Letter

An Introductory Curriculum on Telepsychiatry for Psychiatric Residents

TO THE EDITOR: There has been interest in the potential efficiencies of remote psychiatric consultation through two-way interactive audiovisual linkages since the first use of a microwave link to provide consultations between Omaha's Nebraska Psychiatric Institute and a state psychiatric hospital 112 miles away in 1961 (1). Recent advances in technology have made telepsychiatry a reality. This technology is particularly valuable in making specialty consultation available in remote rural areas without the inefficiencies, costs, and inconveniences of travel to both consultant and patients (2, 4). The psychiatric disorders of childhood are amenable to telemedicine evaluation (5), and children may be particularly comfortable with interactive audiovisual transmissions (6). To prepare psychiatric residents to function effectively as practicing psychiatrists in this new medium, an introductory three-module curriculum has been developed at the University of South Dakota School of Medicine and McKennan Hospital in Sioux Falls, South Dakota.

LEARNING OBJECTIVES

The learning objectives are as follows: 1) Residents will be able to identify the technical components of a bidirectional voice/video/data telemedicine system, including hardware, software, and infrastructure. 2) Residents will be able to describe clinical applications of telepsychiatry that have been published in the literature. 3) Residents will be able to compare distance and onsite consultation methods: cost, scope of services, clinician skills, and appropriate physical settings. 4) Given a mock patient, residents will be able to identify potential difficulties and suggest adaptations for effective long-distance interviewing via interactive television.

MODULE ONE: PRINCIPLES, TECHNOLOGY, AND UTILIZATION: OUTLINE

I. The Infrastructure Voice/Data/Video Communication
A. POTS (plain old telephone service):
1) the organization of a telephone exchange,
2) limitations,
3) bandwidth.
B. Other Services:
1) switch 56,
2) ISDN,
3) frame relay,
4) T1, T3, fiber optics, etc.
C. Intra-institutional Networks:
1) Ethernet,
2) ATM.
D. The Internet.
E. Communication Standards:
1) HL-7,
2) H320,
3) DICOM.
II. Telemedicine Technology
A. Basic Hardware:
1) Codec,
2) Monitors,
3) Cameras,
4) Microphones,
5) Controls,
6) Peripherals (e.g., videotape).
B. Far-end room design.
C. Near-end room design.
III. Utilization of Telepsychiatry
A. Review of National Experience (e.g., psychiatrist to physician consultation, long-distance peer supervision or mentoring, teleconferencing).
B. Review of local experience.
Required Reading

Baer L, Elford DR, Cukor P: Telepsychiatry at forty: what have we learned? Harv Rev Psychiatry 1997; 5:7–17

Brown FW: Rural telepsychiatry. Psychiatr Serv 1998; 49:963–964

Granade PF: Malpractice issues in the practice of telemedicine. Telemedicine Journal 1995; 1:87–89

Grigsby J, Kaehny MM, Sandberg EJ, et al: Effects and effectiveness of telemedicine. Health Care Finance Review 1995; 17:115–131

McGee R, Tangalos EG: Delivery of health care to the undeserved; potential contributions of telecommunications technology. Consensus telepsychiatry conference entitled "Telemedicine and Access to Care." Mayo Clin Proceed 1994; 69:1131–1136

Obade CC: Telemedicine and the health lawyer: legal aspects of medical care in cyberspace, or "virtual reality medicine." National Health Lawyers Association Managed Care Law Institute, December 11–13, 1996

Perednia DA, Allen A: Telemedicine technology and clinical applications. JAMA 1995; 273:483–488

Walker J, Guynn AZ: A glossary of telecommunications terms for telemedicine and distance learning. Texas Journal of Rural Health 1995; 14:93–99

Williams ME, Remmes WD, Thompson BG: Nine reasons why healthcare delivery using advanced communications technology should be reimbursed. J Am Geriatr Soc 1996: 44:1472–1475

MODULE TWO: PRACTICAL DEMONSTRATION

Residents will have a hands-on experience operating the "PictureTel" equipment at McKennan Hospital.

MODULE THREE: PROBLEM-BASED LEARNING CASES IN TELEPSYCHIATRY

Residents will be presented with up to three vignettes and asked to identify potential communication difficulties in a telepsychiatry setting and to develop strategies to overcome these problems. In all cases, issues such as the best hardware, including bandwidth, near and distant site setup (including who will be present), record keeping, and confidentiality can be discussed.

Vignette 1

Vignette 1 is an evaluation of a 41-year-old man with possible obsessive compulsive disorder in a family doctor's office. Special Issues: is there adequate bandwidth to diagnose tics; clarification of the nature of the consultative relationship with the family doctor, and who will prescribe medication and maintain records?

Vignette 2

Vignette 2 is an evaluation of an 8-year-old Native-American boy with possible attention-deficit hyperactivity disorder in an Indian Health Service Clinic. Special Issues: at what developmental ages does a child cognitively understand that the physician can see him as well as he being able to see the physician; importance of cultural sensitivity around telemedicine issues; modification of interviewing style for children; protecting the equipment from "curious fingers," using document camera or fax to have instant review of information from other domains, including parent and school forms.

Vignette 3

Vignette 3 is a medication follow-up of a 28-year-old woman with chronic schizophrenia on risperidone in a rural medical clinic. Special Issues: how to establish a working alliance with a psychotic patient on interactive television, how to tactfully explore issues of hallucinations and delusions in a medium that may be the "originator" of the hallucinations or delusions, how to handle the fact that there may be insufficient resolution to "see" neuroleptic-induced movement disorders or negative symptoms.

OVERVIEW OF TELEPSYCHIATRY

Although telepsychiatry is 40 years old, it remains in a formative phase of development. There are many unknowns about telepsychiatry that can provide future research opportunities. What are the qualitative differences in interviewing in person and in "virtual" interviewing? Are patients and providers satisfied with these interventions? What kinds of patients do well with interactive interviewing? What kind of intervention is effective via this media? Many complex legal, regulatory, and financial issues about telepsychiatry also remain (e.g., are these interventions cost-effective, who will pay for them, what state or federal regulations will be required for instrumentation or credentialing of telepsychiatrists and others?).

Required Reading

American Psychiatric Association: APA resource document on telepsychiatry via videoconferencing from 1995. Web site url: http://www.psych.org/pract-of-psych/tp-parer.html

Baer L, Cukor P, Jenike MA, et al: Pilot studies of telemedicine for patients with obsessive-compulsive disorder. Am J Psychiatry 1995; 152:1383–1385

Ball CJ, McLaren PM, Summerfield AB, et al: A comparison of communication modes in adult psychiatry. Journal of Telemedicine Telecare 1995: 1: 22–26

Ball CJ, Scott N, McLaren PM, et al: Preliminary evaluation of a low-cost video conferencing (LCVC) system for remote cognitive testing of adult psychiatric patients. Br J Clin Psychol 1993; 32:303–307

Cukor P, Baer L: Human factors issues in telemedicine: a practical guide with particular attention to psychiatry. Telemedicine Today 1994; 29:16–18

Perednia DA: Evaluating the use of telemedicine for mental health applications. Telemedicine Today 1994; 2:10

Preston J, Brown FW, Hartley B: Using telemedicine to improve health care in distant areas. Hosp Community Psychiatry 1992; 43:25–32

It is hoped that this introductory course will provide the basic

know-how about telepsychiatry, to inform a new generation of cyperspace clinicians.

The development of this curriculum was supported, in part, by a grant from the Telecommunication and Information Infrastructure Assistance Program (Grant No. 46–60–9704) to the authors.

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References

1. Wittson CL, Affleck DC, Johnson V: Two-way television group therapy. Mental Hospital 1961; 12:22–23
2. Bergman R: Letting telemedicine do the walking. Hospitals and Health Networks. October 20, 1993, pp. 46–48
3. Sanders JH, Tedesco RJ: Bringing medical care to isolated communities. J Med Assoc Ga 1993; 82:237–241
4. Perednia DA, Allen A: Telemedicine technology and clinical applications. JAMA 1995; 273:483–488
5. Jerome L: Assessment by telemedicine (letter). Hospital and Community Psychiatry 1993, 44:81
6. Dranov P: Telemedicine. Science Digest 1981; 89:112–113