

# Hybrid Telepsychiatry: A United States Perspective with Relevance to India

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## ABSTRACT

Telepsychiatry provides a platform for mental health care delivery in rural and remote areas. Hybrid Telepsychiatry model combines home-based telepsychiatry with domiciliary visits by community mental health workers. This involves use of different modes of teledevices which ensures safe and secure clinical platform. Research evidence supports that incorporating this model seems to use the specialist time efficiently where the resources are limited and services need to be catered for larger geographical community. The current telepsychiatry practice in the United States, specifically the hybrid model, has indisputably shown significant benefits in caring for psychiatric patients. Such valuable clinical model and its relevance to current mental practice and also its application in the Indian scenario can be helpful in providing comprehensive multidisciplinary treatment. This review evaluates and highlights the potential risks and benefits of adopting the hybrid telepsychiatry model in the Indian mental health system.

**Keywords:** Domiciliary visit, telepsychiatry, telemedicine, hybrid telepsychiatry, mental health services

Telepsychiatry can provide a platform for mental health care delivery in rural and remote areas by linking clients to psychiatrists located at a different location and also connecting primary care practitioners in rural areas to networks of mental health specialists throughout the country. Telepsychiatry is in practice for several decades in the United States (USA) and has been successfully adopted to care for people with mental health needs. Telepsychiatry promotes and enhances access to psychiatric care for patients and it has evidently demonstrated positive clinical outcomes. In India, there is dire need for mental health professionals not only

in rural but also in urban areas. Hence, incorporating telepsychiatry model of practice tailored to the needs of the Indian mental health system will enhance quality of care and reduce the mental health treatment gap.<sup>1</sup> The aim of this review is to increase the understanding of the current telepsychiatry practice in the USA, specifically the hybrid model combining home-based telepsychiatry with domiciliary visits by community mental health workers, and discuss its relevance and application in the Indian setting with the goal of providing comprehensive multidisciplinary treatment.

## Telepsychiatry

The American Psychiatric Association (APA) Telepsychiatry Task Force stated in February 2018:

“Telemedicine in psychiatry, using video conferencing, is a validated and effective practice of medicine that increases access to care. The APA supports the use of telemedicine as a legitimate component of a mental health delivery system to the extent that its use is for the benefit of the patient, protects patient autonomy, confidentiality, and privacy; and when used consistent with APA policies on medical ethics and applicable governing law.”

Telepsychiatry involves providing variety of clinical services, including psychiatric assessments, psychological therapies, psycho-education, and pharmacological management. The APA has developed a tool kit for the use of psychiatrists and other providers.<sup>2</sup>

The basic technologies used in telepsychiatry are as follows:

1. Live videoconferencing
2. Save/store and forward: The save/store and forward technique can be utilized in non-emergent cases or cases well known to the psychiatrist.

3. Remote patient monitoring (RPM): Remote monitoring might be helpful for medication monitoring and to obtain basic information such as vitals, weight, and height and blood glucose level.
4. Email/phone/fax which can be:
  - a. Synchronous (provides live, two-way interactive transmission between patient and provider at distant locations) or
  - b. Asynchronous (involves acquiring medical data and then transmitting this clinical information for later being reviewed by a specialist).<sup>3</sup>

Telepsychiatry explicitly refers to remote clinical mental health services, while “telehealth” denotes broader scope of health care services in remote setting including nonclinical services, such as continuing medical education, administrative meetings, and provider training.<sup>4</sup> In essence, telepsychiatry and telehealth use fall into four broad categories: educational, research, administrative, and clinical. There are several models of telepsychiatry some of which are elaborated further.

## Telepsychiatry Integrated Care Models for Rural Community<sup>5</sup>

Telepsychiatric integrated care delivers both physical and mental health services, to be provided under one umbrella or platform with close communications amongst providers with primary care physicians playing a greater role in managing mental health disorders. This helps to address the shortage of mental health professionals, improves access, and moves the needle toward more equitable distribution of mental health services delivery. The important modes of service delivery under this broad model are:

1. **The telepsychiatry collaborative care model:** In the model of collaborative care in telepsychiatry, an offsite mental health provider collaborates with primary care providers and others to manage patients in remote rural or underserved community areas. The three randomized controlled trials (two studies on depression and one study in PTSD)<sup>6,7,8</sup> to assess the telepsychiatry collaborative care model which cumulatively enrolled over a thousand patients all showed that this approach is clinically effective. This model can be extended to home-based mental health care provision as in hybrid telepsychiatry (discussed further).
2. **The telepsychiatry behavioral health consultant model and the telepsychiatry consultation-liaison model:** The behavioral health consultation model could be modified to use in small rural primary care clinics which are deficient in onsite mental health specialists by employing offsite telepsychiatrists and teletherapists who provide service using interactive video. The behavioral health specialist performs a conventional initial diagnostic assessment using video or phone services. The consultation can be done asynchronously using store and forward technologies. Following the consultation, the telepsychiatrist develops a treatment plan for the primary care team to implement.
3. **The telepsychiatry curbside consultation model:** In this model, primary care clinician are categorized into “learning network” which is specific to a disease and they meet at a regular interval via video teleconference. The primary care physicians through teleconference, discuss the patient management difficulties with a specialist physician based in an Academic Health Training Institute and prepare a treatment plan.

## Hybrid Telepsychiatry

Hybrid telepsychiatry is an amalgamation of in-person psychiatry services and telepsychiatry services. It is a team-based practice in which a social worker or mental health professional goes to the patient’s home with an electronic device to connect the patient with an offsite telepsychiatrist. Hybrid model involves assim-

ilating telepsychiatry consultation into traditional in-person care systems. This model is employed not only in rural areas but also in many other settings such as underserved areas within a city, nursing homes for the elderly, group homes for adults, multiplex and individual houses where the residents find it difficult to travel due to transportation, cost or physical and cognitive limitations.<sup>9</sup> The hybrid telepsychiatry approach seems to be more efficient and clinically effective than outpatient visits as it can improve timeliness of care and frequency of visits based on the clinical need. The hybrid telepsychiatry may help improve the accessibility of psychiatric services between urban and rural areas, especially following discharge from an inpatient psychiatric unit or from an emergency department visit.<sup>10</sup> Though, live videoconferencing is a commonly used technological modalities in telehealth services, other modalities such as store-and-forward clinical information, RPM, email/phone/fax can also be used in hybrid telepsychiatry.

The evidence for the benefits of “hybrid” care in services in remote and rural areas is still emerging. However, evidence supports that hybrid care model undoubtedly reinforces the patient’s willingness to participate in the outpatient clinical services and engage with their clinical team. It can also help in improving medication adherence in severe mental illness. Also, hybrid psychiatric care had enhanced overall service delivery and helped improve outpatient follow-ups with the specialists compared with patients who had only the outpatient clinical services.<sup>10</sup> Literature review reveals that patients living in urban area have better follow-up than patients in rural area.<sup>11</sup> This disparity exists both in India and the USA. This lack of equitable distribution between rural and urban health care can be remedied by using telepsychiatry as important fragment of hybrid care service model to make sure that the mental health services are available to people living outside the urban areas.<sup>12,13</sup>

## Functions of Hybrid Telepsychiatry

In telepsychiatry, there are low-, moderate-, and high-intensity care levels. For example, a text message or email remind-

er would be considered low intensity, a brief follow-up conversation by phone is moderate intensity and a full video session is high intensity. The hybrid model, like other telepsychiatry models allows for all levels of intensities but adds the in-person visit by a mental health worker. The in-person visit is valuable in helping with device and technology, reminders, reinforcement, and compliance, and adds the value of personal rapport as well. The various functions are listed in **Table 1**.

## Risk and Benefits of Home Visit by a Mental Health Worker in Hybrid Telepsychiatry

### Advantages

1. No travel time for patient or psychiatrist resulting in cost savings.
2. Collaborative approach involving multidisciplinary team members is unaffected.
3. Improved access, especially to those who are homebound.
4. Better coordination with other service providers such as those engaged in social service.
5. If the mental health provider is a nurse, she can perform brief physical examination, monitor metabolic profile, get vitals, check weight, and do a brief examination for side effects such as EPS and blood glucose level.<sup>9</sup>
6. Helps reduce the risk of violence, aggression, and abuse.
7. Observing children and families in their own environment such as home will give better understanding of naturalistic behaviors which perhaps can be masked when the patients or family visits to the clinic due to the “white coat syndrome” that is commonly seen when patients come to clinics on their best behavior, minimizing their symptoms.<sup>12</sup>

### Disadvantages

1. There might be issues with confidentiality if the therapist or nurse arrives in a vehicle that has the company logo or other signage. Neighbors may come to know that there is a person with mental illness in the house

which could increase stigma in the community.

2. Another limitation of current telepsychiatry in the USA is that there are limitations on out-of-state practice, since each state has a separate licensing system. Any practice even if inadvertent could lead to allegations of malpractice, litigation, adverse actions by the licensing board, etc. If physicians provided therapy services through telemedicine to patients living in a residential area of a particular state where the physician actually did not have license to practice, then the indemnity insurance company may not be obligated to pay a judgment or even to reimburse associated legal fees if the patient initiates a lawsuit.<sup>14</sup>
3. There is risk of unpredictable behavior, safety issues, and risk of violence.
4. Many insurance providers may not provide cover for telepsychiatry.

## Telepsychiatry in the USA

In 1959, the Psychiatry Institute of the University of Nebraska utilized video-conferencing for education, research, consultation, and treatment for psychiatric disorders.<sup>2</sup> In 1969, Massachusetts General Hospital utilized video methods for providing consultations at an outpatient clinic located in Logan International Airport in Boston. In the 1970s and 1980s, telepsychiatry services gradually expanded to various locations such as schools and courts in the communities surrounding academic medical centers. There were multiple small pilot projects implemented but they did not always

sustain due to limited financial resources and technological limitations. Telepsychiatry rose in popularity in the early 1990s due to lowered costs due to developments in technology along with its impactful utilization in prisons, universities, and federal health systems.<sup>13,15</sup> Between 2014 and 2019, telehealth services in the USA grew by ~35%. In a survey of 5,375 Emergency departments and 4,537 responders, 20% reported utilizing telepsychiatry services.<sup>16</sup> All states in the USA are using telepsychiatry, although there is much variation in the extent and scope of these services with some states being more advanced than others. In one of the more advanced states is South Carolina, the South Carolina Department of Mental Health and the South Carolina Hospital Association partnered with Duke University and have launched an extensive statewide telepsychiatry network, the first in the USA.<sup>17</sup> The COVID-19 pandemic has fueled the use of telepsychiatry and, overnight, telepsychiatry has become the preferred mode of providing psychiatric care. This is expected to largely remain and grow further even after the pandemic is controlled.

## Assertive Community Treatment and Telepsychiatry

In the USA, intensive community psychiatric care for patients with severe mental illness (does not include common mental disorders that are mild or moderate in severity) is provided by assertive community treatment (ACT). This model of services

not only supports the clinical symptoms and medication management but also deals with issues related to accommodation, finances, and other important needs to help person to integrate into the community. They also assist with activities of daily living, shopping, and managing public transportation. Its benefits have good evidence especially in urban settings.<sup>18</sup> Nevertheless, use of Telepsychiatry in the ACT model of working is still in its incipient stage. A project in Delaware added telepsychiatry to an existing ACT program for regular clinic visits and then expanded to include use of home telepsychiatry visits for ACT patients. Similar project was initiated in El Paso, Texas. However, the outcome of the performance of these projects is not yet available.<sup>19</sup>

## Telepsychiatry During COVID Pandemic

Prior to the COVID pandemic, patients' homes were not considered as clinical service sites, and Medicare (health insurance for adults aged 65 or older, or disabled adults) would not reimburse for telemedicine services originating from homes.<sup>9</sup> However, during COVID pandemic crisis, to increase access to physicians in rural areas, the US government passed a law to permit telemedicine to be reimbursed by Medicare if the patient is in a clinical facility located in a county outside of a metropolitan area. A trained nurse, if she suspects psychiatric patient having COVID-19 symptoms at home, can collect saliva sample.<sup>20</sup>

## Telepsychiatry in India

The first telemedicine unit in India was launched in March 2000, in a remote village called Aragonda in Andhra Pradesh. Four years later in December, 2004, the Schizophrenia Research Foundation (SCARF) holds the distinction of pioneering the first use of telepsychiatry by rendering telepsychiatry services to victims of tsunami in the coastal districts of Tamil Nadu.<sup>3</sup> Their services included the staff visits by mobile bus conducting clinics connecting to the main site in Chennai, where specialists are based. They have been actively providing services. In May 2020, the National Institute of Mental Health and Neurosciences (NIMHANS),

TABLE 1.

### Roles and Functions of Hybrid Telepsychiatry

Assessment	Clinic interview, diagnostic assessments, mental state examination, cognitive evaluation
Treatment	Medication prescription, providing therapy individual, CBT, interpersonal
Medication management	Checking compliance, titrating medication, monitoring drug level, monitoring the side effects
Continuing care	Regular follow-up, physical examination, monitoring for metabolic syndrome, checks vitals and weight, routine blood test, COVID testing using collection of saliva
Education	Psycho education, relapse prevention
Collaboration	Interactive video for consultation liaison work with other specialist and team members

CBT: cognitive behavioral therapy.

Indian Psychiatric Society and the Telemedicine Society of India, with collaborative efforts, formally drafted the operational guidelines for the telepsychiatry practice in India to provide guidance to psychiatrists in the setting up, implementation, administration, and provision of telepsychiatry services. This guidelines focus mainly on interactive videoconferencing-based psychiatry services.<sup>21</sup>

## Hybrid Psychiatry in India

The Mental Health Action Trust (MHAT) has been providing community-based, free, comprehensive mental health services across 8 districts of Kerala through more than 50 centers over the last decade.<sup>22</sup> It has pioneered a model of decentralized care by partnering with other community-based organizations. The essential elements of this hybrid service in the voluntary sector are the use of nonprofessional community health workers through a task sharing model and the use of telepsychiatry. Task sharing allows the professionals (psychiatrists, psychiatric social workers, clinical psychologists, and occupational therapist) to train, empower, supervise, and support longitudinally nonprofessional community mental health workers in delivering care. As the number of clinics and number of patients (more than 4,000) grew, telepsychiatry became more and more important. During the current COVID pandemic, this has become the predominant model of service delivery.

The various components of telepsychiatry as practiced in MHAT are as follows:

1. Use of videoconferencing: This was primarily used by the nonmedical professionals of MHAT from the clinics they were visiting to communicate with the psychiatrists. This was mandatory for all newly enrolled patients but for existing patients it was used when there was a clinical or social need. The equipment used were laptop computers at both ends. Videoconferencing was also used, but less often, by the mental health workers in the community where it would be through mobile phones. In this clinical service the commonly available free software was used.
2. Use of mobile phones: During the case discussion and clinical super-

vision, mobile phones are routinely used. This could be from the mental health clinics and community it served during the weekly visits by the MHAT team or by volunteers who play the role of community case managers round the clock.

3. Electronic database: All patients' medical records are securely maintained in a customized cloud-based database. The documentation made by non-medical team members are monitored in real time by psychiatrists working remotely. The electronic prescriptions are then generated by the psychiatrists from the same database and transmitted via email to the community clinics for dispensing medications. The clinics are encouraged to print and file a paper copy of the prescriptions for the patient records which are safely maintained in the clinics. The database generates appointments for future clinic visits and allows the tracking of all patients to minimize dropouts and nonadherence.
4. Use of mobile apps: The most important of the mobile apps used is the one for encouraging medication adherence. This app, called "99 DOTS," was successfully used in India for improving medication adherence in tuberculosis treatment. Patients or family members are encouraged to dial a toll-free number and hang up after they complete hearing to the options of an automated answer service. The app alerts the community-level workers when phone calls are not received from a particular patient.
5. Use of videoconferencing, appointment booking systems, and various apps for administrative and training requirements.

## Spandana Home Healthcare Model

In May 2020, with the need arising of COVID-19 pandemic to provide services by visiting patients at home, Spandana Healthcare in Bangalore in association with Health Heal Home Healthcare services launched the Home Healthcare Services. This involved visit by mental health registered nurse along with coordinated video consultation with the spe-

cialist psychiatrist. Following the video consultation with the specialist, e-prescriptions were generated. This visit also involved administering of depot injectable medications whenever needed. This model could possibly help improve the continuity of care.

## Conclusion

Telepsychiatry though has gained attention during COVID pandemic is not a new concept, nonetheless it will continue evolve. Over the last few decades, it has been gradually developing and spreading its roots in various health sectors in the USA. With the implementation of guidelines for the use of telemedicine, it has gained importance. Combining in-person review by mental health nurse or a social worker after visiting the patient at home, along with video consultation termed as hybrid telepsychiatry could act as substitute for an existing model of outpatient-based reviews. Availability of limited specialist time can be efficiently utilized by incorporating the hybrid telepsychiatry model. Experience of this model with adaptations based on the need in India by an NGO and private sector are discussed in this review. However, one needs to examine the efficiency of this model, acceptability, and outcome in comparison with the traditional face-to-face reviews in the busy outpatient clinics, after it is operationalized and has expanded.

### Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

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**HOW TO CITE THIS ARTICLE:** Thippaiah SM, Harbishettar V, Kumar MT, Pandurangi A. Hybrid telepsychiatry: A united states perspective with relevance to India. *Indian J Psychol Med*. 2020;42(5S):108S–112S

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DOI: 10.1177/0253717620962151

# The Future of Telepsychiatry in India

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## ABSTRACT

Technology is bringing about a revolution in every field and mental health care is no exception. The ongoing COVID-19 pandemic has provided us with both a need and an opportunity to use technology as means to improve access to mental health care. Hence, it is imperative to expand and

harness the tremendous potential of telepsychiatry by expanding the scope of its applications and the future possibilities. In this article, we explore the different avenues in digital innovation that is revolutionizing the practice in psychiatry like mental health applications, artificial intelligence, e-portals, and technology leveraging for building capacity. Also,

we have also visualized what the future has in store for our practice of psychiatry, considering how rapid technological advances can occur and how these advances will impact us. There will be challenges on the road ahead, especially for a country like India for instance; the digital divide, lack of knowledge to utilize the available technology and the need for a quality