



Telemedicine and psychiatry—a natural match

Charles R. Doarn

Family and Community Medicine, University of Cincinnati, Cincinnati, OH, USA

Correspondence to: Charles R. Doarn, MBA. Department of Family and Community Medicine, College of Medicine, University of Cincinnati, 231 Albert Sabin Way, Medical Sciences Building (MSB), Room 4453B, Cincinnati, OH 45267-0582, USA. Email: charles.doarn@uc.edu.

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In the 1950s, physicians at the University of Nebraska used telemedicine to provide consultative services, support educational endeavors, and conduct training and research for their patients between the Nebraska Psychiatric Institute and Norfolk State Hospital in Nebraska (1). Two-way closed-circuit microwave television was incorporated to facilitate the dialog between these different sites. Cecil Wittson's work in Nebraska pioneered the concept of telemedicine and psychiatry—simplified as telepsychiatry using closed circuit television (2). This approach, linking medical centers, was further developed and applied in Massachusetts (3) and in Arizona (4) in the 1960s and 1970s as well as a number of other telemedicine initiatives. It has continued to grow over the past 60 years from those initial activities to wide scale application (apps) on our mobile phones and a wide variety of Web-based video-conferencing tools.

This growth has been concomitant with technology and a greater understanding in the fields of psychiatry and telemedicine. Much has been written about these disciplines, individually, and when they are fully integrated as one. They are often known by such monikers as telemental health, e-mental health, and tele-behavioral health. Scholarly textbooks, peer-reviewed manuscripts, and a variety of reports have been written on these subjects (5,6), which is of great value to those who have a penchant for enabling and enhancing better patient care as well as those involved in research. A PubMed search on the term 'telemedicine' and 'psychiatry' yields over 1,900 entries, most of which has been written in the last 30 years.

McLaren *et al.* evaluated the use of television in acute psychiatric service (7). Their study reinforced the potential for interactive television to support dispersed psychiatric services. Today, interaction is accomplished using video-conferencing. Two recent studies, Weiss *et al.* (8) and Wadsworth *et al.* (9) highlight the utility of this technology, which provides patients with the tools to be linked to their providers and perhaps linkages to important information about their disease.

Standards and guidelines

The integration of telemedicine in psychiatric care is enabled through evidence-based medicine and set of standard and guidelines developed by subject matter experts from multiple disciplines. The first set of guidelines were developed through an initiative from the American Telemedicine Association (ATA) (10). The most up to date best practices in this field were recently published by Shore *et al.* and were developed by the ATA and the American Psychiatric Association (APA) (11). In addition, guidelines have also been established by the American Academy of Child and Adolescent Psychiatry (12).

Seasoned professionals and new entrants to this field will be guided by these documents and the empirical evidence that has been provided (13). As we continue to march forward, and technology continues to change and we address unmet needs of our patients, telepsychiatry will serve the community well. This will be of great importance and value to the primary care physician as well (14). A

recent survey study by Schulze *et al.* on the differences in attitude of online services between professionals and nonprofessionals reports that professionals (physicians and psychotherapist) have a more favorable attitude towards telemedicine than nonprofessionals (15).

Telepsychiatry has been applied to a wide variety of medical conditions and is used effectively in managing patient's mental health. One area of interest in this editorial is telemedicine's integration into pregnancy and postpartum depression. Today, we have the ability to gain access to a plethora of information on a wide spectrum of health issues. These include a wide variety of apps both on the Android and Apple platforms. While the impact of mobile apps has been studied, the wide adoption of them may be lagging in full integration. Rathbone *et al.* conducted a systematic review of mobile apps and short message service (SMS) in wide variety of areas including depression, anxiety, and stress (16). The results indicated 'promising and emerging efficacy' in the use of m-Health apps and SMS text messaging. Conversely, Torous *et al.* indicated that some patients may not adapt as readily as others to the use of mobile apps (17). The Torous study was a single time point survey of 113 patients in private clinic. Sprenger *et al.* studied e-mental health apps in the context of maternal depression (18). The research in this particular area is growing and is having an impact. Nair *et al.* recently conducted a meta-analysis of the effectiveness of telemedicine interventions in maternal depression (19).

The Nair *et al.* manuscript provides an excellent systematic and meta-analysis of telemedicine interventions in maternal depression. While the data set reported by Nair *et al.* was only limited to 10 studies, research in this area will continue to add to the literature. As consumers, we continue to be bombarded by technological advances in every aspect of our lives. It would be very naïve to think or posit that telemedicine will not become a significant tool for addressing patients in need. A person with a mobile phone is much more likely to be able to access their family, friends, and providers than those who do not have access.

Telemedicine, telehealth, m-Health, e-Health, etc. are key terms in 21st century healthcare. Applied to a wide variety of clinical disciplines, the concept of patient-centered care is evolving rapidly. Our ability as patients and as providers to seek out knowledge and care at our fingertips, using our mobile phone, is rapidly becoming standard. Further research is required as well as training of physicians and care providers alike must be undertaken to ensure equity, access, and quality of care.

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Footnote

Conflicts of Interest: The author has no conflicts of interest to declare.

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