96% concordance between video and in-person evaluations; no difference in satisfaction
Elford et al, 2001	Descriptive	23 children	Routine clinical	Diagnosis and treatment recommendation: equal to usual, in-person care
Glueckauf et al, 2002	Modified RCT Pre vs post	22 adolescents 36 parents	Issue-specific measures of family problems Teen functioning (Social Skills Rating System) Working Alliance Inventory Adherence to appointments	Improvement for problem severity and frequency in all conditions. Therapeutic alliance high; teens rated alliance lower for video
Nelson et al, 2003	RCT	28 children depression	Diagnostic interview and scale	Video = in-person for improvement of depressive symptoms in response to therapy
Myers et al, 2004	Comparative	159 youth (age 3–18)	Comparison of patients evaluated through TMH vs in-person in clinic	Video basically similar to in-person outpatients demographically, clinically, and by reimbursement Video > "adverse case mix"
Greenberg, 2006	Descriptive	NS children 35 PCPs and 12 caregivers	Not specified Focus groups with PCPs, interviews with caregivers	PCP and caregiver satisfied with video; frustrated with limitations of local supports Family caretakers and service providers frustrated with limitations of the video
Myers et al, 2006	Descriptive	115 incarcerated youth (age 14–18)	11-item satisfaction survey	80% successfully prescribed medications and expressed confidence in the psychiatrist by video Youth expressed concerns about privacy

Myers et al, 2007	Descriptive	172 patients (age 2–21) and 387 visits	11-item provider/PCP satisfaction survey	Video to patients at 4 PCP sites: high satisfaction with services; pediatricians > family physicians
Bensink et al, 2008	Descriptive	8 youth Pediatric cancer	Feasibility and satisfaction ratings	Video (by phone) used to families with a child diagnosed with cancer: technically feasible and high parental satisfaction
Clawson et al, 2008	Descriptive	15 youth (age 8 mo to 10 y)	VC feasibility with pediatric feeding disorders	Video feasible and resulted in cost-savings
Fox, 2008	Pre-/post	190 youth in juvenile detention	Goal Attainment Scale	Improvement in the rate of attainment of goals associated with family relations and personality/behavior
Morgan et al, 2008	RCT	27 parents, child age $\leq$25 mo	Video vs telephone for children with congenital heart disease, anxiety ratings	Video > phone for reducing parent anxiety enabling significantly greater clinical information than phone
Myers et al, 2008	Descriptive	172 patients, parental satisfaction	12-item Parent Satisfaction Survey	Parents with school-aged children endorsed higher satisfaction than those with adolescents Adherence high for return appointments
Shaikh et al, 2008	Pre-/post	99 youth (age: 1–17)	Diagnostic assessment, weight measurement	Video consultations resulted in substantial changes/additions to diagnoses; subset with repeated consultations led to improved health behaviors (eg, weight maintenance or loss)
Wilkinson et al, 2008	RCT	16 youth (age not reported)	Children with cystic fibrosis, assessment of quality of life, anxiety, depression, service utilization	Video = in-person for quality of life, anxiety levels, depression levels, admissions to hospital or clinic attendances, general practitioner calls, or intravenous antibiotic use between the 2 groups

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Table 2
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Citation	Design	Sample	Assessment	Findings
Witmans et al, 2008	Descriptive	89 children sleep disorders	Sleep diary Childhood Sleep Habits Questionnaire Pediatric QOL Questionnaire Client Satisfaction Quest	Patients were very satisfied with the delivery of multidisciplinary pediatric sleep medicine services over video
Yellowlees, 2008	Pre-/post	41 children in rural primary care	CBCL	At 3-mo, improvements in the Affect and Oppositional Domains of the CBCL
Pakyurek et al, 2010	Descriptive	12 children, autism spectrum in primary care	Routine clinical	Video might actually be superior to in-person for consultation
Myers et al, 2010	Descriptive	701 patients, 190 PCPs	Collection of patient demographics, diagnoses, and utilization of services	Video feasible; psychiatrists adjust practice from in-person well
Lau et al, 2011	Descriptive and advanced assessment	45 children/adolescent	Patient characteristics, reason for consultation, and treatment recommendations	Video reaches a variety of children, with consultants providing diagnostic clarification and modifying treatment
Mulgrew et al, 2011	Descriptive	25 children pediatric obesity	Consulting providers' listening skills and ease of instruction to patients Comfort level of parents in discussing health concerns	Video = in-person for parent satisfaction between consultations for weight management
Stain, 2011	Descriptive and RCT	11 adolescents/young adults	Diagnostic Interview for Psychosis–Diagnostic Module	Strong correlation of assessments done in-person vs video
Storch et al, 2011	RCT	31 children and teenagers	Routine clinical and measures 1. ADIS-IV-C/P 2. Clinician-admin. CY-BOCS 3. Clinical Global Impressions Scales (CGI) 4. Others: obsessive, anxiety, depression inventory	Video was superior to in-person on all primary outcome measures, higher % meeting remission. Consultants providing diagnostic clarification and modifying treatment
Himle et al, 2012	RCT	20 children, Tourette disorder or chronic motor tic disorder	Routine clinical assessment with Yale Global Tic Severity Scale; Parent Tic Questionnaire (Clinician Global Severity & Improvement Scales; CGI-S and CGI-I)	Both treatment delivery modalities resulted in significant tic reduction with no between group differences

Jacob et al, 2012	Descriptive	15 children (age 4–18; mean 9.73)	Routine clinical 12-item Parent Satisfaction Survey	Patient satisfaction high and PCPs found recommendations helpful; outcomes pending on follow-up
Nelson et al, 2012	Service utilization chart review	22 children	Routine clinical	No factor inherent to the video delivery mechanism impeded adherence to national ADHD guidelines
Reese et al, 2012	Pre-/post	8 children; Asian	Routine clinical ADHD	Families reported improved child behavior and decreased parent distress via video format of Group Triple P Positive Parenting Program
Szeftel et al, 2012	Descriptive Chart review	45 patients; 31 $\leq$ 18 y old	Routine clinical-medication changes, frequency of patient appointments, diagnostic changes, symptom severity and improvement	Video led to changed Axis I psychiatric diagnosis (excluding developmental disorders) 70%, and changed medication 82% of patients initially, 41% at 1 y and 46% at 3 y Video helped PCPs with recommendations for developmental disabilities
Heitzman-Powell et al, 2013	Pre-/post	NS youth 7 parents	OASIS training program Problem Behavior Recording Incidental Teaching Checklist	Parents increased their knowledge and self-reported implementation of behavioral strategies
Xie et al, 2013	RCT	22 children behavioral disorder	Routine clinical Parent Child Relationship Questionnaire, Vanderbilt Assessment Scales, CGAS, CGIS	Parent training through video was as effective as in-person training and was well accepted by parents
Reese et al, 2013	Descriptive and RCT	21 children; 90% Caucasian	Autism Diagnostic Observation Schedule (ADOS), Module 1 Autism Diagnostic Interview–Revised (ADI-R) Parent satisfaction	No difference in reliability of diagnostic accuracy, ADOS observations, ratings for ADI-R parent report of symptoms, and parent satisfaction

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Citation	Design	Sample	Assessment	Findings
Davis et al, 2013	Descriptive	58 youth pediatric obesity	Body mass index 24-h dietary recall ActiGraph - physical activity duration and intensity CBCL Behavioral Pediatrics Feeding Assessment Scale	Both groups showed improvements in body mass index, nutrition, and physical activity, and the groups did not differ significantly on primary outcomes
Freeman et al, 2013	Descriptive	71 youth, diabetes adherence	Baseline metabolic control Conflict Behavior Questionnaire Diabetes Responsibility and Family Conflict Scale–Parent and Youth Working Alliance Inventory	No differences were found in therapeutic alliance between the groups
Hommel et al, 2013	Descriptive	9 youth, irritable bowel disease, adherence	Pill count Pediatric Ulcerative Colitis Activity Index Partial Harvey-Bradshaw Index Feasibility Acceptability Questionnaire	Video improved adherence and cost-savings across patients
Lipana et al, 2013	Descriptive	243 youth, pediatric obesity	Review of medical records	Video > in-person in enhancing nutrition, increasing activity, and decreasing screen time
Rockhill et al, 2013	RCT	223 children with ADHD $\pm$ ODD $\pm$ Anxiety	Caregiver distress assessed with Patient Health Questionnaire-9, Parenting Stress Index, Caregiver Strain Questionnaire, Family Empowerment Scale	Parents of children with ADHD and a comorbid disorder had significantly more distress than those with ADHD alone

Comer et al, 2014	Pre-/post	5 children (age 4–8)	Behavioral intervention with child, facilitated by parent; OCD rating scale by parent	Child OCD symptoms and diagnoses declined; child global functioning improved
Myers et al, 2015	RCT	223 children with ADHD ± ODD ± anxiety	CBCL screening, DISC-IV diagnostic assessment, ADHD rating scales (inattention, hyperactivity, combined, ODD, role performance) and Columbia Impairment Scale	Caregivers reported significantly greater improvement for inattention, hyperactivity, combined ADHD, ODD, role performance for video vs those treated in primary care Teachers reported significantly greater improvement in ODD and role performance for video group, too
Tse et al, 2015	RCT subsample	37 caregivers of children with ADHD ± ODD ± anxiety	CaBT delivered via CBCL screening, DISC-IV diagnostic assessment, ADHD rating scales (inattention, hyperactivity, combined, ODD, role performance) and Columbia Impairment Scale	Caregivers reported comparable improvements for children's outcomes whether CaBT video = in person; no improvement in caregivers' distress when CaBT provided through video
Rockhill et al, in press	Descriptive; telepsychiatrists in RCT	223 children with ADHD ± ODD ± anxiety, the telepsychiatrists, and PCPs	Telepsychiatrists' adherence to guidelines-based care, ADHD outcomes by prescriber based on comorbidity status	Telepsychiatrists adhered to guideline-based care, used higher medication doses than PCPs, and their patients reached target of 50% reduction in ADHD symptoms more often than with PCPs

Note: CaBT acronym is not standard, but created to avoid first glance confusion with cognitive behavioral therapy.

Abbreviations: ADIS-IV-C/P, Anxiety Disorders Interview Schedule-IV-Child/Parent Version; CaBT, caregiver behavioral training; CY-BOCS, Children's Yale-Brown Obsessive-Compulsive Scale; DISC, diagnostic interview schedule for children; NS, not specified; OCD, obsessive compulsive disorder; ODD, oppositional defiant disorder; QOL, quality of life; VC, videoconferencing.

Data from Refs.[20,21,62,114,137,143–179]

development is telemonitoring of depression in the home, which facilitates connectedness.[25]

Telepsychiatry has been studied in culturally diverse populations.[3,8,11] The culturally diverse populations include Hispanics/Latinos, Asians, Native American, Eastern Europeans, and other populations (eg, sign language). Language is a key factor, and a common practice is to use interpreters on-site, but sometimes relatives or untrained interpreters miscommunicate medical complaints[26] or de-emphasize information.[27] Ironically, telephone translation may be best when the perceived ethnicity of an interpreter (eg, Asian American) does not match the language spoken (eg, Spanish). Nurses, too, do a little better with concrete medical complaints than capturing the narrative or cultural metaphors.[28]

Special settings and populations also include involuntary, inpatient, and incarcerated—and those in emergency rooms—and adjustments may be needed to ensure quality of care, informed consent, and privacy. Preliminary guidelines for emergency telepsychiatry need to be evaluated[3,29] and a survey describing services of different programs.[30]

Cost and economic outcomes depend on the program and the measures used per a framework,[3] sites/settings (eg, rural),[31] service (eg, ATP as cost-effective),[32] or all of the above.[10] There are different types of cost analyses: cost-offset; cost-minimization; cost-effectiveness; and cost-benefit analysis. Cost studies have differences in data sought, its collection, and how it is analyzed. Savings may be shown versus in-person with high consultation rates, break-even, or other thresholds used (eg, number of consultations per year), or when patient's travel, time, and food are included.

Application to the Clinical Vignette

1. Starting with the correct diagnosis enables specific treatment (first, a selection of psychotherapy instead of medications; second, if medication is needed, an antidepressant rather than a stimulant). In one study, specialists changed the diagnosis and medications in 91% and 57% of cases, respectively, which led to clinical improvements in 56% of cases.[33]
2. Furthermore, provider knowledge and skills improve over time,[34] particularly in rural PCPs,[35] so the impact is directly to the patient seen and indirectly to the population that the PCP serves.
3. Culturally sensitive treatment helps with patient engagement and outcomes, presumably.
4. Finally, a child and adolescent–trained therapist aligns better with teenage patients.

Psychotherapy Evidence Base

The evidence base for therapy by TMH is growing. Initial studies focused on satisfaction, working alliance between the patient-provider, and communication changes,[3,36] and it seemed that no significant problems were arising once the technology bandwidth had increased.[3] Studies in adults generally involve patients with depression and anxiety—often military populations with PTSD—and these studies show comparative efficacy of TMH to in-person services (**Table 3**). Incidentally, a preliminary study on therapeutic alliance and attrition among participants receiving anger management group therapy showed that no significant differences, except a lower alliance with the telegroup leader than those in the in-person condition.[37] The core issues are the impact of technology, patient education, exploring the virtual connection,[38] and adjusting some behaviors (eg, handing a tissue box, sighing, pat on the shoulder, handshake) to verbal statements conveying the same thing (eg, empathy).[36]

Table 3
Summary of clinical outcome studies for telemental health versus in-person psychotherapy (not including satisfaction-only studies)

Study	N	Sample	Intervention	Findings
Bastien et al, 2004	21	Adults, panic disorder	CBT for PD delivered via TMH compared with in-person	Significant reduction in PD symptoms and increase in the number of PD-free patients at follow-up; equivalent to in-person
Grady & Melcer, 2005	81	Active duty/retired personnel and adult family members	Retrospective review of TMH care compared with in-person	Improved patient adherence for both, but better follow-up adherence with TMH
Cluver et al, 2005	9	Adults, terminally ill cancer, adjustment disorder or depression	Psychotherapy alternated between in-person and TMH	Therapy delivery mode made no difference in patient reports; TMH feasible
Frueh et al, 2007	38	Adults, combat related PTSD	CBT for PTSD delivered via TMH compared with in-person	No significant differences in clinical outcomes for TMH vs in-person
Morgan et al, 2008	186	Adult male inmates	Therapy for mood disorder and psychosis via TMH compared with in-person	No significant differences in inmates' satisfaction, postsession mood, or work alliance with the MH professional
Ertelt et al, 2008	128	Adults, DSM-IV criteria for BN or eating disorder	CBT delivered for BN via TMH compared with in-person	Acceptable to participants and equivalent in outcome to therapy delivered in-person
Germain et al, 2009	48	Adults, PTSD	CBT delivered via TMH compared with in-person	Significant decline in symptoms in both groups; effectiveness same
Germain et al, 2010	46	Adults, PTSD	Therapeutic alliance via TMH compared with in-person	Equivalent in both groups on Working Alliance Inventory, Videoconference Telepresence Scale, and other measures
King et al, 2009	37	Adults, opioid-agonist treatment	Addiction counseling delivered via TMH compared with in-person	No significant difference between assistance in both groups

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Study	N	Sample	Intervention	Findings
Marrone et al, 2009	116	adults, BN	CBT delivered for BN via TMH compared with in-person	Reduction in binge eating at week 6 TMH and week 8 for in-person
Tuerk et al, 2010	47	Adult veterans, PTSD	Prolonged exposure therapy via TMH compared with in-person comparison group	Statistically significant decreases in self-reported pathology for veterans TMH > in-person
Morland et al, 2010	125	Adult male veterans, PTSD	CBT for anger management via TMH compared with in-person	TMH viable; does not compromise a therapist's ability to effectively structure & manage patient care
Gros et al, 2011	89	Veterans, PTSD	Exposure therapy for trauma via telemedicine compared with in-person	Findings support the utility of TMH services to provide effective, evidence-based psychotherapies
Yuen et al, 2013	24	Adults, social anxiety disorder	12 sessions of weekly CBT for generalized social anxiety via TMH	Significant improvements in social anxiety, depression, disability, quality of life, and experiential avoidance
King et al, 2014	85	Adults, substance use	Addiction counseling delivered via TMH compared with in-person	Similar rates of counseling attendance and drug-positive urinalysis results
Khatri et al, 2014	18	Adults, depression and anxiety	CBT for depression anxiety via TMH compared with in-person	Pre-/postintervention scores for depression comparable in-person vs TMH
Fortney et al, 2015	133	Veterans, PTSD	Collaborative care, therapy, psychiatry via TMH compared with in-person	Significant decrease in PTSD symptoms TMH > in-person at 6 and 12 mo. Participation in cognitive processing therapy predicted improvement

Abbreviations: BN, bulimia nervosa; CBT, cognitive behavioral therapy; PD, panic disorder.
Data from Refs.[17,18,39–41,70,134,180–189]

Indeed, TMH sometimes is better,[39–41] which is similar to one child pilot study.[20] Guidelines for therapy by videoconferencing have been explored,[42] as have systematic reviews[43] and broadly defined e-therapy.[44]

HOW CAN CURRENT SYSTEMS OF CARE BE CHANGED AND TELEPSYCHIATRY (EG, USE TECHNOLOGY, GET PAID, AND ADHERE TO REGULATORY ISSUES) BE SUCCESSFULLY IMPLEMENTED?

Overview

The ATA adult guidelines[8] review scope, clinical applications, and clinical/administrative/technical procedures for practice. Assessments (ie, obtaining a history, mental status examination), treatments (eg, psychotherapy), and other factors such as cultural competency are described. Specific groups of patients, difficult settings (eg, emergency department TMH), and ethical considerations are reviewed. The American Association of Child and Adolescent Psychiatry has distributed a "Practice Parameter for Telepsychiatry with Children and Adolescents"[45] and Minimal Standards that focus on specific dimensions (eg, patient appropriateness, sites, therapeutic space, technology, how to select a model of care, and risk management).

Organizational Leadership and Program Evaluation

Organizational leadership and program evaluation have become increasingly important to meet program, patient, provider, and externally driven (eg, Joint Commission)[46] needs; it is key to preserve the standard of care and use best practices. Assessment typically includes satisfaction, technology, cost, clinical measures, and process of care with an iterative feedback loop for quality improvement. Financial feasibility is assessed based on technical cost, patient volume, appointment adherence, payment model (eg, pay for time whether show or not), patient mix in terms of complexity, payer or payers mix, and other issues. Studies are now being conducted using economic modeling,[47,48] clinical encounter costing and data sets,[49] health care reform,[50] health care costs with changes in health risks among employers of all sizes,[51] and prototypes of existing health systems (eg, Veterans Affairs).[52]

Technology

The key issue for many providers is determining whether to pick a telemedicine group or technology-only support system. Full commercial models hire clinicians and provide patient contracts, hardware, software, technical support, and business support (more costly). Business support provides the secure Web site with software and the clinician/group does the rest; security of the system is the central factor in this arrangement (less costly). The terms of service and level of equipment vary widely. A reasonable analogy for this is the difference between an in-person private, solo practice versus a group practice with organizational infrastructure. Generally, the more aspects of the TMH that providers feel comfortable managing, the less support they will need. Unanticipated events are now very infrequent, but planning ahead for disruption in connection is advisable (range from reboot, to phone alternative, to other).

The ATA Videoconferencing Guidelines[8] review organizations' technical responsibilities to ensure the equipment readiness, safety, effectiveness, security of data, connectivity, and compliance with legal/regulatory guidelines. Policies and procedures are recommended for a wide range of functions, including informed consent, privacy, clinical care, staff roles, evaluation/quality improvement, and education/training.

Credentialing, Licensing, and Malpractice

Centers for Medicare & Medicaid Services (CMS) regulatory requirements include a mechanism for hospitals and critical access hospitals to use proxy credentialing, whose responsibility it is (eg, distance site), and written agreement requirements (eg, code series 42 CFR. (Code of Federal Regulations) 48X). Sometimes, privileging is required at the distant-site hospital providing the telemedicine services, and that has its own requirements. Finally, an organization must attend to telehealth standards, clinical guidelines, and other Joint Commission specifications on credentialing and privileging, environment of care, patient rights, confidentiality and privacy, training, and preparation. Other issues vary per location and population, like licensing (usually in the state where the patient is), definition of "in-person," informed consent, and scope of practice. Risk management issues related to telepsychiatry have been explored.[53]

Reimbursement

A review of reimbursement in the United States notes that private payers have administrative rules regarding telehealth reimbursement that are barriers to services and reimbursement, and that some providers would benefit from being better informed about billing and coding for telehealth services and how to advocate for telehealth services reimbursement.[54] Key factors are the sites involved (eg, critical access hospital; federally qualified health center; rural health clinic), current procedural terminology (CPT) coding (usually same as in-person unless a rural site designation specifier is used), and ensuring an eligible practitioner (ie, medical doctor, nurse practitioner, social worker; registered nurse).

Application to the Clinical Vignette

1. Technology support for care is from technology-only support to "wrap-around" support (including hiring, business, and other dimensions).
2. Clinicians must fully understand the legal and regulatory aspects of in-person care, learn the new specification for emerging technologies, and apply knowledge to unforeseen situations that may arise in clinical care (eg, patient's use of text or e-mail to signal life-threatening behavior).
3. Federal, state, private company, and other specifications are crucial to review to provide care and bill legally.
4. For clinic populations with indigent, high proportions of patients with minimal reimbursement by the payers, accommodations for remuneration are critical to enlist providers (eg, balancing a payer mix, contracts with rural hospital networks to reimburse providers whether time is used or not).

MODELS OF CARE: THE E-CONTINUUM TOWARD INTEGRATED AND STEPPED CARE FOR DIFFERENT POPULATIONS, DISORDERS, AND TREATMENTS

Models of Care: How to Select Them and Impact on Evaluation

A summary of TMH models of care reviewed the pros and cons of each model.[3,7,55]

Low intensity

- Case review of diagnosis and follow-up after a discussion[56]
- Telepsychiatric consultation to primary care help to align PCPs' diagnosis or diagnoses and medication treatments,[33] with an indirect benefit over time of improving PCPs' knowledge and skills[34,35]
- In-person, telephone, or e-mail doctor-to-doctor "curbside" consultations may arise during patient care in day-to-day practice[57] and meet approximately 33%

of informational PCPs' needs "in-time."[58] Both telephone and face-to-face contacts occur; the former are purposeful and timely, and the latter are random and prone to delays. More recently, e-mail consultations that do not include patient evaluations are valuable, inexpensive, brief, and more readily available,[59] including a multispecialty phone and e-mail consultation system to PCPs for the care of adults and children with developmental disabilities.[60]
- Cultural consultation to rural primary care using telemedicine[61]

Moderate intensity

- An integrated program of mental health screening, therapy on site, telepsychiatric consultation (phone, e-mail, or video), continuing medical education, and staff training on screening questionnaires has improved patient outcomes and site-based staff skills.[62]
- A randomized controlled trial (RCT) for depression in adults using disease management and telepsychiatric consultation versus usual care over a period of 12 months improved the care of both groups; the latter group benefited from the Hawthorne effect and providers' application of skills from the intervention group.[63]
- ATP is feasible, valid, reliable, and cost-effective in English- and Spanish-speaking patients in primary care.[2,32,61] (Similar methods are used in radiology, dermatology, ophthalmology, cardiology, and pathology.) One ATP model uses a basic questionnaire for screening by the provider of the patient, video capture of that interview, and uploading of patient histories for a remote psychiatrist to review in a HIPAA-adherent manner.[64]

High intensity

- Collaborative care, which has now been more formally applied to telemedicine,[9,16,65] has encouraging results. The virtual collaborative care team was able to produce better outcomes than the traditional gold-standard methodology of primary care psychiatry.[65]
- Child collaborative care for children with ADHD at a distance used STP and ATP (ie, Web-based approaches for further training, data collection, and monitoring, which showed positive clinical outcomes).[21]

Integrated Care

Integrated care and stepped care models provide efficient expertise to the point of service; TMH further enhances that. The core characteristics of integrated care are (1) responsibility, decision-making, and oversight of patient care; (2) colocation of services, both literally and virtually, that applies to both inpatient and outpatient sector care; (3–5) integrated funding, evaluation, and outcome measurement; (6) an e-platform; and (7) reimbursement, preferably aligned (eg, a capitated or sole Medicare population) rather than unaligned (ie, mixed populations). Stepped care models may be the most cost-effective models in the health system, where the effectiveness of the intervention is maximized by making the best use of resources adequately available at the right time.[66,67]

Patient-Centered Medical Home

These services are in development and need to be better studied, although costs are dramatically decreasing. The patient-centered medical home (PCMH) is a concept founded on the presence of inadequate treatment in primary care and an inability to access needed services.[68] Under oversight of the PCP, PCMH allows telepsychiatric

input at home and has been shown to improve patient care and health,[69,70] including desk-mounted video systems convenient for patients with cancer to get therapy.

Internet or Web-Based Care

Patients benefit from tools for self-directed habit, lifestyle or illness changes, prompts for appointments, and evidence-based treatments via the Internet (eg, anxiety disorders). "Fear Fighter," a computer-guided self-exposure approach to treat phobia/panic, fills a hole when qualified and trained therapists are scarce.[71] "PTSD Coach" is designed to help veterans learn about, manage symptoms, and augment MH interventions after trauma.[72] Recent patient-centered strategies that increase patient compliance are simple e-mail, telephone, or short messaging service (SMS) reminders that have been shown to be an effective way to support patient attendance to follow-up appointments.[73,74] Internet-based cognitive behavioral therapy (ICBT) interventions are as effective as traditional in-person care and a 30-month follow-up study for treatment of social phobia and panic disorder.[75,76] ICBT combined with monitoring by text messages (mobile CBT) and minimal therapist support by e-mail and telephone help prevent depression relapse.[77] Interestingly, a review of virtual reality reports it has been used in the treatment of many MH conditions, including eating disorders, autism spectrum disorders, pain management, and stroke.[78] Finally, a schizophrenic can create a virtual representation of the scary voices using an avatar, then work with a therapist in real time to manage the avatar speaking the voices.[79]

Caregivers, too, may benefit by the use of telecommunication technology. A review of Internet-based interventions for medical and MH disorders showed that approximately two-thirds of open or RCTs reduced stress and improved quality of life—at least significantly in terms of specific measured outcomes.[80] Family caregivers located in rural areas found e-health support to be beneficial in comparison with conventional caregiver support, by using interactive communities, bulletin board chatting, and therapy groups.[81] Patient populations included MH (dementia, schizophrenia, anorexia) and medical (older adults/aging, heart transplant, traumatic brain injury, hip fracture, cancer, stroke).[81] Caregivers' outcomes improved, and they are satisfied and comfortable with support services delivered by cell phones.[82]

WHAT CAN BE LEARNED AND WHAT MUST BE CONTENDED WITH, IN TERMS OF EMERGING MODELS OF E-CARE AND COMMUNICATION?

The traditional models of care have been in-person, STP, and more recently, ATP; that is really only the beginning, and emerging models are sprouting quickly. In general, that is how technology affects basic clinical practice. Its impact on clinical boundaries, communication, and engagement has been under review.[83] The American Psychiatric Association has a guideline on e-prescribing.[84] The effect on professionalism and education and training of the next generations has been explored.[85]

Telepsychiatry can extend beyond videoconferencing modalities to other mechanisms, including the following:

- New digital communication from one user to another user using standard protocols: e-mail, SMS text messaging, multiple messaging service (MMS) messaging, instant messaging
- New digital communication from one user to another user using proprietary networks: Twitter direct messages, Facebook Messenger, Epic MyChart electronic medical record messaging, My HealtheVet electronic medical record messaging
- New social media communication platforms that transmit from one to many users: Internet forums, Facebook pages and profiles, Twitter streams

Digital Communication—e-Mail, Messaging Services, Web Sites, and Online Profiles

Online digital information is an important source of information for today's online user. As of January 2014, 90% of adults have a cell phone and 58% have a smartphone.[86] In the public health space, 35% of US adults have gone online to research health information and learn from other patients' experiences.[87] Aside from entertainment purposes, those aged 13 to 54 years in the United States use most of their smartphone time to socialize and interact with others manage themselves, including their health, and research information.[88]

This finding has implications for psychiatrists. First, online messaging is required for providers caring for Medicare and Medicaid patients under federal electronic medical record guidelines as required by meaningful use stage 2 by 2014.[89] In fact, the government's financial incentives and penalties program requires more than 5% of unique patients to be sending secure messages to clinicians, thus incentivizing the use of messaging. Although the general public may use e-mail, SMS, and MMS, these do not, by default, provide HIPAA-compliant encryption.

There are also implications for patient-centered Googling and other Internet searches in which clinicians search for publicly available information about their patient. There are literature reports on how checking Facebook has helped resolve emergencies and aid in forensic psychiatric evaluations.[90] Psychiatrists, in general, should consider their intentions in searching for such information, whether it is for patient care purposes, what the effect may be, and the value or risk for treatment.[91] Indeed, the patient's best interests must be kept in mind.

Social Media Communication

Advantages of social media

The modern psychiatrist can take advantage of, but also be cautious with, the use of social media by patients. All ages are using social media for a variety of applications, sense of being heard, consumer health social networking (CHSN), and other health complaints (eg, suicidal ideation).[92] Child and adolescent populations, also known as digital natives, are more adept at using social media, and multiple social media channels can assist in destigmatizing the conversation over mental health. Analogous to sexual health and high-risk behaviors, users may want a credible source of reliable information that is personalized and maintains their anonymity and confidentiality.[93] More treatments are being done by mobile phones.[94]

Social networks also enhance social connectedness. These modalities help boost social support for cancer survivors,[95] new mothers' well-being,[96] and older adult users and the elderly with family and friends.[97,98] Social networks also provide an access point for those reluctant to seek help in-person. For instance, 33% of soldiers unwilling to speak to an in-person counselor were willing to use technology-based social networks for mental health care.[99] Of young college students, 68% indicated they would use the Internet for mental health support, and 94% of participants with mental illnesses used social networking sites.[100] Finally, social networks also provide a modality for those who cannot access traditional mental health, such as those with mental illness in rural areas.[101]

Cautions about, and guidelines for, social media use

Preliminary guidelines discuss concerns about patient privacy, professional image, confidentiality, and defined expectations for use in general[102,103] and for social media.[104] Providers should consider the professional and ethical responsibilities for routes of communication, absences, or any other changes in accessibility in advance.

Guidelines for social media use generally include discussions with the patient in advance, as part of the informed consent process:

- Using e-mail, text, instant messaging, only for patients who maintain in-person follow-up
- Consider the pros and cons of gathering information about patients: intent, use, and implications
- Psychoeducation with online educational resources with patients: accuracy and reputable?
- Physician-produced blogs, microblogs, and comments: "pause before posting" and "step back" to consider what is conveyed to the public about the physician and the profession
- Digital venues for communicating with colleagues about patient care: ensure security/privacy and follow policies of institution

Many organizations have specifically made recommendations about professionalism and social media (eg, The American College of Physicians, Canadian Medical Association, and British Medical Association),[105,106] focusing on communication with patients, gathering information, online education, and other topics. Separation of personal and professional life is suggested,[107,108] if it can be done.[109] In fact, physicians should assume that one's private profile can be found. The *Journal of Medical Internet Research* provided guidelines based on a review of over 100 articles, Web sites, policies, and reports[110]:

- Maintain professionalism at all times—follow institutional policies, "assume that all information exchanged is public and posted in a medium no different than a newspaper," and maintain a disclaimer.
- Be authentic, have fun, and do not be afraid—"the only way to create meaningful relationships over social media is to be genuine."
- Ask for help—pay attention to "how people interact (eg, etiquette)" and "mimic the social media service and community's practices (so long as they are professional)."
- Focus, grab attention, engage, and take action—based on the Dragonfly model, social media users must "identify a single, concrete, and measurable goal for using social media"; "make others look at content by saying or posting something interesting"; "foster personal connections by discussing…interests with like-minded people"; and "enable and empower others."

"Friend" requests on sites like Facebook have resulted in decidedly mixed views: shall we engage or exercise caution?[111–113] If a provider engages patients with social media, the provider may consider having both a private and a professional account[112] for privacy and maintaining therapeutic boundaries. The provider may also consider how parties will interpret the "friend" connection and compare it to a true friendship, where a more equal exchange of private information and confidences would normally exist.[112] Even with private accounts, privacy settings may be insufficient to prevent certain elements from being visible publicly.

Requests for contact between visits (eg, texts, Facebook visits) are increasing because of the time spent online.[83] Asynchronous written or e-mail language does not have nuances with pitch modulations, changing volume, meaningful pauses, and accompanying body language; this may lead to misinterpretations and have unexpected consequences. E-mails should be sent during regular working hours to attend to expectation and boundary issues.[83]

Additional guidelines are available for addressing youth patients[114] and addressing privacy issues.[115] Additional ethics codes from the American Psychological

Association, American Counseling Association, and the American Psychiatric Association are available for mental health professionals on managing ethical concerns and avoid ethical violations.

The future virtual presence for doctors

Leading physicians in the digital health space advocate for the profession and individual physicians to own their virtual presence. They recommend maintaining profiles for LinkedIn professional networking platform, Facebook social networking platform, Doximity physician communication platform, and Healthgrades physician rating network. In fact, maintaining an online presence is so important that leading institutions are implementing medical school curriculum in social media communication, patient engagement, and Wikipedia article management. Avoiding online media puts the health care practitioner at risk in allowing others to spread misinformation[85,86] and jeopardizing public health and safety.[87]

Application to the Clinical Vignette

1. Models allow versatile care approaches.
2. TMH disseminates expertise "in-time" and in context to the patient and provider's needs.
3. Patient empowerment is enhanced by applying user-friendly, everyday technologies to health care: better access, more options, and a sense of confidence or self-efficacy (akin to what "good education" does for novice learners like medical students).

DISCUSSION, CLINICAL VIGNETTE PART II, AND SUMMARY

Today, TMH services are unquestionably effective in most regards, although more analysis is needed. They are effective for diagnosis and assessment, across many populations (adult, child, geriatric, and ethnic), and in disorders in many settings (emergency, home health) are comparable to in-person care, and complement other services in primary care. Additional evaluation (ie, randomized trials, lack of inferiority designs) would be helpful for some treatments (eg, psychotherapy), populations (eg, child and adolescent, geriatric), disorders (eg, anxiety, substance use, psychotic), and settings (eg, emergency room, schools, home MH).

Several findings from the evidence base of studies are quite interesting. First, it is clear that TMH is a versatile way to increase access and empower patients, similarly when applied to systems of care it helps providers and administrators integrate care. Second, TMH can be done in a variety of e-models (e-mail, telephone, video, and other asynchronous options), and it can facilitate clinical care models (eg, collaborative care into services in primary care settings). Care more thoughtfully conducted, with attention to culture, diversity, and language "better" care at a distance nationally and internationally—this is now within reach.

It has been seen for some populations that it is easier or more conducive for some patients (eg, autism spectrum, home-based patients with anxiety),[20] and it may have distinct advantages to in-person care as evidenced by the therapy results.[39–41] The authors suggest 3 factors have a hand in this: (1) the extra preparation of TMH service (consent, discussions) may result in readiness for treatment; (2) the hands-on approach by the interdisciplinary team (eg, telemedicine coordinator, nurse, others) may enhance the therapeutic alliance; and (3) access to treatment, in general, and in-time may empower the patient.

Finally, although inconceivable to everyone in the 1990s, when systematic application and evaluation of TMH began, it may be a tipping point in which all the little things that

TMH makes possible start adding up, and changing the framework and approach to health care: as one moves from a new way to practice and a new standard of practice.[115] The major results of the Children's ADHD Telemental Health Treatment Study[19] show better dissemination of evidence-based treatments and new modalities of treatment of many psychiatric disorders delivered at a distance can be better disseminated—this would apply *even if* the patient is not particularly geographically isolated. A new way to practice is "hybrid models care," which uses in-person and technology-delivered care,[115,116] and by implication, multiple levels of technological complexity (ie, from low-intensity e-mail and phone to high intensity videoconferencing).

Clinical Vignette

Treatment Plan

1. *Evaluation for ADHD with Conner's scales by parents and teacher were done 3 weeks later; the scores were at 68 (parent version; borderline) and 50 (teacher version; below diagnostic threshold). This was consistent with the clinician impression that ADHD was not the primary problem, which seemed localized to home.*
2. *Short-term therapy by a child psychiatry fellow, with supervision from faculty, was obtained (eg, 6 sessions over 12 weeks when father was in town); it was fortuitous that the fellow was Latino American, and she eagerly sought the opportunity for a brief therapy case in Spanish. The goals were to provide supportive therapy for depression, to engage father with the son's life (time together, more communication), and work on codiscipline by mother and father on key issues (ie, so father is not the "bad" person).*
3. *Culture and language integration: the telemedicine-based psychotherapy allowed the patient to speak in the primary language, which along with supervision on cultural themes per DSM-5[117] eliminated a communication issue as a reason for errant diagnosis. The use of the primary language also increases rapport, adds meaning, and allows full range of expression on sentimental themes.[27,28]*

Follow-up: An immediate medication prescription may have been misfired on cases like this by a PCP. At 2-month follow-up, the patient's behavior and mood at home were better. There was an issue, though, with the patient's interest in texting the provider and bringing up her Facebook page. The main issues here are

4. *The clinician should evaluate the impact of technology on clinical issues including, but not limited to, safety, boundaries, and professionalism—and spell out expectations and limitations during informed consent discussions and in accompanying documents.*
5. *The clinician should evaluate the need/preference for synchronous versus asynchronous modes of communication for the care participants—and should educate others before and as opportunities arise on such issues.*

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