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Telehealth: A Model for Clinical Supervision in Allied Health

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ABSTRACT

Telehealth technology and services have gained the attention of both clinicians and researchers examining trends and models of health care for underserved populations. Examined is a model where professional supervision for interns and other professionals may be achieved through an integrated model using onsite and telehealth technology. Examined is a model of telehealth service delivery, the interface of clinical supervision and health care and a model for supervision of allied health interns in rural placements.

INTRODUCTION

Miller, Kraus & Kaak, McDaniel Belar and Shroeder have addressed the use of telemedicine applications in rural settings for clinical supervision and health care delivery.^{1,2} Telehealth is the use of telecommunications technology to provide health information and care across distance and has recently reemerged as a potentially clinically appropriate, cost-effective means of supporting patients and providers in the changing health care system. Telehealth has been considered a partial solution to the problems of delivering health care to remote areas, as well as to areas under served by health care professionals. Various projects have demonstrated a wide variety of clinical tasks that can successfully be accomplished by a television, telemetry, and voice communication systems. The need for such systems is obvious in the face of the major obstacles to providing a high standard of health care delivery and clinical supervision.

A relatively new clinical internship program in a rural setting was looking to provide supervision for allied health interns in related specialties including speech pathology, physical therapy, occupational therapy and psychology and made several attempts to find an adequate number of regionally recognized supervisors to provide clinical supervision for interns in rural clinic sites. The need to have available competent and qualified supervisors for interns became a high priority for the clinical training director because of accreditation standards. Distance, travel and mountainous rural highways and roads were some of the barriers supervisors had to address in providing clinical supervision for interns and for junior staff at the regional medical center.

The opportunity to provide interns with experienced supervision and to allow easy access for the supervision appeared to be a reoccurring problem. Turning to one of the regional university settings, the director of training presented the dilemma she was facing. This led to the use of interactive television for education, continuing education and for distance learning options through the University based Telemedicine Clinic. This opportunity to use interactive television as a part of the supervision of interns along with onsite "in-vivo" face to face sessions, supervising session and contact through secure email and other advanced technology provided for an enhanced and enriched internship experience in a regional rural setting.

A RESEARCHED CLINICAL MODEL OF SUPERVISION

Stamm discussed clinical supervision through a telehealth model for rural placements in psychology and other allied health professions.³ She noted that clinical sites are staffed with a supervisory-level participating investigator, four therapists, two case managers, and one assessor. In addition, each site has a research assistant with training in both psychology and technology. Each site provides a 30-week course of therapy to patients along with supervision. Ongoing training and supervision is required to standardize the psychotherapy and assessment from site to site. Remote supervision of the 80 clinicians is provided by four clinical supervisors (one for each therapy condition, one for case management, and one for assessment). The clinical teams have monthly group teleconferences (audio or, when necessary, video) with weekly individual telephone supervision and daily or as needed e-mail supervision. Supervisors and the clinicians have duplicate copies of tapes of the previous week's clinical encounters to facilitate supervision.⁴

Considering the supervision component only, the use of telehealth for supervision included over 20,000 e-mails, 1,800 hours of individual phone supervision, 500 hours of group phone consultations, 450 secured fax information forms, 10,000 hours of audio taped sessions, and 500 hours of psychotherapy videotape. Communications were catalogued in a searchable, analyzable database. Routine analysis of the information in the database supports the activities of supervision.⁴

PROGRAM GOALS

A program considering supervision that would include telehealth should address the following goals in planning and implementation. Telehealth applications for clinical supervision should:

- Reduce the isolation of health care providers in rural communities through the expansion and enhancement of the videoconference network, which provides educational and clinical supervisory services.
- Increase access to clinical consultative services and health education programs for rural placed allied health supervisees and provide supervision expertise that would not otherwise be available to rural settings.
- Furthermore, it should provide a feasible and sustainable system of supervisee/supervisor consultations using telehealth, video conferencing and provide easy access to supervisory consultation that could include multidisciplinary and specialty supervisory personnel.

INTERACTIVE ELECTRONIC COMMUNICATION AND CLINICAL SUPERVISION

Theories about the nature of knowledge and methods of education have been debated for some time. Is knowledge a mountain of fact for the learner to conquer or is it an ever-changing stream of theories and new concepts through which one must learn about our world? In using interactive television would students master facts and develop problem-solving skills? Learning occurs most easily when the learning experience is directed toward the solving of a real problem with which one can identify, and when an understandable approach is used in which the effectiveness of an intervention can be readily pursued. There are legitimate concerns for clinicians, supervisors, and supervisees. Solutions in providing quality supervision involve facilitating exchange of information with each other. Hurley argued that the education, training, licensing and credentialing should be considered within the context of a more global practice environment.⁵ Telehealth provides the medium to link this global practice environment in both the training of allied health professionals and in providing a global practice environment. The quality of their future in many ways depends on how well they respond to evolving realities in the larger world beyond their walls. Ultimately the most significant change affecting universities may be continuing revolution in information technology and delivery of healthcare services."

Proposed within the context of this scenario addressing the supervision of allied health interns who are completing an internship in a rural health care facility are the varieties of new technologies that can assist in providing quality and expert supervision. The integrated telehealth model of supervision summarized in Figure 1 provides the core components of supervision that can be enhanced through telehealth technology.

In component 1, interns are offered various case studies through hot links to the supervisor's web page. These cases involve multidisciplinary input and link to the electronic medical record to offer diagnostic and treatment information from a multidisciplinary perspective. The use of the electronic medical record allows supervisor and supervisee to review critical input from other disciplines in the patient management process.

In this model, interns use web resources such as secure two-way interactive technology, chat rooms and electronic bulletin boards, as they address the issues in the case studies being discussed by a multidisciplinary cadre of supervisors and interns.

In moving to component 2, interaction between supervisor and supervisee is accomplished through e-mail and chat room arrangements where other interns and supervisees can engage in discussion about the cases and the information gained from the web resources.

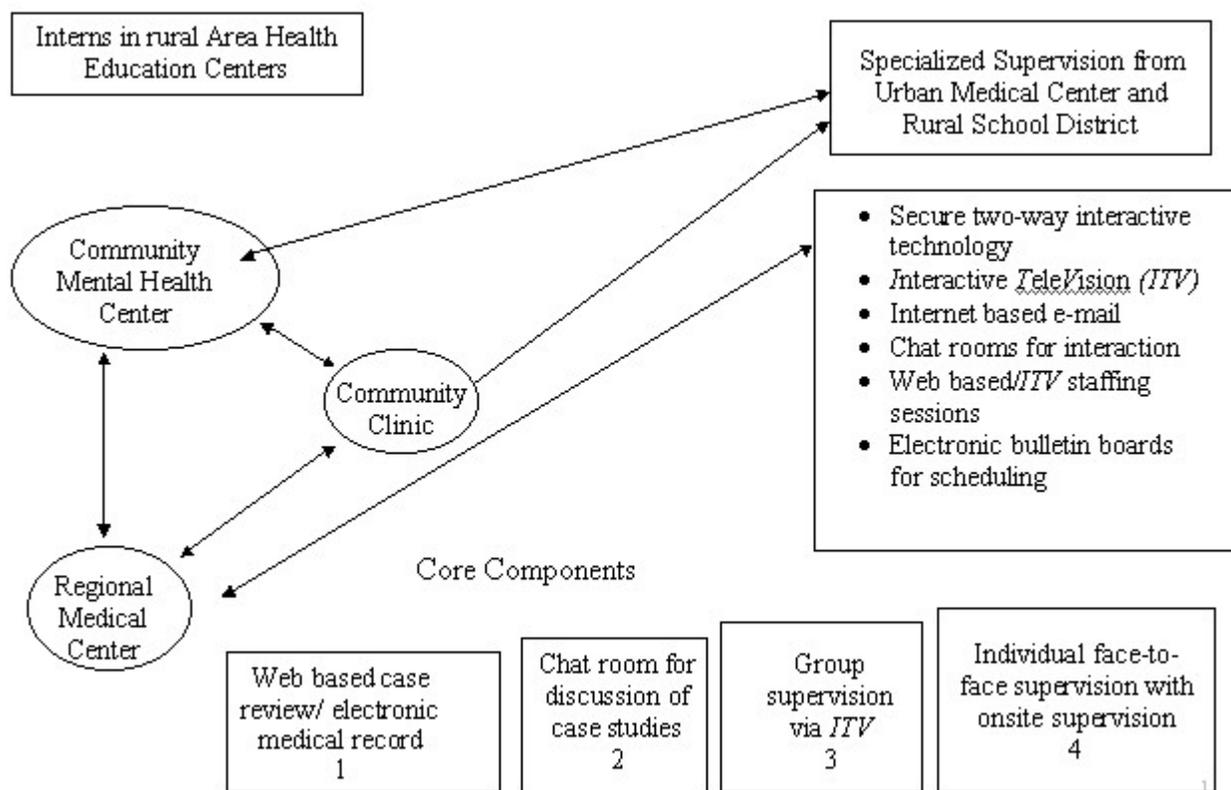


Figure 1: Flow of Clinical Supervision through Telehealth Technology in Rural Australia

Component 3 of this model of supervision involves some consideration of group supervision by one supervisor for three supervisees at perhaps three of four different sites through live interactive video.

Recognizing the importance of face-to-face communication, the final component offers individual face-to-face supervision for each supervisee in the clinical setting with the identified supervisors. Through a combination of electronic supervision and the individual face-to-face experience, opportunity to supervisor and supervisee to learn through telehealth is offered with sensitivity to professional, ethical and legal issues and scope of practice guidelines.

TELEHEALTH SUPERVISION GUIDELINES & BEST PRACTICES

Breunlin et al. recommended six guidelines addressing the accuracy of the telehealth supervision and the dynamic reality experienced by the supervisee utilizing telehealth technology. These guidelines, when followed, help to alleviate some of the concerns such as security confidentiality noted by Munson, Hill et al., and Miller.⁶⁻¹⁰

Clinical supervisors who use telemetry for supervision of interns should focus on setting realistic goals for the telehealth sessions. Clinical expertise should be shared through the use of an educational format addressing interventions that are standardized. The intern's experiences are important to discuss in supervision and must be incorporated into the telemetry medium. The use of video replay can be especially helpful. Select segments that focus on remedial performance for the supervisee may be very beneficial. The focus of corrective feedback should be on performance that the intern has the ability to change.

The supervisor using telehealth should incorporate clinical standards in evaluating performance of the intern in supervision. Web-based interactive telehealth must be seen in the larger context of supervisee development. Sometimes the multitude of possibilities that include chat rooms, web-based TV and supervision via email can generate added information and understanding for the intern. Breunlin et al. reminded us that what appears easy when viewing a session can be far more difficult to pull off in therapy. Moderation, therefore, must remain the constant focus for the supervisor.⁶

Finally, in using telehealth technology supervisors must maintain a moderate level of arousal. The supervisor must be cautious to see that the supervisee is stimulated to grow without becoming overly threatened by the use of the telehealth equipment. Therefore, the supervisor, as always, must be alert to multiple levels of experience and the possibilities as well as restrictions telehealth places on both the supervisor and supervisee.

The following are frequently suggested advantages of supervision by telemetry. For related discussions of the advantages of supervision, the reader might consult Carroll, Hawkins and Shohet and Riva and Cornish.¹¹⁻¹³ A common observation among supervisors is that supervision using telehealth technology offers many of the same economies that group supervision offers. In particular, these include economies of time, money, and expertise.¹¹ Advocates for telehealth supervision argue that its use can provide expertise in supervision that might otherwise not exist in the clinical setting.

The use of key concepts summarized on the computer screen while the supervisor discusses each may enhance the supervisee's learning experience. In addition, supervision via telehealth can diminish the hierarchical issues between supervisor and supervisee by encouraging supervisees and their supervisors to discuss and address many of the issues in diagnosis and treatment.¹⁰ The opportunity to visually observe supervisor's successes and failures as they conceptualize and intervene in supervision can provide an important vicarious learning experience and result in learning by the intern or resident.

The use of group supervision, via telehealth technology provides supervisees with exposure to learning about the clients with whom other interns and supervisees are working. In this manner, interns are able to learn about a broader range of clients than if they were working only in a dyadic supervisory experience in one clinical setting. Furthermore, using group supervision via telehealth provides supervisees an opportunity to offer each other a variety of perspectives that no one supervisor could provide. Finally, the use of web-based, interactive television provides both supervisor and supervisee with a visual and written component to the supervisory process.

LIMITATIONS OF TELEHEALTH SUPERVISION

There are some drawbacks to supervision using telehealth technology that we should acknowledge. The following list is adapted from suggestions made by Carroll and Miller et al, and our own observations.¹⁰⁻¹¹

- The telehealth format may not allow some interns to obtain the personal contact in a live face-to-face model in all situations.
- Supervisees may not get all the supervision time they need. Telehealth technology requires competencies and self-directed learning styles. Some interns may not show a readiness for this style of supervision.
- Technology is often plagued by shortcomings and the readiness and access to the links for direct and immediate feedback may not always be available.

- In all formats of supervision, there must be concerns about confidentiality of both the clients who are the focus of treatment and the supervisees in the clinical settings. In both cases, confidentiality is less secure in the telehealth format. Both supervisors and supervisees must be cognizant of this shortcoming.
- Multidisciplinary supervision provides an excellent learning experience. It also requires a level of readiness on the part of the supervisee to be cognizant of discipline-specific pathways of care and the prioritization of discipline specific models of standards of practice.
- The complexities required to utilize an integrated model of face-to-face, web based interactive television model requires knowledge and capabilities on the part of both supervisor and supervisee. As Carroll suggested, though, it is the supervisor's responsibility to ensure that interns feel that they are getting something from the supervisory experiences whether they are face-to-face or through a telehealth model.¹¹

BEST PRACTICES FOR SUPERVISION BY TELEHEALTH

Whether supervision is face-to-face or augmented using telehealth technology, it is essential that critical elements occur as a part of the supervisory experience. The supervisor must produce behaviors that will match supervisory intentions.¹⁴ Interpersonal process recall, for example, uses telehealth technology as the method for obtaining supervision data, but the technique is intended to increase supervisee reflectivity regarding the interpersonal dynamics that were present during the session being reviewed.

Loganbill, Hardy and Delworth described critical elements of supervisor techniques or strategies that should be a part of any supervision experience.¹⁵ These critical elements are not limited to a specific format for supervision (e.g., the use of telehealth) but should be considered in evaluating the effectiveness of supervision through any medium including a telehealth medium.

- Facilitative interventions is as much a set of assumptions and attitudes as direct interventions. They are supervisee centered and help promote the natural developmental process. Inherent in this category is the belief that with support and reflective activity the supervisee can learn and applying the necessary skills in the treatment process regardless of supervision medium.
- Confrontive interventions are a type of intervention that brings together two things for examination and comparison. The discrepancy can be internal to the supervisee, e.g., a conflict between feelings and behavior, or it can be a discrepancy between the supervisee and an external actuality, e.g., the supervisor's seeing client dynamics in a way very different from how they have been perceived by the supervisee.
- Conceptual interventions occur whenever the supervisor is asking the supervisee to think analytically or theoretically. Loganbill et al. cautioned the supervisor to take learning styles into consideration because some supervisees grasp theory through experience, whereas others need a theoretical grounding prior to the experimental opportunity.¹⁵
- Prescriptive interventions take the form of coaching the supervisee to either perform certain behaviors or to delete certain behaviors. This is the most direct intervention category described by Loganbill et al.¹⁵ Therefore, they warned that prescriptive interventions could thwart supervisee development if used too liberally or when a more conservative approach might be substituted. Client welfare is a frequent rationale for using prescriptive interventions.
- Catalytic interventions include those supervisor statements that are designed to be facilitative." Although the authors noted that in one sense all supervisory interventions are catalytic, they also argued that catalytic interventions are qualitatively different from each of the others. When a supervisor uses a catalytic intervention, the supervisor is seizing the moment to bring additional meaning to the supervisory process. An Example of catalytic interventions may include helping the supervisee to appreciate realistic client potential for change and, thereby, setting appropriate goals and encouraging the supervisee to experiment with new roles in the therapeutic relationship. With the growth in the use of telehealth, it becomes necessary that some guiding principles for the use of this technology emerge with consideration toward both intern and supervisor. Toward this goal, the following best practices are recommended for consideration.
- Supervisors should strive to assure a consistent and coherent technical framework for supervisees. When a change in technologies is necessary, it should be introduced in a way that minimizes the impact on the supervision. When new software or systems are adopted, specialized training programs should be used to educate supervisees in such technology and software.
- Supervisors should be sensitive to the competencies of potential supervisees. Assessments for technical knowledge and understanding should be used to determine readiness for telehealth technology.
- The selection of technologies should be based on appropriateness for clinical services, patients and supervision. Consideration should be given to the learning styles and to the cultural and individual differences of those using this technology. Similarly, attention should be given to the supervisory style of supervisors.
- Supervisors must understand the legal and regulatory requirements of the jurisdictions in which they supervise.

- In designing electronically offered services, consultation and supervision, a coherent plan for the learner to access all course material necessary to complete the program should be provided by the program.
- Interaction (synchronous or asynchronous) between supervisor and supervisee should be reflected in the design of the supervisory experience, and in the technical facilities and services provided.
- Supervisee competency and proficiency should include visual observation during the clinical supervision experience.
- The integrity of student competencies should be assured through a variety of methods that address the evaluation of supervisee clinical skills.
- Supervisors should assure the security of personal information in the conduct of assessments, treatment and in the dissemination of patient care information.
- Measures of supervisee competence involving fundamental skills such as communication, writing, comprehension, and analysis must be considered as essential in assessing supervisee skills.
- The program should conduct a continuous self-evaluation and quality assurance directed toward improvement.
- Efforts targeting more effective uses of technology to improve pedagogy and supervisee achievement of intended outcomes should be addressed.
- The program using telehealth supervision must assure compliance with the institution's ongoing self-evaluation and accreditation process and criteria.

FUTURE DIRECTIONS

There are a series of emerging trends in clinical supervision that must be considered through the telehealth medium. Some of these trends are administrative, others refer to models of supervision, many include information systems and how supervision services are to be evaluated. New administrative paradigms have emerged moving away from one-to-one discipline specific supervision to multidisciplinary supervision and the integrated delivery of supervision with telehealth options. These options permit the use of interactive supervision with specialists at a distance to assure that interns receive the expertise and guidance in their clinical supervision along with their in vivo supervision on site. Similarly, the use of the innovative information systems of the 21st century, supervisors and supervisee have access to the electronic medical record and the options for more efficient systems of information processing. Outcome evaluation can be monitored and reviewed using the computerized databases available. Table 1 summarizes some of these trends.

TABLE 1: Emerging Trends in Allied Health - Clinical Supervision Through Telehealth

	Past Trends	Contemporary Trends
Administrative Paradigms	One to one, face-to-face, clinical supervision	Multidisciplinary supervisory partnerships, networks and alliances; contracted integrated delivery of supervision with teams of supervisors using interactive television and other forms of telemetry
Supervision Models	In vivo individual and group supervision individual in terms with adjuncts providing supervision in underserved rural areas deprived of certain areas of expertise	Telemetry orientation for supervision from qualified specialists or team of supervisors and specialists through on site or video interactive systems
Information Systems	Paper reports, notes and medical records, supervisor developed systems and models of supervision	Electronic medical record, on-line support systems, e-mail, electronic chat rooms, files and exchange of information and supervision through telehealth technology
Evaluation	Traditional checklists and narratives summaries	Computer data-based outcome studies, and use of computer technology in ongoing monitoring and assessment of supervisees

Advances in technology education and health care delivery have included the use of telemedicine and telehealth for crisis intervention, assessment, treatment, and education of patients and professionals. Examined is the use of telemedicine and telehealth for a variety of health care services to rural America including supervision of allied health interns in a rural regional health care facility. Efforts to date have ranged from using closed circuit television to bringing clinical consultation and health

care to patients a few miles away. The use of satellite uplinks to provide clinical consultation and training to health care professionals at regional sites has also shown promising results.^{16,17}

The managed care industry has recognized that unequaled geographic distribution of health care resources, and the recognized need to health care provision in an economically pressed, cost effective environment necessitates new models for assessment, treatment, prevention, and consultation. Telehealth is seen as the use of telecommunication, which connects consumer with health care provider through live, two-way audio, two-way video transmission, across distances and permits effective diagnosis, treatment, and other health care services. This definition stresses a focus on delivery of services across distances with a sense of concern for ethical provision of services and confidentiality of the health care needs in our society.¹⁸

In summary, despite all these valid cautions regarding use of telehealth in supervision, there is no question that the knowledge base and experiential alternatives telemetry offers has increased the exposure to supervision of critical factors. Such factors include access to expertise, which need not otherwise be available; speed in obtaining needed information and guidance and the economy of cost saving for those interns in underserved populations. With telehealth, supervisees can literally experience the benefits of having supervision provided by experienced specialists in clinical practice from whom they might not otherwise have had an opportunity to learn the skills of good clinical practice. Telehealth and its application to the supervision process will offer new avenues for provision of specialized supervising experiences training clinical interns in rural allied health placements.

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