

## Chapter 2.9

# Tele-Practice Technology: A Model for Healthcare Delivery to Underserved Populations

**Thomas W. Miller**

*University of Connecticut, USA*

**Robert D. Morgan**

*Texas Tech University, USA*

**Jennifer A. Wood**

*South Texas VA Healthcare Center, USA*

### ABSTRACT

Telehealth is viewed as the removal of time and distance barriers in the provision of health care and patient education to underserved populations. Examined is a twenty first century clinical consultation model of health care. Offered are specific applications within a broad spectrum of services utilizing telehealth technology. Important technology shifts for administrative paradigms, clinical models, and educational information technology for healthcare services through telehealth technology are examined. The future of telehealth and its interface with various critical components of society needs to examine the potential benefits over risks in providing healthcare consultations and services through the educational settings available. Addressed is a technology model, which demonstrates the capability of reducing time and distance barriers in the provision of health care

and education through telehealth technology. The use of telehealth technology in rural settings is seen as a viable medium for providing needed diagnostic and clinical consultation for underserved and rural.

### INTRODUCTION

Examined is the application of telepractice technology in a rural community clinical and educational system. Telepractice is viewed as the removal of time and distance barriers in the provision of health care and patient education to underserved populations (Nickelson, 1996). Offered is a video teleconferencing model of health care for underserved populations and where professional consultation with a team of professionals may benefit rural educational systems and their students. Offered are specific

applications within a broad spectrum of services utilizing telepractice technology. Finally, shifts in administrative paradigms, clinical models, and educational information technology for healthcare services through telepractice technology are explored. Distance learning technology has provided society with new applications for clinical and educational consultation that enhance the quality of services offered to rural school systems through telepractice (National Advisory Committee on Rural Health, 2004). Whitten, Cook, Shaw et al. (1998), Sargent (1999), Miller & Miller (1999) Shaw, Goodwin, Whitten, & Doolittle (1999) and Whitten & Cook (1999) Miller, Miller, Sprang, & Kraus (2003), Sammons & DeLeon (2004), Miller, DeLeon, Morgan, Penk, & Magaletta (2006) have all addressed telepractice service application for rural school districts, their students and families. Through this medium of service delivery, children and adults in need of specialized care that might not be readily available to them can receive the specialty consultation of experts using telepractice technology. The purpose of this model is to provide health care practitioners with a consultation model for health related delivery services for children and adults in rural and underserved geographical areas internationally.

Telepractice technology provides an electronic medium for healthcare practitioners and their patients to realize health assessment, diagnosis, intervention, consultation, supervision, education, and information across distances, has become a well recognized vehicle for delivering services and disseminating information to a variety of consumer populations as well as professionals and practitioners (Nickelson, 1998; Miller & Hutchins, 2008)). Given its ability to transcend many of the economic, cultural, and geographic barriers that often prohibit or restrict the provision of health care, the use of telepractice has begun to reshape traditional systems of care. Moreover, due to its unique capacity to negate many of the traditional obstacles in service delivery, telepractice is often a desirable option for the provision of health care to

rural, confined, underserved and isolated groups (Miller & Holcomb, 2007).

Well noted is that a large proportion of telemedicine studies have focused on evaluating the effectiveness of telecommunications technology in delivering health services to rural and specialty populations (Wood, 2000). Numerous studies suggest that telemedicine or telepractice applications can be utilized to deliver health care services that are accessible to rural or underserved populations that the quality of care delivered via video teleconferencing is similar to or surpasses that of face-to-face services (Bischoff, Hollist, Smith, & Frank, 2004; Miller, Miller, Kraus, & Sprang, 2003; Norman, 2006) and that both consumers and providers are satisfied with services rendered via video teleconferencing.

From its initial use, one of the major advantages of video teleconferencing has been its ability to improve access to health care services for people living in rural or remote areas where health care professionals are often scarce or absent. In the words of Nickelson (1998), "Telehealth is simply a tool that...makes it easier to practice already established professional skills across distance and to serve individuals and organizations who may not, but for telehealth, have access to such services" (p. 527). This ability to transcend geographic barriers has been the basis for three decades worth of demonstration projects targeted at rural populations. The use of this technology to improve access to health care has since expanded to include other isolated groups, such as inner city families (McLaren, Blunden, Lipsedge, & Summerfield, 1996; Straker, Mostyn, & Marshall, 1976), prison inmates (Ax et al., 2007), and homebound elderly (Maheu, Whitten, & Allen, 2001). Overall, these projects suggest that the use of telehealth is an effective means of improving access to both health care services as well as improving the exchange of information between providers (Blackmon, Kaak, & Ranseen, 1997). Efforts to assess the quality of telepractice services compared to traditional face-to-face services indicate that there is little

14 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/tele-practice-technology/49887](http://www.igi-global.com/chapter/tele-practice-technology/49887)

## Related Content

---

### Electronic Test Management Systems and Hospital Pathology Laboratory Services

Andrew Georgiou, Johanna Westbrook, Joanne Callenand Jeffrey Braithwaite (2008). *Encyclopedia of Healthcare Information Systems* (pp. 505-512).

[www.irma-international.org/chapter/electronic-test-management-systems-hospital/12978](http://www.irma-international.org/chapter/electronic-test-management-systems-hospital/12978)

### Predicting Voluntary Participation in a Public Health Program Using a Neural Network

George E. Heilman, Monica Cainand Russell S. Morton (2008). *International Journal of Healthcare Information Systems and Informatics* (pp. 1-11).

[www.irma-international.org/article/predicting-voluntary-participation-public-health/2223](http://www.irma-international.org/article/predicting-voluntary-participation-public-health/2223)

### Health Technology Assessment in Health Economics

Steven Simoens (2009). *Handbook of Research on Information Technology Management and Clinical Data Administration in Healthcare* (pp. 69-86).

[www.irma-international.org/chapter/health-technology-assessment-health-economics/35770](http://www.irma-international.org/chapter/health-technology-assessment-health-economics/35770)

### Do Diabetes Self-Management Education (DSME) Programs Merit more Consideration in the Indian Setting?

Vijairam Selvaraj (2012). *International Journal of User-Driven Healthcare* (pp. 77-81).

[www.irma-international.org/article/diabetes-self-management-education-dsme/70227](http://www.irma-international.org/article/diabetes-self-management-education-dsme/70227)

### Brachioradial Pruritus: Orphan Patients in Search of Understanding and Care

Desire T. Gijimaand David J. Elpern (2012). *International Journal of User-Driven Healthcare* (pp. 34-39).

[www.irma-international.org/article/brachioradial-pruritus-orphan-patients-search/75179](http://www.irma-international.org/article/brachioradial-pruritus-orphan-patients-search/75179)