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References

1. INTRODUCTION

Canada is a vast country and this makes it a challenge to provide adequate access to psychiatric care. Telepsychiatry can be an effective vehicle to provide this service to rural and remote communities. Telepsychiatry can also offer support for mental health care professionals who live and work in these areas. In recent years, advances in technology have enabled electronic methodologies to play an important role in the delivery of psychiatric services to distant sites (Picot, 1998). While these developments are exciting and they present new opportunities, there is a need to proceed cautiously.

Telepsychiatry Guidelines & Procedures for Clinical Activities was developed to meet the needs of clinicians and administrative staff working with the University of Toronto Psychiatric Outreach Program. This edition represents a work in progress and will be updated in response to internal and external feedback as developments occur in clinical practice, legislation, legal precedents, technology and evaluation. These guidelines are neither exhaustive nor absolute, nor do they speak to policy. Our goal is that these guidelines will contribute to the development of Canadian-specific guidelines and policies. The Canadian Psychiatric Association and others are working on developing guidelines, analogous to those produced by the American Psychiatric Association and the Royal Australian and New Zealand College of Psychiatrists (see Appendices II and III).

2. DEFINITION

Telemedicine is an enabling technology, originally conceived to enhance access to health care for people who are geographically isolated and underserved. The American Psychiatric Association defines telepsychiatry as "the use of electronic communication and information technologies to provide or support clinical psychiatric care at a distance.

This definition includes many communication modalities such as telephone, fax, e-mail, the Internet, still imaging, and live two-way audio-visual communication" (APA, 1998).

The Australian and New Zealand definition states that: "telepsychiatry is the use of communication technology to provide psychiatric services from a distance" (RANZCP, 1999, p. 2).

3. APPLICATIONS

The possible applications of videoconferencing technology in clinical psychiatry are many and they are in a state of constant evolution as new technologies are introduced and they become more readily available. Applications of telepsychiatry include

- Assessment and diagnosis
- Treatment
- Consultation
- Case conferencing and management
- Education — continuing education and supervision
- Support
- Forensic and legal assessments
- Administration and transfer of data
- Research
- Psychological testing.

The American Psychiatric Association resource document on telepsychiatry discusses a limited number of applications, including clinical interviews, either between different health professionals involved in a particular case, or including the patient and others, such as another health care provider or family members; emergency evaluations; case management situations where videoconferencing can bring together dispersed team members; forensic and legal assessments, including involuntary committal; supervision of procedures such as electro-convulsive therapy, hypnosis or amytal interviews, and clinical supervision of remote trainees, or "physician extenders" such as nurses, physician's assistants, etc. (APA, 1998).

The South Australian group suggests the main applications of telepsychiatry are

- Emergency and urgent consultations. This application benefits patients and clinicians in remote areas by decreasing the waiting period for a consultation. It includes pre-admission consultation.

- Inpatient liaison. When a patient from a rural area receives treatment at an urban hospital, telepsychiatry can be used as a tool to communicate with rural health care workers and family.

- Ongoing support of rural inpatient and outpatient services (Hawker & Kavanagh, 1998).

Currently the University of Toronto Psychiatric Outreach Program uses telepsychiatry for consultation, assessment, diagnosis, treatment support, support of local clinicians, case conferencing and education. We suggest consultation as the primary model for telepsychiatry, including consultee-centred and client-centred models as described by Caplan (1970) rather than the provision of direct patient care or treatment from a distance. Certainly we are aware of clinicians working in the treatment mode, but there are legal and practical implications that must be considered which are beyond the scope of this document (see section 4 - Medical Legal Considerations). We expect that the ability to provide treatment from a distance will continue to evolve and become more common.

Martin (1994) defined consultation as a "process of intervention between two individuals (usually professionals) and/or agencies where one individual (the consultee) asks for help or input from the other (the consultant) regarding a current work problem." She described it as an indirect, time-limited method of service delivery that is joint, systematic and problem solving, cooperative, collegial, confidential and voluntary, in the sense that the consultee chooses whether or not to participate and whether to accept input from the consultant/expert.

By working in a consultative way, the consultant addresses issues of duty of care (see section 4, Medical Legal Considerations, parts b and c) and does not accept responsibility that would be impossible to carry out. This model supports the consultee who is working at a distance in an underserviced area. It does this by providing expert knowledge that would otherwise not be available, thereby multiplying the influence of the consultant beyond what would be provided through direct patient care. In this model, the agency or clinician requesting the consultation retains primary case responsibility with the patient/client/parent, and control over which suggestions to implement.

In children's mental health, the clinician who is providing direct care to the child is often not a physician. Nevertheless, the consultation is often based on the need for medication. The consultant's role is to make recommendations. The local physician, clinician and family then decide if they wish to accept them. The consultant working with the family and/or child may have little contact with the local doctor, but with the family's consent, the consultant may communicate with the physician to respond to questions and provide information. This method of patient care also supports the clinician/case manager who sees the child/family frequently. It allows the consultant to provide information that may be useful in monitoring the efficacy of medical intervention to the prescribing physician.

We believe that a responsible clinician should always be present in a consultation. Ensuring that a responsible person is accessible contributes to a safe and supportive environment, especially as a patient may become emotional during a consultation. Involving the responsible clinician in the consultation has other benefits. It reinforces that the consultation is to the local primary caregiver, provides emotional support to the patient and family, and strengthens the therapeutic alliance by recognizing the local person's expertise on available resources.

4. PROCEDURES

It is advisable to have sufficient clinical documentation available in advance and to review it before going online. This contributes to a focused and efficient consultation. Technical support should also be available in case the videoconferencing equipment fails.

[a] Working with the Equipment

Videoconferencing is a real-time communication tool that connects participants in multiple physical locations utilizing both their visual image and spoken word (CAMH, 2001). The existing technology places some limitations on the process of an interview, particularly in terms of non-verbal communication. Following are some suggestions to help compensate for these limitations when conducting an interview by videoconference:

- In an optimal arrangement, the camera is set up so that the consultant clinician can initially view everyone in the room. Later, the consultant can focus on individual members of the family or care team as clinically indicated.

- In controlling the technical environment, the consultant should be able to adjust the pan, tilt and zoom of the near- and far-site cameras to allow for maximum flexibility of camera control, for viewing the patient and how the patient sees the consultant.

- Before beginning, the consultant should ensure his image is large enough so that his face can be seen clearly. He should sit a few feet away from the camera and zoom in on himself to determine if the size of his image is adequate. It is easier to engage with others when subtleties of facial expression can be seen.

- For the reasons above, the consultant should zoom in on the person/people being interviewed.

- In situations where the consultant is seated close to the videoconferencing equipment, he should look into the camera. Although it is natural to look at the image on the video screen, the consultant will appear to the other person/people as if staring at their feet. This is because the camera is usually located on top of the video monitor. Eye contact in many cultures is important to establishing rapport so eyes should be kept on the camera rather than on the video screen. If space permits, by sitting farther away from the equipment, the consultant can look directly at the image on screen.

- The microphones pick up extra noise easily. The consultant should avoid shuffling papers and other activities that can obscure the conversation. He should also enunciate clearly to help ensure that everything is understood fully. It is important to remember that when the videoconference unit is connecting with the remote site, the picture may not be visible, but the audio channel may have already engaged. Therefore, the microphone should be kept on mute until the start of the consultation.

- The consultant should wait for the other person to finish speaking before speaking, otherwise the sound may cancel out. Hand signals, such as raising one hand, should be used when there is a need to interrupt.

- The image the patient sees is very important in how he or she reacts to the entire experience. If the consultant is wearing a striped, checkered or white shirt or jacket, it may transmit a vibrating or distorted image. A solid colour works best.

- Both the consultant and the client room should be properly lit for clear video transmission. The room should be enclosed and soundproofed to ensure quiet and confidentiality, and it should be comfortably furnished.

[b] Materials

Materials required during the interview should be readily available, including the Compendium of Pharmaceuticals and Specialities (CPS), the Diagnostic and Statistical Manual of Mental Disorders 5th edition, text revision (DSM-IV-TR) or other reference material for the consultant; tissues, paper and pencil for the Folstein Mini-Mental Status Exam for adult patients; or toys and drawing material for children. Loud toys should be avoided as they may interfere with sound transmission.

[c] Recommendations and Reporting

Diagnosis and treatment options should be discussed prior to the conclusion of the session. This helps to ensure the recommendations are feasible and culturally sensitive. The family physician may attend or can be contacted by telephone after the session ends. Finally, a report should be sent to all referring and associated clinicians, such as the family physician, provided that appropriate consents have been obtained.

In many jurisdictions, telepsychiatry has been used for direct patient care, including treatment of individual patients, management of a ward from a distant site, prescription of medication and psychotherapy consultation. While these are potentially valuable services, the legal and practical implications are complex and beyond the scope of this document.

5. MEDICAL- LEGAL CONSIDERATIONS

According to the Canadian Medical Protective Association there are no legal precedents regarding telepsychiatry. Future actions will be resolved according to provisions of a reasonable standard of care, accompanied by good documentation regarding what was said (Broder, 2001a).

The most important principle is always act in the best interests of the patient. There is consensus among many authorities[1] that the issues to be considered include informed consent, clinical/case responsibility, duty of care, delegation of responsibility to a non-medical person, confidentiality, medical records, licensure and liability/malpractice.

[a] Informed Consent

According to the Oxford Dictionary, a consent is a voluntary agreement, compliance; permission (Fowler & Fowler, 1951). Consents have three components: disclosure/the consenting individual being properly informed, capacity, voluntariness.

Patients have the right to full information about any procedure in which they will be involved, including the potential risks, consequences and benefits (Brown & Evans, 1996; Evans, 1997). Consent can be implicit, e.g., attending a consultation, or explicit, e.g., signing a form. However consent is a process of providing information to the patient/family/client and includes more than a signature on a form.

Informed consent should be obtained, preferably in writing, from the patient, next of kin or guardian prior to the consultation. A written description of the activity should be prepared and given to those involved before the consents are signed. As many people may be functionally illiterate, the content of the consent should be discussed fully and a note should be placed on the chart that this occurred.

The patient and family should also be advised that information obtained will be used solely for the consultation or for evaluation of the program where the identity of the individual or family is kept hidden.

The consent must be voluntary and given freely, without pressure. It must be made clear to the patient/family that additional services will not be withheld if there is no agreement on the consultation.

The description of the consultation for which consent is being sought should include the following information:

- Potential risks, consequences, benefits and alternatives.

- A statement advising there is no penalty for disagreeing.

- Who has case responsibility and his or her obligations.

- Who has access to information.

- A description of procedures that will be followed.

- Who has ownership/access to the consultant's report.

- Who will take responsibility for transmission of information to the family doctor/paediatrician or other health professional, if desired.

- How information will be transmitted.

- A statement that the consultation has been discussed and the patient/family/guardian have been fully informed and are in agreement.

The capacity to consent or refuse treatment or consultation is now seen as the ability to understand the information that is relevant to making a decision about the proposed intervention, and to appreciate the reasonably foreseeable consequences of a decision or lack of decision (Brown & Evans, 1996).

The important determinant is not only the person's age, but the ability to comprehend and appreciate consequences. When a child or youth is the subject of the consultation, the prudent consultant will wish to involve parents or guardians and have their consent.

At the start of a consultation, the consultant should introduce the task, explain his or her expertise, and outline the process and limits of service. It is also the consultant's responsibility to clarify that the contract ends when the report is sent, and that he or she is not assuming duty of care or shared responsibility.

b] <u>Duty of Care</u>

The term implies a doctor-patient relationship that occurs if the consultant has

- Met the patient and knows the patient's name.

- Examined the patient's chart.

- Examined the patient.

- Accepted a fee for service.

The law in Canada is unclear on the issue of duty of care, but concedes that a doctor/patient relationship may exist if an appointment is arranged, but the patient has never been seen. In telepsychiatry this is even more complex as the "patient" may develop expectations prior to the consultation. The consent process and a preliminary discussion with the patient/family regarding expectations are helpful. "Interactive video link creates a "shared care" situation such that it is important that all parties have a clear, explicit understanding of their various responsibilities and obligations" (Broder, 2001a).

"Legal obligations flow from this duty of care, not the least of which is the obligations of the expert consultant to provide clear direction concerning the conclusion of the consultation — and provide this in writing to the attending physician or other primary care givers" (Broder, 2001a; CPSO, 1999; Ministry of Health, 1991).

The consulting and referring clinicians should identify who is responsible for communicating the results of the consultation to the patient or the patient's family if the family is not present. Similarly, the patient, or the patient's family, needs to understand who is responsible for care. If the family doctor is not in attendance, it should be decided who is to inform him or her about any recommendations. These responsibilities should be documented.

[c] Clinical Case Responsibility

In consultation, the clinical case responsibility remains primarily with the agency or physician requesting the consultation. The psychiatrist providing the consultation does not accept ongoing responsibility for primary care, nor will he or she prescribe medication or do treatment.

Notwithstanding, duty of care or shared care is implied if the circumstances might lead responsible people to think that was the case (Broder, 2001a; Broder, 2001b). Hence, it is important both at the beginning and at the end of the consultation for the consultant to make clear the extent of his or her involvement and to explicitly state that he or she will not continue to have responsibility and that the duty of care or shared care will be terminated at the end of the consultation.

[d] Delegation* of Responsibility to Non-Medical Personnel

The consultant must be clear that recommendations made are within the competencies of the consultee. There needs to be considerable discussion about any recommendations and whether they are feasible (Broder, 2001a). As the consultant is not assuming clinical case responsibility, it must be made clear that he or she is only making suggestions and it is up to the case manager and family to make decisions. There is no formal delegation of responsibility, as responsibility was never assumed and always resided with the case manager and family physician.

Delegation is a formal, legal word that implies supervision, control and responsibility. In providing consultation the consultant is not acting in that capacity and not assuming that responsibility.

[e] Medical Records

The agency or family doctor requesting the consultation is responsible for maintaining the medical record and should write a progress note. It should state the name of the clinician providing the consultation, identify those in attendance, duration, list recommendations, and any technical difficulties. The signed consent should also be kept on file.

Although the consultant should keep his or her records under safe conditions, these notes do not constitute a file in the formal sense. The consultation note sent to the agency becomes part of the formal medical file and is subject to the usual regulations. It should list the questions asked, process of consultation, identify who was seen and the duration, observations, conclusions, advice and suggestions offered, the diagnosis (if one was made), and any technical problems.

It is suggested that video or auditory tapes should not be made of routine consultations. Any tape becomes part of the medical record and is then subject to medical record-keeping regulations (Broder, 2001a; RANZCP, 1999; Shields, 2001). A consultant who wishes to record a tape for educational or research purposes should consult the policies governing both the local and remote telepsychiatry sites. Many agencies suggest using a separate consent form in this situation. The form should specify usage, how long the tape will be kept, and its audience.

[f] Patient Registration

Questions have arisen regarding the specific location of patient/client registration. The consensus is that registration should occur at the distant site where the medical-legal responsibility resides (Broder, 2001a; Broder, 2001b). Particular institutions that are housing the telepsychiatry equipment may have their own internal policies that demand that a file be opened (registered) on every videoconferencing consultation. The consultant, so to speak, is acting as a private practitioner when conducting a consultation, and regulations demanding dual registration do not exist. The consultant must also keep his own records.

[g] Confidentiality

Regulation 965 of the *Public Hospitals Act* mandates the well-established principle that patients' records are confidential. "The goal is to protect the privacy of patients, the confidentiality and security of their health information and the trust and integrity of the therapeutic relationship" (CMA, 1998). Before any information is released, proper release of information forms must be obtained.

Each agency must have in place a mandatory, written consent procedure, including permission to disseminate information from the file for research or evaluation purposes.

The Canadian Medical Protective Association has advised us that ISDN lines for videoconferencing, and fax or mail for the transmission of information are appropriate vehicles for the disclosure of information (Broder, 2001a; Broder, 2001b). Currently the public Internet does not provide complete confidentiality and should not be used other than for strictly impersonal, technical matters. However, the technical capabilities of the Internet are rapidly changing. An Internet protocol-based system of private and secure networks of connectivity is already in use and will soon be commonplace, providing

adequate security and ensuring patient confidentiality through encryption, password protection and accounting.

[h] <u>Licensure</u>

The consultant physician, with rare exception, must be licensed to practise in the province of the residing patient. Each province in Canada has restrictions on medical licences. The Internet is a special consideration and laws governing the Internet are in an early stage of development.

[i] <u>Liability/Malpractice</u>

Malpractice is a common usage term and connotes a breach of duty owed by someone rendering professional services to a person who has contracted for such services and denotes negligence. Negligence occurs when a physician owes a professional duty to a person, fails in that duty, and harm results which is caused by that failure. The party alleging negligence must establish that

- There existed a physician/patient relationship with the person, giving rise to a duty of care.

- The physician failed to meet that duty by not providing care in accordance with generally accepted standards of care of that profession.

- The physician caused injury or harm to the patient.

- There was a casual connection between the breach of care and patient injury.

The agency and physician consultant should carry adequate liability insurance and membership in the Canadian Medical Protective Association. Insurance coverage should specifically include telemedicine practice.

6. EVIDENCE OF EFFICACY AND COST EFFECTIVENESS

Baer, Elford and Cukor (1997) reviewed evidence of the efficacy of telepsychiatry. They identified five controlled clinical evaluations of the efficacy of telepsychiatry assessments and interventions dating back to 1961, as well as several controlled evaluations of the use of videoconferencing for the administration of standardized psychometric assessments. They concluded that evidence was not strong enough to support the widespread application of telepsychiatry and they recommended its limitation to research settings and to underserviced areas where telepsychiatry exists as the only option. They further suggested more studies of the cost effectiveness of telepsychiatry and of the settings, conditions and age-groups where it would be most useful.

Wootton's search of the literature produced 969 articles about cost effectiveness of telemedicine. He concluded that little information is available about cost effectiveness. However, he suggested that "where the benefits to patients outweigh the increased costs to the providers, telemedicine is worth considering" (Wootton, 2001).

Roine, Ohinmaa and Hailey (2001) examined and analyzed the evidence for the effectiveness and economic efficiency of telemedicine by reviewing studies that had been published up to January 2000. They concluded that "further assessment studies in the field of telemedicine are still clearly needed."

Doze, Simpson, Hailey and Jacobs (1999) reported that the use of televideo to provide consultation between the Alberta Hospital at Ponoka and five regional general hospitals would be as cost effective as sending a travelling psychiatrist to each hospital, provided that eight consultations a week were requested.

Trott and Blignault (1998) reported that a telepsychiatry service in rural Australia saved over $100,000 per year in health care costs when there was an established rate of over 40 consultations per month. This was mainly due to a reduction in employee travel costs. In addition, the service potentially saved almost $100,000 per year in reduced patient transfer costs. They acknowledged that equipment maintenance and (future) upgrade costs were not considered.

On the other hand, Werner and Anderson (1998) argued that the provision of rural telepsychiatry by private health care interests is not economically feasible. They based this on factors such as high startup and maintenance costs, the modest volume of consultations likely to occur, and the need for a psychiatrist to be physically present for some duties at certain sites. Thus, they supported the use of telepsychiatry only when no other option exists, or when it is part of specially funded research. They did not compare telepsychiatry to the cost of flying patients out for assessment. They also did not acknowledge that there may be a socio-economic payoff in terms of increased productivity and reduced social morbidity within the otherwise underserviced populations.

The complexity of health care funding means that costs incurred by one player in the health care sector (e.g., a hospital creating a videoconferencing studio for telepsychiatry) may yield savings by another player (e.g., the government program funding patient or clinician travel costs). This means that various parties in the health care system should work together to ensure that rational funding decisions are made. In Canada, the bulk of health care funding flows through the provincial ministries of health, which will therefore need to provide an overseeing and coordinating role for the implementation of televideo services. There is also a need for interministerial cooperation; e.g., in Ontario, between the Ministry of Health and Long-Term Care, and the Ministry of Social and Community Services, which funds most child psychiatry.

Most studies of telepsychiatry have been consumer satisfaction studies using questionnaires or focus groups (Dongier et al., 1986; Dossetor et al., 1999). Uniformly, they show high satisfaction by both clinician and consumer. Although face-to-face assessments are preferred, all agree telepsychiatry is an excellent alternative to travelling long distances, or not receiving the service at all.

The Telepsychiatry Program of the Division of Child Psychiatry at the University of Toronto commissioned the Community Health Systems Resource Group of the Hospital for Sick Children to prepare an evaluation design for the Program. As part of the exercise, the literature was reviewed. Boydell, Volpe and Brown (2001) found that most studies were descriptive, documenting pilot projects instead of ongoing programs, and they often used consumer satisfaction checklists. It was concluded that telepsychiatry evaluation research is in its infancy and there is a lack of data on its effectiveness.

The reviewers suggested an evaluation model that was qualitative, involving focus groups from the various stakeholders, and aimed at eliciting information about access to service, contextual sensitivity, utilization, technology, communication, process of delivery of service, time needed to do a competent job, triage system, committee meetings, education and satisfaction with the Program. The study reported that stakeholders were prepared to take part in focus groups but did not wish to complete questionnaires. Quantitative data continues to be collected by the Toronto program about the questions being asked of the consultant, and about sex and age distribution, recommendations, and where possible, DSM-IV diagnosis.

7. FUNDING

Currently, there is no provision for payment of psychiatric professional fees for telepsychiatry assessments through the Ontario Health Insurance Plan (Karlinsky, 2000). In Canada, only Ontario and Quebec are without mechanisms to cover telepsychiatry fees. Where telepsychiatry services have been established, usually with the help of grants or government funding, clinicians are generally paid through sessional fees. As well, some programs pay an hourly rate plus administrative time to read documents and prepare reports.

Given the additional time required for the clinician to participate in a telepsychiatric assessment (beyond the time required for a face-to-face consultation) and the possibility of technical problems causing delays, fees should either be flexible enough to accommodate this extra time and any unforeseen delays, or generous enough to take such factors into account. Fees should not be based on actual "online" time, but should include an allowance for set-up time, time to review records and obtain informed consent, compensation for cancelled or missed sessions, and any other complicating or delaying factors.

A similar funding scheme should be available for family physicians who wish to attend their patients' psychiatric consultations. In Ontario and other provinces, family physicians cannot charge the government health plan a fee for telepsychiatry. This means they must participate on their own time.

Funding proposals and plans must address a number of critical costs:

- Hardware and software costs, including the purchase, maintenance and upgrade of equipment at both the rural and urban sites.

- Telecommunications costs, e.g., ISDN installation, usage charges and/or monthly fees, bridging costs for educational sessions if more than one site is involved, etc.

- External consulting fees to research and recommend technological options for system purchases or upgrades.

- In-house administrative coordinator and technical staff support at both the rural and urban sites.

- Professional fees for psychiatric consultants providing the assessment via videoconference.

- Professional fees or staffing costs for mental health workers, family physicians or others participating in telepsychiatry consultations.

- Ancillary and infrastructure costs, such as space rental charges, faxing and telephone costs related to preparing or communicating the results of a telepsychiatry consultation, secretarial costs, or any other costs incurred by the rural or remote sites in supporting telepsychiatry services.

- Monies for staff of the consultation program to visit the distant sites.

- Supervision of trainees at distant sites. Issues of supervisor remuneration in this case need to be clarified.

In order to justify the expenditures incurred in implementing a psychiatric videoconferencing service, health care administrators must focus on both the immediate and long-term clinical and economic benefits expected, including

- The provision of psychiatric assessment and care where no other access is available.

- The provision of more timely care to patients who might otherwise experience a long wait for a visiting psychiatric consultant.

- Savings in travel costs for consultants, patients and families.

- Potential savings if telepsychiatry services help avert hospital admission, or if the availability of aftercare by means of videoconferencing facilitates early discharge.

- Decreased need to transport patients and/or their families to urban centres for mental health care.

There is also the possibility that the provision of telepsychiatry will increase overall health care costs, by extending care to patients who might not otherwise receive it. However, there may exist a socio-economic payoff in terms of increased productivity and reduced social morbidity within the otherwise underserviced populations.

8. OTHER APPLICATIONS

Technological advances have led to greater and varied interactions between clinicians and their patients. Some of these usages have been described but others are in early stages of development.

Forensic/legal telepsychiatric assessments are already occurring. However, because there is no precedent in law, a full understanding of the issues has yet to emerge. Clinicians skilled in such work are extremely scarce, so it is easy to imagine the appeal of using technology to facilitate access to forensic psychiatric consultations. At this point, we suggest caution before venturing into this field.

Computer-based formats exist for psychological testing and many clinicians use a variety of checklists to supplement their clinical work. It is anticipated that online psychological testing will experience rapid growth. The scarcity of clinicians makes this appealing as a way to facilitate access and enrich the type of service that can be offered.

9. INVOLVEMENT OF RESIDENTS

Because of the increasing importance of telepsychiatry, future psychiatrists will need to become skilled in providing these services. Psychiatry residency programs should provide opportunities for training in telepsychiatry.

This training should include two components: 1) Review of issues relevant to telepsychiatry (e.g., conducting interviews through videoconferencing; providing consultations to distant communities; cross-cultural issues; medical-legal issues; evidence of efficacy of telepsychiatry); and 2) Direct experience in telepsychiatry, under the supervision of a staff psychiatrist who is experienced in telepsychiatry. Through this

training, residents should gain comfort and expertise in telepsychiatry and may be more likely to continue this work in their future careers.

Telepsychiatry can also involve resident training in distant, underserviced communities (APA, 1998; RANZCP, 1999). Residents who are on rotations or electives in distant sites can participate in seminars occurring at their home site through videoconferencing. Residents can also receive supervision through videoconferencing. By increasing and enhancing the opportunities for resident training in distant sites, telepsychiatry may encourage residents to continue serving these communities in their future careers.

10. CONCLUSION

Although telepsychiatry has been used for more than 40 years, most of the practice and methods of evaluation have been through pilot projects (Picot, 1998). Users have been uniformly enthusiastic. However, the ability to finance programs has been limited for many years. We hope that this will change quickly. In the past, set-up costs were astronomical. However, with increased access to adequate technologies, these costs have decreased. Provincial health plans in most provinces, although not Ontario and Quebec, now cover physician costs for telepsychiatry and many provinces are setting up provincial systems of remuneration for telepsychiatry.

The federal government has also been instrumental in financing the development of telepsychiatry systems through Canada Health Infostructure Partnerships Program [CHIPP] grants.

Because there is no precedent regarding medical-legal parameters, the best safeguard is sound clinical practice based on the behaviour of clinicians in face-to-face encounters. This is the standard that will most likely be considered in test cases (Crolla, 1998; Evans, 1997; Granade, 1997; Granade, 1995; OMA, 1985). Comprehensive documentation is also advised.

Telepsychiatry is an exciting new world. It helps make universal access to psychiatric services a reality — even to the farthest corners of our vast land.

Endnotes

[1]See Allen, 2001; Bailey, Cerise and Creole, 2000; Brown and Evans, 1996; CPSO, 1999; Crolla, 1998; EHTEL, 2001; Evans, 1997; Granade, 1995, 1997; Karlinsky, 1999, 2001; Kates, N. et al., 1997; Ministry of Health, 1991, 1995; RANZCP, 1999; Shields, 2001.

CPA POSITION PAPER ON TELEPSYCHIATRY

I.   Introduction

Vast Canadian geography and a widespread population have always challenged our healthcare infrastructure. Advances in communications technology, including affordable high quality videoconferencing, present an opportunity to improve service delivery to isolated populations. Psychiatry, with its reliance upon history taking and visual observations, is particularly well suited to the use of videoconferencing.

Telepsychiatry may be defined as the use of electronic communications technology to eliminate or reduce geographic barriers to receiving psychiatric services. This definition may include technologies such as the telephone, fax, internet, email, still images and videoconferencing. In this report, telepsychiatry refers to the clinical use of live interactive full motion audiovisual communication, commonly referred to as videoconferencing.

As support for telepsychiatry grows, a national position statement has become desirable. This statement seeks to fulfill that need by providing guidelines addressing the prerequisites, applications and operations of telepsychiatry services. An appendix will describe various regional models and their stage of development.

II.   Role of the CPA

The Canadian Psychiatric Association by virtue of its status as a voluntary professional society dedicated to advancing the science and practice of psychiatry on behalf of clinicians and consumers is well placed to provide this position paper. While many types of mental health care providers provide telehealth services, this report is intended to apply primarily to psychiatrists.

III.   Prerequisites

A.   <u>Business Plan</u>

A plan which establishes the need for a service, a cost analysis, and the ability to provide and sustain a quality service, is essential before funding is obtained. Business plans are typically prepared by administrative personnel but significant psychiatric input is essential, especially to address clinical issues.

B.   <u>Consultant Prerequisites</u>

Consultant psychiatrists will hold the necessary credentials for routine psychiatric practice and will abide by appropriate legislation and ethical codes of conduct. This includes, but is not limited to:

➢   Licensure with a provincial College of Physicians and Surgeons

➢   Adherence to relevant provincial legislation:
- Medical Professions Act
- Privacy and Confidentiality Legislation
- Mental Health Act
- Others

➢   Adherence to the CMA Code of Ethics

➢   Credentialling satisfactory to the health authority (ies) operating and receiving the service

_____

- ➢ Maintenance of malpractice insurance by the CMPA or equivalent

- ➢ Compliance with the legislation and requirements of the medical licensing authority in the patient's jurisdiction

- ➢ Training to become comfortable with the equipment, proficient in basic operations, and familiarity with technical support procedures. This training is typically brief and practical. Detailed technical knowledge is not required.

C.   Service Model

Telepsychiatry almost always involve some degree of shared care with the patient's local physician and other mental health care providers. The nature of this arrangement should be clarified and mutually understood in advance. Most models of telepsychiatry require a general practitioner referral and encourage involvement of local mental health therapists. The existing local mental health services and access to resources such as hospital beds, specialized investigations, and sub-specialists should be clarified.

D.   Technology

Information and communication technology is changing and improving continually. This report does not seek to establish precise technical standards or requirements, but will provide general comments.

Videoconferencing may use different types of technology with different levels of bandwidth. Bandwidth refers to the amount of digitized information transmitted per second (kbs). Personal computer units, dual 32" monitor units or low bandwidth portable videophones may be used. While 128 – 384 kbs is standard in most programs, (384 kbs is said to provide 80% television quality) there are circumstances where lower or higher bandwidths are appropriate.

The judgment of the consultant will ultimately determine which equipment and what bandwidth is satisfactory for any given consultation. In the event that the technology is judged to be inadequate or if significant technical problems arise, alternate arrangements for assessment should be available. This may mean rescheduling the appointment, arranging for an immediate or subsequent face-to-face interview, arranging for hospitalization or arranging for alternate technology. It is expected that the responsibility for making alternative arrangements be clarified in advance. It is anticipated that local health care providers and administrative support staff will assist the consultant appropriately.

E.   Infrastructure

A significant infrastructure at the consultant site and receiving site is necessary to deal with the many operational issues mentioned later in the report. This infrastructure is significantly in excess of routine office or clinic practice and must be planned for in advance.

F.   Consumer Input

Prior to the finalization of the business plan, feedback from the community and potential consumers should be received and considered.

IV.   Applications

Telepsychiatry is appropriately used for many different clinical applications. Clinical judgement and patient consent are the major considerations in determining appropriateness. The contexts of treatment setting and working relationships are also important. Where a particular service is considered inappropriate or unethical in usual

care settings, it is not legitimized by the use of telepsychiatry. This section describes applications that are considered appropriate, but is not meant to be exhaustive.

A. Clinical

    1. Assessment
    A wide variety of clinical populations may be assessed including adult, child and adolescent, geriatric, forensic and emergency. In any situation adequate patient supervision and clinical support must be available. Patients are usually seen in a videoconferencing studio located within a hospital or an outpatient clinic. The presence of family, other healthcare providers or other sources of collateral information is generally helpful but not necessary in all cases. Indirect consultations with a healthcare provider or in a case conference setting may be appropriate.

    Many forensic assessments are possible. These include commitment assessments, review panel hearings and forensic evaluations. Valuable testimony and support from family members may be more accessible using videoconferencing. The consultant should determine whether the laws and regulations in the patient's legal jurisdiction allow for the use of telepsychiatry. Assessment and treatment of the prison population is also appropriate.

    2. Treatment
    Treatment services may include medication management, individual therapy, couple therapy, group education or therapy, routine follow-up, case management (with or without patient present), or procedure supervision. Procedure supervision for ECT, hypnosis, and amytal interview requires physician-to-physician consultation only and both physicians must be appropriately licensed and credentialled. The use of telepsychiatry does not allow for supervision where such supervision is inappropriate in a face to face setting.

B. Education
    Distance learning via videoconferencing is increasingly available. Didactic lectures, case presentations, interactive sessions and consumer and family education are possible in a point to point or multipoint format. Where case conferences involve identifiable data or live patient participation, the issues of confidentiality and consent require particular attention. As Royal College Maintenance of Certification credits become mandatory for FRCP certification CME delivered through videoconferencing becomes an important option.

    Clinical supervision of trainees, physicians and other mental health care providers can be done if the arrangement is appropriate in usual care settings and specific licensure, liability and financial arrangements are clarified.

C. Research
    Research on telepsychiatry as a service delivery tool and using videoconferencing as a methodology to facilitate psychiatric research in other areas are both appropriate.

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Increasing calls for health services research make telepsychiatry itself an attractive research area, especially where controls to other models of care can be established. Consent protocols must ensure that patients will not have their care compromised by refusing to participate. Rigorous designs examining patient outcomes are needed to ensure that telepsychiatry is clinically equivalent to face-to-face services.

D.   Administration
Administrative meetings frequently involve travel which can be greatly reduced using videoconferencing. Participation may also become possible for people who would otherwise not attend.

E.   Other
Hospitalized patients may use videoconferencing to visit family, friends or professionals in their home location. These visits may be part of discharge planning.

Telepsychiatry can help access remote psychiatrists with particular skill such as fluency in another language, knowledge of a particular culture, or expertise in a subspecialty area. Cross border issues of a regulatory and payment nature must be considered.

V.   Operational Issues

A. Consent and Confidentiality
Although telepsychiatry is becoming an accepted standard of care it is recommended that a written consent to participate be signed by the patient. This consent should specify:

- the general nature of the technology and interview

- that participation is voluntary and alternative care will not be withheld because of refusal to participate

- that the accepted standards of confidentiality applicable to face-to-face service still apply

- whether the session is being recorded and for what purpose

- any significant risks

In addition, the patient must be informed of the presence of other individuals at the consultant's site, whether on camera or off. Similarly, consultants should know of all those present at the patient's site.

Any research projects should follow usual protocols for ethics review and consent to participate.

Where patients are involved with a teaching session or broadcasts to multiple sites, special care must be taken to explain the less stringent confidentiality safeguards. For example, multi-point broadcasts often require a non-clinical bridge technician to monitor the call.

B. Referral Process
The process for accessing telepsychiatry services will vary with the nature of the service and the service model. For patient interviews a referral from the patient's general practitioner is usually required although exceptions will exist, such as forensic assessments, referrals from a mental health clinic (General Practitioner involvement is still desirable), and third party assessments.

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The step-by-step protocol for booking an appointment, including contact names and phone numbers, should be widely distributed.

C. Scheduling

As multiple sites offer and deliver clinical, educational and administrative services, a scheduling system will require the ability to handle a wide range of requests. A central booking system offers advantages in reducing double booking and other errors.

D. Technical Support

Although many systems can be started and shut off by clinicians with minimal training, it should be anticipated that technical difficulties may occur and require technical support on a priority basis. Cancelling a session due to technical difficulties should be a rare event.

E. Medical Records

The production and maintenance of the medical record should closely resemble the processes for face-to-face services in the context of the service model being used. Storage, ownership, distribution and access to records should be clarified in a policy. Adherence to relevant legislation and organizational protocols is necessary.

The record should routinely note that videoconferencing was used and whether technical problems affected the interview.

F. Reimbursement

Various models of payment for physician services exist. These mainly include sessional billing and fee-for-service billing. The fee-for-service rates should be at least equivalent to face-to-face services with consideration given for technical delays and the need for extra data collection or administrative duties associated with the service.

Loss of income should not exist as a barrier to physician involvement.

VI.   Evaluation And Research

Evaluation requests will be received from various sources including funders, various levels of government, partner organizations and internal departments. Significant resources should be in place to meet these demands, many of which have different specifications.

VII.   Medical Legal Coverage

The major medical malpractice carrier in Canada (CMPA) considers the provision of telehealth services to be similar to the provision of other covered medical services including telephone contacts with patients. The clinician must consider the appropriateness of videoconferencing in any given situation. The expected standard of care is the same as for similar services provided in other settings.

VIII. Summary

As the use of videoconferencing in psychiatry expands, national guidelines such as these should serve as a useful reference for programs that develop their own guidelines and standards. The clinical aspects of telepsychiatry in most cases do not differ significantly from routine face-to-face psychiatric practice. The planning, operations and evaluation of a telepsychiatry service are significantly more complex .Ongoing evaluations and research should address the benefits of this complexity.

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Apa Resource Document On Telepsychiatry Via Videoconferencing

(Approved by APA Board of Trustees 7/98)

OUTLINE:

I.   <u>Introduction</u>
The widening scope and role of telepsychiatry as a product of the Digital revolution, technologic advance and market forces, and the need for guidelines

II.   <u>Definition</u>

III.   Applications
 A.   Clinical Applications
  1.   Scope
  2.   Clinical Interviews
  3.   .Emergencies
  4.   Case management
  5. Forensic Psychiatry
  6.   Procedures
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 B.   <u>Other Applications</u>
  1.   Distance Learning
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IV.   <u>Privacy, Confidentiality and Informed Consent</u>

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I. INTRODUCTION

Telemedicine is an enabling technology, originally conceived to enhance access to health care for the geographically hard-to-reach and the underserved. Widening experience with the technology, in combination with the Digital Revolution and market forces, demonstrates that the thrust of telemedicine is much broader and that it will become the way we are all served - whether underserved or not -with greater efficiency , continuity and timeliness.

Telemedicine -and, by extension, telepsychiatry -is becoming more widespread, less costly, and new applications are emerging. Over the last decade the technology has moved from expensive room-sized systems to the desktop personal computer, now extending to the Internet as well. In recent years telemedicine programs have increased in number as hospitals, academic departments, managed care organizations, home health care, schools, prisons and individual providers are migrating the technology to where the patient happens to be electronically. The widening scope of applications now includes hospice care, cancer support groups, substance abuse and depression screening, teleconsultation to maintain military troops at the front, remote consultation to obviate language or cultural barriers at the local site, and telepsychiatric care of deaf mentally ill via American sign language. Economies of scale can be achieved by providing telehealth care to capitated populations, such as in correctional and managed care, with the potential for cost containment and quality management as well as for increasing competition for patients nationally and internationally. Widening "internetization" of health care implies that the computerized patient record, patient access to vast amounts of health information, and provider access to patients anywhere on the World Wide Web will be commingled in ways that will likely modify the practice of psychiatry and the doctor-patient relation as we have known it. Psychiatry is now confronted with new opportunities and challenges; how will it respond in the "information era"?

Clinical guidelines are urgently needed to assist physicians in using the technology and to safeguard quality of care, confidentiality , ethical practices and risk management. At this time, when communications technology is changing rapidly and when data from ongoing demonstration projects to determine cost, quality and effectiveness are incomplete, it is too early to establish clear standards. Nevertheless American psychiatry must begin to address the issues. While we await more data (e.g., validation studies using telepsychiatry in differing diagnostic conditions, age groups and treatment situations), the following practices are proposed, mindfulthat this work in progress will be ~odified by the telepsychiatry of the future.

II. DEFINITION

Telemedicine has been variously defined. To paraphrase the National Library of Medicine definition of telemedicine as it applies to psychiatry , telepsychiatry is the use of electronic communication and information technologies to provide or support clinical psychiatric care at a distance. This definition includes many communication modalities such as phone, Fax, email, the Internet, still imaging and live interactive 2-way audio-video communication. Live interactive 2- way audio-video communication - videoconferencing -is the modality addressed in the following report. Videoconferencing has become synonymous with telemedicine involving patient care, distant education, and administration.

III. APPLICATIONS:

The technology supports clinical, educational, administrative and research applications. These will be discussed in turn.

A. CLINICAL APPLICATIONS USING VIDEOCONFERENCING
1. *Scope*
Clinical applications encompass diagnostic, therapeutic, and forensic modalities across the age span. The technology appears applicable to a broad range of diagnoses, although suitability for a specific patient may depend on the needs of the patient at hand. Points of delivery may include hospitals and their emergency rooms, clinics, offices, homes, nursing homes, schools and prisons. ommon applications include pre-hospitalization assessment and post-hospital follow-up care, medication management and consultation. Psychotherapy, including supportive, cognitive- behavioral, brief interpersonal, psychodynamically-oriented, psychoanalytic, group and family therapy, is feasible. Commitment hearings, evaluation of competence and forensic evaluations are feasible.

2. *Clinical Interviews*
Telepsychiatry may be conducted between physicians in consultation, between a physician and another health care provider (e.g., a case manager, clinical nurse practitioner or physician assistant), or between mental health professionals and a patient. Other persons, such as another health care provider or family member, may also be present in a patient interview. The telepsychiatric interview may be an adjunct to periodic face-to-face contact or it may be the only contact; it may be supported by additional communications technologies such as Faxed consultation information or transmission of a computerized patient record. The consulting physician should request face-to-face consultation if the patient's condition does not lend itself to a telemedical consultation or if visual or sound quality is inadequate. Referring and consulting physicians should clarify who will be responsible for communicating results to the patient.

The consulting clinician's role must be clearly defined, and the patient needs to be clear as to who is responsible for his/her care. If the psychiatrist is to be the treating clinician for a patient at a distance it is helpful for the psychiatrist to have a working relationship with local mental health professionals and psychiatric services; in this way the patient then has available a full continuum of care which can be directed by the psychiatrist even though the patient may reside a substantial distance away. When a patient is in ongoing treatment via telepsychiatry , availability of the physician at times other than those scheduled should be addressed as in any

practice setting. Physician availability should be clearly understood by all parties involved, and documented.

There is little information concerning the human factors in telepsychiatry: in what ways it may differ experientially from face-to-face contacts, how distance and telecommunications equipment influence interactional and dynamic issues such as transference and countertransference. Anecdotally it has been observed that, given good technical quality, people tend to accommodate to communicating via television equipment "as if I were in the same room as the doctor ." Physicians report that consultation tends to be more focused and briefer than when conducted face-to-face, with less time devoted to the usual social rituals of opening and closing a face-to- face interview. There is an impression that the interposition of telemedical equipment places the patient and provider on a more equal footing, thereby altering the power differential that can arise in office interviews. It is likely that telecommunications technology in general, with its potential for greater patient empowerment, can influence the doctor-patient relationship (Alessi, Huang and Quinlan). This is an area vitally in need of more information.

3. Emergency Evaluations

While the presence of another person raises issues of confidentiality, certain psychiatric emergencies may require it if, for instance, a patient is suicidal, homicidal, dissociated, demented or acutely psychotic. In general such patients should not be managed via telepsychiatry without support staff or responsible family
members present at the remote site unless there are no adequate alternatives and immediate intervention is deemed essential for patient safety. In such instances telepsychiatric assessment and intervention can be considered while other options are aggressively pursued. The possibility of equipment failure (see below) further dictates availability of responsible individuals at the remote site. A psychiatrist who provides direct patient care through telepsychiatry is responsible for considering options if acute hospitalization of the patient is indicated; at a minimum, resources available in the patient's immediate area should be identified and documented and the patient so informed.

4. Case Management

In large distributed systems where multiprovider case management is needed, teleconferencing allows collaboration between all the involved clinical participants regardless of distance. Clinical treatment plans can be developed with input by experts not otherwise available. These plans can be recorded and shared with other clinicians who might care for the patient, or with the patient himself.

5. Forensic Psychiatry

Telepsychiatry is appropriate for a variety of forensic uses, including patient assessment for involuntary commitment (Bear) and for conducting commitment hearings. Indeed, in the latter case it may enable family members to give testimony and emotional support who might be unable to attend otherwise. The physician should determine if a state's commitment laws will allow a telepsychiatric evaluation for the purpose of involuntary commitment. Similarly, if evaluating a patient who is physically located in another state and who is deemed to need involuntary commitment, the physician must determine that state's legal code and its policy for accepting out-of-state evaluations. The physician or psychologist doing the involuntary commitment evaluation may require a license in the state where the involuntary commitment will occur.

6. Procedures

Telepsychiatry-assisted psychiatric procedures (hypnosis, electroconvulsive therapy, and amy tal interviews) may be considered appropriate if there is direct physician-to-physician consultation, and if the physician attending the patient has appropriate credentialing, licensure, and malpractice coverage to perform the procedure in a given state. Physician-to-other health care provider consultation for the performance of these procedures is not appropriate.

7. Clinical Supervision

Supervision of a psychiatry resident at a distant site can facilitate both training and patient care. It may be done either in real time with the supervisor present via videoconferencing, or, when appropriate, by store and forward technology. Licensure (particularly if services are across state lines), liability coverage and financial factors must be considered in determining the feasibility of such an application.

Physician extenders are helpful and appropriate in the use of telepsychiatry. Adequate supervision must be maintained, and credentialing, licensure and malpractice must be appropriate for the services rendered for the extenders as well as the physicians involved.

B. OTHER APPLICATIONS IN TELEPSYCHIATRY 1.
Distance Learning

Teleconferencing technologies for education encompass a broad range of applications including but not limited to point to point applications, such as a physician to physician teaching session, or physician to patient session, or point-to-multipoint sessions such as would occur in a classroom setting where the teacher is at one site and the "pupils" at the others. The latter represents a more traditional model of broadcasting as we know it except that it can be interactive in real time, allowing the establishment of a real time dialogue and teaching experience unlike traditional broadcasting. Distance learning supports patient education about medications, off- site mentoring to teach new techniques, and multi-site transmission of "Grand Rounds" conferences and Continuing Medical Education (CME). The debut of "cybercourses," already a reality on the World Wide Web, promise further alterations in education as we have known it.

2. *Research*

Telepsychiatry appears promising as an effective and reliable means of gathering research data from certain clinical populations (Baer, Jones, Zarate). It enables mu1tisite acquisition of information for large clinical databases (Stamm). Validation studies are needed, however, to address the use of telepsychiatry in specific populations designated by diagnosis, age, sex and other variables; it is too early to generalize findings from one diagnosis to another. Studies on cost, efficacy and patient satisfaction are just now appearing.

Patients who refuse participation in research studies via telepsychiatry should be made aware that refusal to do so will in no way jeopardize their right to appropriate care (although this may be the only vehicle for care in some instances).

3. *Administration*

Interactive 2-way audio-visual communication between distant hospitals, clinics, schools, and justice centers is effective for administrative services and support. It may achieve cost savings in large systems. It is inappropriate for nonclinical administrators of health care systems to use the technology to make clinical decisions.

IV. PRIV ACY , CONFIDENTIALITY AND INFORMED CONSENT

Patients have a right to privacy and confidentiality of communication, and many states recognize a higher confidentiality standard for psychiatric records. Evaluation or treatment must be performed in an environment where there is a reasonable expectation of absence from intrusion by individuals not involved in the patient's direct care. However, strict privacy may be difficult to maintain in all circumstances (Gilbert). Hospital or clinic staff involved in the patient's care, family members and telemedical technical staff may at times be present in interviews. Patients should be informed about others present in the room at a distant site if such persons are off camera. On occasion telepsychiatric interviews will be audio-or video-taped, although this practice is often avoided to prevent lapses of confidentiality. Informed consent involving these issues should be obtained either verbally or in writing from the patient, next of kin or guardian. If a consent form is used, it should adequately reflect that it may not always be possible to assure privacy.

As with any procedure, the patient must be made aware of the potential risks and consequences as well as the likely benefits of telemedical consultation, and must be given the option of not participating. Patients should be informed that care will not be withheld if the telepsychiatric encounter is refused, although such care could depend on availability of alternative resources.

Assuring the integrity of the analog/digital stream may warrant the use of encryption and of confidentiality clauses in service agreements, supplemented by monitoring and quality control.

v. MEDICAL RECORDS

Medical records of telepsychiatric interventions are to be maintained as with psychiatric interventions in general. If the quality of a transmission was poor, this should be documented in the patient record. Telepsychiatric care is subject to Quality Assurance monitoring as with other forms of medical care; procedures should be systematically monitored and evaluated as part of overall quality improvement of a facility.

The progress note for an interview by videoconference may include the following information:

1. The location of the clinician providing the service (this may be different from the clinician's office) ;
2. The location of the patient (town, facility where seen);
3. Type of equipment used and any malfunction that may affect clinical care; 4. Who was present during the office visit, and what their role was.

Who owns the medical record and where the original record is to be kept should be clear. If the record is kept at the site where the patient is being seen, arrangements should be made to have a copy of the record as well at the site of the treating clinician not only for routine care but in case of emergencies.

VI. TRAINING, LICENSURE AND LIABILITY

Training for clinical applications should include familiarity with the equipment, its operation and limitations, and means of safeguarding confidentiality and security. Psychiatrists have an obligation to stay current with the technology and its uses through continuing education.

Physician licensing requirements vary from state to state. If a physician is providing consultation to another physician, supervising a health care professional, or providing direct patient care across state lines, the physician must establish with the state medical board in that patient's state whether a medical license from that state is required in order to provide telepsychiatric services. Interstate use of telepsychiatry may require multi-state licensing unless a national telemedicallicense is developed.

The physician should establish with his malpractice carrier whether coverage is provided for interstate use of telepsychiatry. As yet there are few guidelines for jurisdictional liabilities of physicians providing or receiving consultation in another state; nor has jurisdictional liability been established for a vendor of telemedical equipment which fails while in use across state lines. When equipment failure prevents adequate diagnosis or treatment, this should be documented in the patient record.

VII. EQUIPMENT FOR VIDEOCONFERENCING

Selection should be based on ease of use, image and sound quality, cost, and suitability to given applications. For instance, simple cognitive screening is not likely to require the resolution needed to detect extrapyramidal signs; an interview with an active youngster is likely to require more sophisticated equipment than one with a demented geriatric patient who moves and speaks little.

The major components include monitors, cameras, CODEC, a desktop computer, microphones, speakers and other audiovisual interactive technologies such as videophones.

Monitor
The monitor, or screen, shows the image of the people at the distant site(s); it may show a picture of the local site too. Room-based units are often 33" or larger. Desk top screens are usually 17" and are adequate for routine interviews where no more than 3 or 4 persons are at the distant site. Monitor size only allows for a bigger picture. Clarity of picture and motion handling are primarily a function of bandwidth.

Camera
The camera captures images at the local site to send to other sites. There is a wide range of cameras available. There is little difference in the quality of the picture from camera to camera as the clarity of the image and the motion handling is primarily a function of the bandwidth and the algorithm used to compress the image prior to transmission to another site. Factors to weigh include lens Quality, whether the lens is fixed or can "pan" about a room, and whether it can "zoom" in (for cioseup) or out (for distant) views; a wide angle lens is useful if more than I or 2 people are to be viewed. It is helpful but not mandatory for the provider to have control over remote camera zoom and scan. A document camera for transmission of graphic material is helpful but not essential.

CODEC
The CODEC (coder -decoder) is the heart of the teleconferencing device. It transforms the analog signal (the picture) picked up by a video camera to a digital signal and compresses it for transmission to the distant site; there, another CODEC transforms the digital signal back to an analog one for viewing on the video monitor. The compression algorithms used are responsible for the quality of the signal ultimately received. There are industry standards for video and sound compression and for inter-network compatibility with other teleconferencing systems.

Bandwidth

Bandwidth refers to the amount of data that can be transmitted electronically. To put this in perspective, regular analog phone lines operate at 56-64 Kbps. This is enough bandwidth to handle voice communication, though if one is also transmitting video signals then more bandwidth is needed to avoid motion and image distortion. For this reason digital ISDN lines (128 Kbps) are commonly used. Only a few years ago it was thought that high bandwidths (T1-384 Kbs) were essential for adequate resolution to assure clinical accuracy. With subsequent technologic advances it now appears that a bandwidth of 384 -128 Kbs is acceptable in most situations. The lower bandwidth (128 Kbps) appears suitable for many clinical applications and for administering questionnaires and rating scales (Baer, Bear, Jones, Ermer, Zaylor, Zarate). The higher bandwidth (384 Kbps) enhances recognition of negative symptoms of schizophrenia (Zarate), recognition of manual tremors and pupillary reflexes, and it may enhance patient and provider satisfaction. However, experimentation with very low bandwidth transmissions over ordinary telephone lines suggests that, with improvements in compression algorithms, consultation with certain patient populations such as demented nursing home patients who move little may be feasible. Indeed, future technologic advances may render bandwidth a non-issue.

PC

A desktop computer can be used in conjunction with hardware and software packages to provide interactive videoconferencing. Currently a microprocessor with a speed of at least 166 Mhz is recommended for optimal performance.

Videophones

These are self-contained units which run off analog telephone lines and allow interactive videoconferencing at a low bandwidth.

Other equipment

High quality microphones and speakers assure aural communication.

The capacity to store audio and video information, such as VHS cassettes, optical or hard discs, may be useful for medicolegal, teaching or research purposes, though for most clinical situations it is unnecessary and only increases the burden of securing information.

When Equipment Fails

Procedures for dealing with equipment failure should be anticipated. If the physician initiates the
conference, s/he is responsible for attempting to reestablish an adequate 2-way audio-video link, or else for phoning the patient. In emergency situations it is essential that there be adequate personnel at the remote site in the event of equipment failure

VIII. REIMBURSEMENT

Reimbursement for telepsychiatry services should follow customary charges for the delivery of the appropriate CPT code(s). A structure for reimbursement of collateral charges, e.g. technician and line time, should be identified. At present, reimbursement is obtained either from individual contracts, from managed care, from third party payors in a few states, and from Medicaid and Medicare in limited situations; reimbursement possibilities will likely broaden in the future.

IX. SUMMARY

Not only is telepsychiatry a potentially appropriate technology for the delivery of clinical psychiatric services, distant learning, administration and research; it is likely to change psychiatry as it has been practiced. Much information is still needed, particularly in psychiatry where questions for the future include: how is telepsychiatric health care delivery the same as or different from that delivered face-to-face; are there certain conditions or treatments best handled telemedically; does the technology alter the patient-provider relationship? However, given the many clinical, ethical, legal and liability issues in its use, minimum standards for care are critical. To quote Hoover, this is not an occasion for panic but a time for speed.

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Analog signal
A continuous electrical signal in the form of waves that vary as the source of the information varies (e.g" as the contrast in an image varies from light to dark).

Asynchronous communication
Two-way communication in which there can be a time delay between when a message is sent and when it is received.

Bandwidth
>A measure of the information carrying capacity of a communications channel; a practical limit to the size, cost, and capability of a telemedicine service, It is usually described in Bps.

Baud

>A unit of digital transmission signaling speed of information transmission; the highest number of single information elements (bits) transferred between two devices (such as modems or fax machines) in one second.

Bit

Bps

>**Binary digit, the smallest possible unit of information making up** a **character or** a **word in digital code processed by computers.**

Codec
>A "code/decode" electrical device that coverts an analog electrical signal into a digital form for transmission purposes and then coverts it back at the other end.

Compatibility
>The ability for computer programs and computer readable data to be transferred from one hardware system to another without losses, changes, or extra programming.

Compressed video
>Video images that have been processed to reduce the amount of bandwidth needed to capture the necessary information so that the information can be sent over a telephone network.

Computer conferencing
>Group communications through computers, or the use of shared computer files, remote terminal equipment, and telecommunications channels for two-way, real-time communication.

Data compression
>Processing data to reduce storage and bandwidth requirements. Some compression methods result in the loss of some information, which mayor may not be clinically important,

Dedicated line
>Permanent connection between two telephones or PBXs (see private branch exchange, below); the signal does not need to be switched.

Digital
>Discrete signals such as those represented by bits as opposed to continuously variable analog signals. Digital technology allows communications signals to be compressed for more efficient transmission.

Digitizing
>Conversion of analog into digital information.

DSI
>A digital carrier capable of transmitting 1.544 Mpbs of electronic information. Also known as T1; the general term for a digital carrier available for high-value voice, data, or compressed video traffic.

Encryption
> The rearrangement of the 'bit' stream of a previously digitally encoded signal in a systematic fashion to make it unrecognizable until restored by the necessary authorization key. This technique is used for securing information transmitted over a communication channel with the intent of excluding all other than the authorized receivers from interpreting the message.

Firewall
> Computer hardware and software that block unauthorized communications between an institution's computer network and external networks.

Hardware
> Physical equipment used in data processing, as opposed to computer programs and associated documentation.

Integrated Services Digital Network (ISDN)
> A digital telecommunications technology that allows for the integrated transmission of voice, data, and video; a protocol for high-speed digital transmission.

Leased lines (Dedicated lines)
> Lines rented from a telephone company for the exclusive use of a customer.

Local Access Transport Area (LATA)
> Local telephone service areas created by the divestiture of the Regional Bell Operating Companies formerly associated with AT&T.

Modem
> A modulator/demodulator, this device converts digital information into analog form for transmission over a telecommunications channel and reconverts it to digital form at the point of reception.

Peripheral equipment
> In a data processing unit, that may provide the system with outside channel communication or additional facilities.

Store-and-forward
> Transmission of static images or audio-video clips to a remote data storage device, from which they can be retrieved bya medical practitioner for review and consultation at any time, obviating the need for the simultaneous availability of the consulting parties and reducing transmission costs due to low bandwidth requirements.

Telemedicine
> The use of audio, video, and other telecommunications and electronic information processing technologies to provide health services or assist health care personnel at Distant sites.

Transmission speed
> The speed at which information passes over the line; defined in either bits per second (bps) or baud. Plain old telephone service (POTS) runs at 56Kbps. An ISDN line can run at between 128-384Kbps,

Video conferencing
> Real time, usually two-way transmission of digitised video images between two or more locations

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Telepsychiatry

Contents

1. EXECUTIVE SUMMARY

1.1 Telepsychiatry is the use of communications technology to provide psychiatric services from a distance. Telepsychiatry can be used .clinically for both assessment and treatment, is effective for case conferencing and consultation-liaison work, and can be incorporated into a range of service delivery models. Telepsychiatry can enable rural and remote communities to gain access to psychiatric services as well as provide support for health care professionals in rural and remote locations. This Position Statement endorses the ongoing development of telepsychiatry , including adequate resource-based funding and infrastructure support and its use to assist in addressing

the unmet mental health needs of rural and remote communities.

2. INTRODUCTION AND DEFINITIONS

2.1 Since their advent, developments in communication technology have quickly been exploited for the delivery of medical services from a distance, initially with the telephone and wireless radio, then with live, one way and later two way interactive audio-visual videoconferencing. While there were projects using videoconferencing for support of psychiatry in Nebraska as early as 1959 O~) there was no psychiatric services using telecommunications in a truly integrated and sustained manner, until the 1990s when digital transmission started to replace analogue. With the digital revolution, the ability to compress and rapidly transmit large amounts of data became more readily available. As the costs of hardware and transmission continue to drop, the quality of picture, sound and synchronicity steadily improves. Developments in information and communication technologies have converged as the personal computer has become widely used and modems and the Internet enable easy and efficient electronic communication and access to and exchange of information. One can now confidently state that technology is changing the delivery of health services and telemedicine has come of age.

2.2 Telemedicine, or telehealth, is generally regarded as the use of information and communication technologies for the delivery of medical services from a distance (2). New terminology evolves as each new application prompts the development of another word to describe the particular use of technology for the service delivery. The term telepsychiatry is used to refer to the use of information and communication technology, and particularly videoconferencing, for the delivery of psychiatric services from a distance.

2.3 Internationally, radiology and other specialties involving the transmission of diagnostic images have been the most frequently used form of telehealth technologies. In Australia, it has been psychiatrists who have developed the unique potential of videoconferencing for enabling rural and remote communities to access specialty resources (.3.). Consequently, from the range of possible telehealth applications, telepsychiatry is one of the most widely developed throughout Australia. From an international perspective, telepsychiatry has been more established in Australia than anywhere else in the world. All States within Australia either have well established ongoing telepsychiatry services or are developing or implementing telepsychiatry projects.

2.4 Likewise telepsychiatry has been successfully introduced in New Zealand where the major users are the public services. Clinical uses range from initial assessment through to ongoing treatment. Educational and administrative utility and cost reduction are clear. The precedent for use in Mental Health Act assessments has also been established.

2.5 There have been a number of factors contributing to the rapid and successful adaptation of telepsychiatry within Australia. The geography of Australia is such that there are large, sparsely populated, under-resourced rural and remote regions G). There have been increasing recognition and political attention to the unmet mental health needs of rural and remote communities (~ Q). The inequities of mental health resources available to rural and remote communities compared with metropolitan areas, along with the corresponding maldistribution of psychiatrist workforce, have prompted serious review and debate (1). The objectives of the National Mental Health Strategy focused on the need to move the loci of specialist service delivery from the tertiary institution into the community. Both internationally and within Australia there has been an increasing recognition of the importance of primary healthcare providers, particularly the general practitioner, in the early detection and management of mental health problems (~). These developments and realisations have led to a call for a review of the use of specialist resources and the development of new models of psychiatric service delivery. Telepsychiatry can provide a means to start addressing such Issues.

2.6 Telepsychiatry has enabled rural and remote communities to access psychiatrists in a timely and responsive manner so that local health care providers (most significantly the mental health workers and the general practitioners) are supported in their care of psychiatric patients in their own community (2). Early research has demonstrated that the psychiatric interview conducted over videoconferencing is reliable for diagnostic assessment and treatment recommendations (10). Patient and referrer satisfaction has consistently shown that this mode of clinical service delivery is widely accepted 11,l2). Many thousands of psychiatric interviews have subsequently been conducted throughout Australia and New Zealand. The ongoing demand for these services and the increasing integration of telepsychiatry into mainstream services amply demonstrate that telepsychiatry is an effective means by which rural and remote communities can access specialist psychiatric resource (3).

2.7 Already telepsychiatry is proving itself to be a sustainable option to enable psychiatrists to provide clinical assessments and support that enhance the locally available primary care psychiatry. Experience is demonstrating that when used in association with visiting and/or resident psychiatrist, telepsychiatry can support and enhance such services and promote the recruitment and retention ofhealthcare professionals in rural and remote regions.

3. Applications

3.1 Clinical Applications

Limitations

3.1.1 While videoconferencing can provide an effective means of communication for clinical purposes, it will never be as good as, or preferable to, the clinician being present with the patient. Videoconferencing should not be advocated as a means of replacing visiting or resident specialists.

3.1.2 In determining the particular clinical limitations of telepsychiatry , or what type of patient is or is not appropriate for assessment over videoconferencing, the basic consideration is whether the patient is willing and able to sit in front of a camera and communicate. It is thus more a behavioural and attitudinal consideration, rather than a diagnostic one, when considering the suitability of a clinical situation for telepsychiatry .

3.1.3 Inherently, telepsychiatry depends on the transmission of only visual and auditory information across a distance, and thus any other information would need to be obtained by a clinician who is present in person with the patient.

3.1.4 Once a clinical assessment has been done over videoconferencing, it is then a clinical decision as to whether the patient can be safely and effectively managed (with or without regular reviews via telepsychiatry) in the local site, or whether the patient needs to be transported for care in a larger and better resourced centre.

Scope of clinical telepsychiatry

3.1.5 Videoconferencing can be used in primary and secondary consultative capacities. Provided the patient is able to communicate over the videoconferencing equipment and all the information required for an assessment can be obtained audiovisually or conveyed to the assessing consultant by the local clinician, then comprehensive psychiatric services can be delivered over videoconferencing to all age groups; The nature of services provided will vary in terms of the experience of the clinicians and others involved, service availability and patient treatment needs. These services should be subject to periodic review.

3.1.6 The following are examples of the services that can be delivered via telepsychiatry:

- Crisis assessment and intervention
- Follow up and review of treatment .
- Non acute medication review
- Development of a clinical management plan .Psychotherapeutic support
- Cognitive behavioural therapy .Group therapy .Hypnotherapy
- Psychological testing
- Medicolegal assessments

Models of service delivery

3.1.7 The development of patient focused telepsychiatry inevitably forces review of the clinical models of service delivery. **The most successful telepsychiatry services are centred on the provision of specialist support from the distant specialist for locally based primary health care providers (eg general practitioner, mental health worker) in their care of patients within the patients' own community** (13l). In this way telepsychiatry is a key means of supporting primary care psychiatry in rural and remote regions. Thus models of service delivery over videoconferencing focus on the different ways that the consulting psychiatrist works with the community based health care providers.

3.1.8 Consultation-liaison psychiatry

In the consultation-liaison model, a psychiatrist assesses a patient over videoconferencing and gives guidance to the local health care professionals with regard to the diagnosis and appropriate management of the patient. The consultant may be available to assist with further queries about the patient, but is not involved in the ongoing direct delivery of patient care. There are clearly both clinical and educational components to this model of service delivery, which could be regarded as a form of Consultation-Liaison Psychiatry. Consistent with this model, it is argued that a locally based health care professional should accompany the patient throughout the videoconferencing session <1;1). This not only reinforces the therapeutic relationship between the local health care professional and her/his patient, ensuring that the local health care provider remains closely involved with the ongoing care of the patient, but also provides immediate support for the patient during and after a telepsychiatry session.

3.1.9 Case Conferencing

In the case conferencing model, the psychiatrist convenes a videoconference meeting of other doctors and allied health professionals to consider the management of complex and chronic cases (eg in the psychiatry of old age, child and adolescent psychiatry, patients with chronic psychosis or eating disorders). The case conference is used for formulating management plans, reviewing progress and communicating clinical information between professionals involved in the patient's care.

3.1.10 Outpatient therapy

It is possible for a clinician to conduct therapy over videoconferencing, thus using the technology to enable the clinician essentially to conduct an outpatient psychotherapy session from a distance. However, when the principal therapist is at a distance from the patient, provision
should be made for locally based personnel to be available for the patient. A variety of local supports, eg health care professionals, ancillary staff, family, friends, may be required to assist with managing the equipment, debriefing after a session or, if necessary, to transport the patient to where the therapist is based, for 'in-person' review and possible admission for specialist inpatient assessment and treatment. It would be the responsibility of the psychiatrist to ensure that such arrangements are made and are adequately documented and followed.

3.1.11 Inpatient support

fu addition to the role of telepsychiatry in providing valuable support for the rural and remote GPs and the general nursing staff in their care of psychiatric patients admitted to a distant service, telepsychiatry can also be used for patients admitted to distant, city-based hospitals. For instance, rural patients admitted to a metropolitan hospital can use videoconferencing to link back to their family and health professionals in the rural community for discharge planning, for assessment or for social support.

3.1.12 Medicolegal and forensic assessments and reviews Videoconferencing has been used for obtaining a forensic opinion, psychiatric evaluations for work rehabilitation, and for other medicolegal situations. Videoconferencing can be used, and in many Australian States is already routinely in use, for conducting assessments under Mental Health Acts (J, 14). This can be for making an order for the initial involuntary admission and for reviewing such orders, and for other treatment and administrative orders.

3.2 Educational applications

3.2.1 The use of videoconferencing for educational support (via traditional didactic lectures, case discussions or individual supervision) of healthcare professionals in rural and remote regions has become well accepted and established (3, 16.). This can occur in point to point connections between the teacher/supervisor and the 'student', or can be a multipoint or 'bridged' link up linking a number of distant sites to a lecture or supervisor .

3.2.2 The consultation-liaison model of service delivery mentioned above can be regarded also as a potent, clinically focused form of education.
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3.2.3 Videoconferencing is currently being used as a means of providing RANZCP accredited supervision for psychiatric trainees, when locally based supervisors are not readily available.

3.3 Administrative applications

3.3.1 Videoconferencing permits those in distant sites to participate in meetings without the financial and time costs of travelling to the location where the meeting is being held. Videoconferencing is currently being used in proceedings for guardianship and advocacy tribunals, and Mental Health Review Tribunals. It is also being used in service delivery settings for staff support, debriefing, organisational management and clinical development.

4. RESEARCH AND TELEPSYCHIATRY

Telepsychiatry research activities can be divided into two broad areas,

Research activity within mental health.

4.1 Information and communication technologies can be used in the pursuit of any research activity within mental health, for instance, the use of videoconferencing to interview subjects, or the use of computers to collate and analyse research data. Research into telepsychiatry.

4.2 Some examples of research into telepsychiatry are:

- Evaluating the validity and reliability of telepsychiatry in different clinical settings, clinical tasks and patient groups. Already research has demonstrated the efficacy of using videoconferencing for making a psychiatric assessment with respect to diagnosis and treatment recommendations Q-Q).
- .Evaluation of acceptability of telepsychiatry. There have been extensive reviews by a number of researchers into referrer and patient satisfaction with services delivered over videoconferencing {11, 11).
- .Evaluation of cost benefits. The need to establish the cost benefits of telepsychiatry has been widely discussed but given the complexity of health economics and the issues involved, there has been little conclusive work yet done in this area (-18).

- .Evaluation is required of the use of videoconferencing and other communication and information technologies in the delivery of distance education in mental health.
- .There are also a number of questions regarding clinical aspects of telepsychiatry that warrant research. For instance:
  - -relative efficacy of different types of videoconferencing (ie PC based vs room based videoconferencing),
  - -whether there are certain personal communication techniques that improve the effectiveness of establishing rapport and therapeutic efficacy.
  - -effectiveness and acceptability of the use of videoconferencing in specific clinical situations. eg for the hearing impaired, with the use of translators.
  - -influence of the technology in the doctor-patient relationship.

4.3 The College supports research and evaluation to promote evidence based best practice in telepsychiatry.

5. CONFIDENTIALITY AND AUTONOMY vs BENEFICENCE AND DUTY OF CARE

5.1 Just as in face to face clinical interactions, confidentiality in the context of telepsychiatry needs to be respected and balanced against beneficence and duty of care. The practice of telepsychiatry implies a number of factors that can and do impact upon issues of confidentiality.

- Ensuring maximum security of the technical transmission is a consideration when choosing the most appropriate technology for telepsychiatry use.
- The equipment at each connecting site should be located in an area that is suitably soundproof.
- .The patient should be informed and his/her permission sought for the presence of anyone attending with the consultant. The presence of a carer and/or health professional with the patient can at times prevent the disclosure of sensitive, confidential material-
- When there are others in attendance with the patient and/or the consultant during the telepsychiatry session, care needs to be taken to ensure that clinical information is treated with the utmost confidentiality by all concerned.
- There should be no audiovisual or audio recording of a telepsychiatry session without written, informed consent from the patient.
- Given the common use of the consultation-liaison model for telepsychiatry, it is clinically indicated for the consultant to disclose confidential information to the locally based health professionals who may not have been present within the session but who have significant ongoing clinical responsibility for the patient.
- Where a patient is detained under the Mental Health Act, duty of care considerations may override issues of confidentiality and patient consent may not be possible.

6. MEDICAL REGISTRATION & TELEPSYCHIATRY

6.1 In 1998 the Australian Medical Council (AMC) established a Working party of its Unifomlity Committee to consider issues raised by the House of Representatives Standing Committee on
Telemedicine, and to advise the Council on telemedicine issues. The main issues centred on medical registration requirements for medical practitioners delivering services over telemedicine when the patient is located in one State/Territory and the doctor delivering the service is in another jurisdiction.

6.2 In a draft report this Committee proposed that (19)

- the mutual recognition model be used to establish a mechanism for dealing with the provision of telemedicine services across State boundaries.
- jurisdiction for the purposes of telemedicine should be determined by the location of the patient at the time of the service or consultation is being made.
- any complaint regarding a telemedicine service conducted across State/Territory boundaries should be dealt with jointly between where the complaint was made and where the practitioner holds their primary registration.
- there should be a special category of registration or endorsement for practitioners providing telemedicine services across State or Territory boundaries and that such endorsement of registration for telemedicine should be subject to a number of conditions.
- the Specialty Medical Colleges and AMA liaise to develop suitable protocols for telemedicine purposes.

6.3 The College supports these recommendations made by the AMC T elemedicine Working party regarding medical registration requirements for telemedicine and the development of uniform national standards in the practice of telepsychiatry .

7. CLINICAL RESPONSIBILITY WITHIN TELEPSYCHIATRY

7.1 Telepsychiatry services involve the same level of professional responsibility as conventional psychiatric practice. However, due to the varying roles of all those involved in telepsychiatry services, clinical responsibility and duty of care should be assessed and determined in a case by case manner (2Q, 21). There is a need therefore to determine the respective and proportional duty of care and clinical responsibility between the telepsychiatry consultant and the patient's primary care provider, including a mutual understanding of what elements of a patient's care are ascribed to other health care professionals.

7.2 When telepsychiatry is being used within a Consultation-Liaison
Model of clinical service delivery then it should be possible to draw on the accepted understanding of what occurs in a Consultation-Liaison Service when all clinicians are in the same location as the patient. In this way, the clinical model employed will influence the nature of clinical responsibility and duty of care within telepsychiatry. Nonetheless, there are some significant differences in delivery of a consultation-liaison service via telepsychiatry. For instance, the distant consultant psychiatrist is dependent on the locally based clinician for certain clinical details and has obvious difficulties in monitoring whether the patient's care is proceeding in accordance with her/his recommendations.

8. RECOMMENDED GUIDELINES FOR TELEPSYCHIATRY

8.1 The College has a responsibility for defining acceptable standards of practice in telepsychiatry as in other more conventional areas of psychiatric care. Accordingly, the College has developed 'Quality Practice Guidelines for Telepsychiatry' that are set out in Appendix 1. The College recommends that these guidelines be followed to ensure that telepsychiatry is consistently used in a professional manner, and that this leads to improved access to specialist mental health services throughout rural and remote regions of Australia.

8.2 In addition, the College recommends that a register of approved telepsychiatry consultants be established and that in order to qualify
for entry into the register psychiatrists should have to demonstrate an awareness and acceptance of these Quality Practice Guidelines.

9. TECHNOLOGY

9.1 Videoconferencing is the central technology currently used in telepsychiatry. It is the use of live, two way interactive video and audio communication. In its most simplistic form it can be described as a telephone with pictures. The technology of telepsychiatry therefore encompasses both the technology of the equipment and the technology of the transmission medium.

9.2 The technology used for telepsychiatry should serve clinical needs. Any failure to meet clinical needs should therefore be determined by participating clinicians, based on their clinical judgement and, if relevant, the patient's request.

9.3 Information and communications technology is rapidly developing, and so advances in telepsychiatry services will continually emerge. Appendix 2 sets out some of the technology requirements and performance e as used in Australia as at May 1999.

10. INFRASTRUCTURE SUPPORT

10.1 A critical factor of a telepsychiatry service, no matter what type or model of service, is the provision of adequate support for the daily operational requirements. This requires consideration for such things as scheduling, and fault management and reporting, which can be managed by PC based software applications (see Appendix). These factors have been previously identified as critical to the sustainability of a telepsychiatry service 13, l5).infrastructure support also encompasses appropriate risk management whereby alternative arrangements are on hand in case of a breakdown of the technology. The integrity of the telepsychiatry service depends on reliable accessibility of service that ensures continuity of care. This in turn is dependent on the maintenance of high standards of infrastructure support.

10.2 The College emphasises the central importance of adequate infrastructure support and the essential requirement for appropriate planning and funding for this purpose on an ongoing basis.

11. FUNDING

11.1 Resource based funding for telepsychiatry should enable and sustain good practice, the provision of services in areas of unmet need and increased efficiency in the utilisation of limited specialist time. At present most telepsychiatry throughout Australia is funded through Federal or State grant funding or State Mental Health Services, many as pilots or projects. There are some telepsychiatry services that are integrated into an ongoing clinical service and can be regarded as 'mainstreamed' and sustainable.

11.2 To take full advantage of the new and developing technology and to increase access to psychiatric services in rural and remote Australia, it is also necessary to look at new and innovative ways of engaging resources from the private psychiatry sector. This will require different funding arrangements from those currently in operation and, for this purpose, inclusion of telepsychiatry services in the Medicare Benefits Schedule (MBS). It will also have to be recognised by funding bodies that there are additional costs in providing telepsychiatry services to those involved in traditional face to face services. These include telephone line costs, call costs and infrastructure costs, along with a different intensity of work borne by consultant psychiatrists involved. MBS funding should allow for a level of reimbursement commensurate with the complex nature of work in telepsychiatry and the associated costs of telepsychiatry services.

11.3 It can be argued that the most potent and efficient consultation- liaison telepsychiatry service is when the General Practitioner is present with the patient while the consultant assesses the patient over videoconferencing. In the context of private sector telepsychiatry, this means that there needs to be provision for the clinicians at both ends of the service (distant and local) to be reimbursed for their time within the same session. This unique feature of telepsychiatry services will need to be recognised in the MBS where there is currently no provision for this to occur.

11.4 For the maximum advantage to be obtained from a consultation- liaison session, the psychiatrist needs to write a detailed assessment and treatment recommendation, including case specific, pertinent didactic information to facilitate the local health care providers to care most effectively for the patient in her/his own community. In addition to writing such reports, other forms of educational contact (especially via telephone) are necessary with the GP, mental health worker, hospital nursing staff and whoever else might be involved in the patient's care. This again requires professional time that should be recognised for reimbursement for such non-direct clinical support services.

11.5 As noted above, the infrastructure support required to ensure reliable scheduling and equipment usage is absolutely essential for any sustained successful use of telepsychiatry. It is most likely that such infrastructure supports will be most readily available within State public health services. Collaboration between private psychiatrists and such State funded infrastructure support should be encouraged and facilitated with acceptable financial arrangements made to enable this to occur.

Adopted: October 1999 (GC2/99.R##)
Date of Current Document: October 1999 (review by GC2/02, October 2002)

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Glossary of Terms

Local: The patient's end of the telepsychiatry link, which will generally be a rural or geographically remote location (for the purposes of this paper).

Distant: The consultant psychiatrist's end of the telepsychiatry link which will be geographically distant from the local site.

Metropolitan Areas:

Metropolitan   population > 100,000 eg Adelaide (SA),
Centres   Wollongong (NSW), Gold Coast- Tweed Heads (Qld).

Rural Areas:
large rural centres population >25,000-<99,999 eg. Albury- Wodonga (NSW), Dubbo (NSW), Rockhamton (Qld), Launceston (Tas).
small rural centres population > 10,000-<24,999 eg Mt Gambier (SA), Goulburn (NSW), Caloundra (Qld), Albany (WA).
other rural areas   diffuse population in a rural area, eg. Cowra Shire (NSW), Cobram Shire (Vic), George Town (Tas), Litchfield (NT).

Remote Areas
remote centres   population >5,000 eg. Kalgoorlie/Boulder (W A), Alice Spings (NT), Roma (Qld).
remote zones   population in remote zones, eg. Roxby Downs (SA), King Island (Tas), Longreach (Qld).

Rural, Remote and Metropolitan Areas classification are derived from the Australian Medical Workforce Advisory Committee *Sustainable Specialist Services Report:: A Compendium of Requirements* (1998) Appendix A, page 72 and based on Commonwealth Department of Health and Family Services and Primary Industries and Energy, Rural Remote and Metro Areas classification.

Appendix 1 Quality Practice Guidelines for Telepsychiatry

The following guidelines are proposed by the College for establishing quality practice in telesychiatry.

1.   The psychiatrist is expected to have read and understood the RANZCP position statement, with particular reference to the clinical models of telepsychiatry and the respective duty of care and clinical responsibility.

2.   Wherever possible there should be a locally based healthcare professional with the patient during the telepsychiatry session. If this is not possible then it is the consulting psychiatrist's responsibility to ensure that provision is made for locally based personnel (healthcare professionals, ancillary staff, family, friends) to be available for the patient to call on during and after the session. Such personnel may be required to assist with managing the equipment, debriefing after the session and, if necessary, to transport the patient to where the therapist is located for in-person review and possible admission. It is the responsibility of the consulting psychiatrist to ensure that such arrangements are made and adequately documented and followed.

3   It is the responsibility of the psychiatrist to ensure that the patient receives a full explanation regarding the process of the telepsychiatry session, so that the patient is able to give informed consent to participation. This consent can be verbal or written.

http://www**.ranzcp.org/statements/ps/ps44.htm**

4.   The psychiatrist should provide an explicit assurance to the patient regarding appropriate confidentiality of the telepsychiatry session. The patient should be infonned that infonnation obtained within the session is likely to be relayed to the local GP and other locally based healthcare providers who are involved in the patient's care.

5.   Procedures should be in place to ensure privacy and confidentiality. If anyone other than the interviewing consultant is to be present with the consultant then the consent of the patient should be obtained for this arrangement.
        6. The clinician should have a reasonable proficiency in the use of the videoconferencing equipment and have appropriate backup support available, should any difficulty occur.

6.   The psychiatrist is responsible for ensuring documentation of the telepsychiatry session to identify clearly: that it was conducted over videoconferencing; the sites that were linked; who was in attendance through the session; and whether the reception was adequate to make a clinical assessment. Any technical difficulties that might have interfered with the reception and consequently the clinician's ability to assess the patient should be fully documented. This information is in addition to the standard documentation of the clinical assessment and treatment proposals.

7.   The psychiatrist should send documentation of her/his assessment and treatment recommendations to the locally involved health care professionals.

8.   The psychiatrist is responsible for appropriate liaison with all the appropriate and involved local health care providers to ensure the ongoing safety and care of the patient. If this is not done within the session, these separate contacts should be documented along with the documentation of the session.

Appendix 2 **Guidelines for Technology in Telepsychiatry**

This Appendix sets out some of the technology and performance requirements as used in Australia as at May 1999.

The technology of the equipment

A2.1   All videoconferencing equipment require the use of a CODEC (COder/DECoder) which both codes and decodes the transmitted video and aural information. CODECs are typically inbuilt into most shelf products and are a significant determinant of picture quality and motion handling. Other components of videoconferencing include monitor, camera and microphone. Each of these components varies considerably in cost and quality.

A2.2   The videoconferencing industry categorises hardware as either PC based or room based systems with each type tailored for distinct markets. PC based units, where the PC monitor displays the video image, are most suited to single user operation and when written/graphic information is to be shared. Room based systems using larger TV monitors or screens for the video image, are capable of superior CODEC efficiencies, and improved conference quality, are suitable for small to large groups. As PC processor technology advances however, the distinction between these two categories is less well defined.

A2.3   There are a significant and growing number of available equipment features that complement the "see and be seen" aspect of videoconferencing. These include:

> Operation of the remote camera
> Programming of preset camera positions
> o Sending still images
> o Including multiple sites into the one conference o Automatic camera tracking
> o Ability to transmit slides or overheads
> o Annotation on an "electronic whiteboard" o Printing images

A2.4 This list is far from exhaustive with additional features being made available with each product release. While the development of these features has been commercially driven by the needs of the corporate sector, a number of them are never the less appropriate to the needs of psychiatry. For example, the ability to move the far end camera, or automatic image tracking are potentially useful tools to track patient movement or to get close up images of patient features.

The technology of the transmission

A2.5   The most significant factor that determines the quality of the transmitted video and audio information is the reliability and speed of the medium over which it is transmitted. The speed refers to the "bandwidth" and is typically measured in Kilobits per second (Kbps). The plain old telephone system (POTS) is at the lower end of the bandwidth spectrum and has two significant shortcomings. Firstly, POTS videoconferencing has inferior motion handling and definition as it is only capable of low bandwidth. Secondly, the POTS network can not guarantee a fixed bandwidth throughout the videoconference. The consequence ofwhich is a varying quality of the transmitted
image and sound. This manifests in occasional "frozen" pictures and large "block type" movements. The benefit however of this technology is the low cost and wide accessibility with the availability of a standard telephone line giving access to videoconferencing. For this reason, Internet videoconferencing solutions are rapidly growing in popularity, however the conference quality is still unsuitable for clinical applications.

A2.6   The transmission speed most commonly used for videoconferencing is I28Kbps, which is not available through POTS and thus requires installation of a specialised communication infrastructure to support higher bandwidth. The transmission infrastructure of choice for over 90% of all Australian videoconferencing applications is landlines accessing the Integrated Services Digital Network (ISDN). ISDN allows carriage of bandwidths in excess of2,000Kbps that adequately caters for all videoconferencing applications. Access to this network however can not be assumed, especially in the more remote regions of Australia. In all instances ofvideoconference installations, access to the ISDN network is a fundamental prerequisite to infrastructure planning.

A2.7 While landlines are the most frequently used medium of ISDN access, both satellite and microwave technologies also support high bandwidth. Satellite transmission is cost prohibitive to the majority of telemedicine services and is typically only considered where there is not a landline or microwave option. Microwave transmission requires direct line of sight between transmitters and is vulnerable to adverse weather conditions.

The quality of the videoconference

A2.8 The quality of the videoconference is a combination of hardware, transmission speed and room environment. Debate on quality has however centred on the transmission speeds as the most significant of these factors.

A2.9 At present, within Australia most of the telepsychiatry services run satisfactorily over ISDN at a bandwidth of 128Kbps (3, 13), however an increasing number of services are preferring to operate at 384Kbps (2). There is some debate as to what constitute the minimal bandwidth requirements for effective telepsychiatry. 384Kbps is certainly more comfortable because of clearer picture resolution, smoother motion and synchronicity of sound, and a case could be made for its use where fine picture definition is required. However the most heavily used and most established telepsychiatry services in Australia run at 128Kbps. With the continual improvements in the hardware and the compression technologies, the quality of transmission at the lower bandwidth continues to improve.

A2.10 Ultimately, the qualitative requirements of the technology for telepsychiatry are judged by the clinician on a case basis. It is the clinician's judgement as to whether the picture and sound quality is adequate to enable them to make the required clinical assessment and interventions in a particular case.

The security of Videoconferencing technology

A2.11 The ISDN based technologies are secure to the extent of requiring considerable expertise and effort to "tap" into a call. This technology is the same as that that carries sensitive corporate and banking industry client data and although breaches are not unheard of, the risk of security breaches would be regarded as minimal in the telepsychiatry application.

A2.12 There are currently concerns about the security of videoconferencing over the Internet, as this utilises POTS and is therefore subject to the same security issues, ie occasional "crossed lines" and line monitoring, as the telephone. Recent and emerging digital POTS technologies are enabling greater security protection so security is likely to be less of a concern in the future.

The cost of Videoconferencing technology

A2.13 Telemedicine equipment varies widely in cost, from a few hundred dollars for Internet access to $100,000 plus for top range room systems. The difficulty in quoting costs for telepsychiatry is further complicated by the dynamic nature of the videoconferencing industry. New products, market competition and falling costs of technology continually impact on the shelf price of available equipment.

A2.14 Costs associated with the transmission medium, while still subject to continual change, are somewhat more stable than the equipment options. Current access to l28Kbps ISDN service via landlines is $50 per month rental and $296 installation. Ongoing call charges are dependent on distance and are timed. Only the calling party incurs call charges that are of the order of $35 per hour for a 128Kbps intrastate call. With additional bandwidth, the medium costs increase accordingly, the trade off for high quality conferences are therefore high running costs.

Infrastructure support

A2.15 Scheduling involves the coordination of videoconference activity. It is a central routine function of telepsychiatry that manages all aspects of conference bookings and cancellations. In addition this role provides a liaison between all stakeholders of the service and acts as a central information source.

A2.16 Fault Management requires that the system remains reliable, with appropriate intervention from trained staff capable of identifying, solving and even pre-empting possible equipment difficulties and the management of these situations to minimise downtime and the impact on service delivery. Contingency planning is an important aspect of fault management. Although the technology is reliable, it is never the less hardware capable of unanticipated failure. Some simple logistical considerations aid in the planning of contingencies such as having access to hands free phones in the videoconference room and locating multiple videoconferencing machines within close proximity to share resources as necessary. Arrangements with third parties such as vendors and educational institutions can provide access to

alternatives should equipment downtime be unavoidable. Adequate maintenance contracts are also a necessity.

A2.17 Reporting requires adequate systems to track data necessary for ongoing decision making and planning.

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http:/ /www **.ranzcp.org/statements/ps/ps44.htm**

APPENDIX IV – CONTRIBUTORS

Draft 2, from which this final version has emerged, was distributed nationally in November 2001 to approximately 160 potential stakeholders including chairs of psychiatry at Canadian universities, heads of psychiatry, division heads, the Academy of Child Psychiatry, post-graduate education coordinators, Psychiatry Residents Association of Toronto (PRAT), steering committees of the Ontario Psychiatric Outreach Programs [OPOP], the University of Toronto Psychiatric Outreach Program [UTPOP], select individuals involved in parallel and complementary telehealth and telepsychiatry initiatives, including the Canadian Psychiatric Association – Telepsychiatry Section, the Canadian Society of Telehealth, Health Telematics Unit of the Faculty of Medicine at the University of Calgary, and Dalhousie Telehealth of the Faculty of Medicine, Dalhousie University.

We appreciate the advice received from the Canadian Medical Protective Association, the College of Physicians and Surgeons of Ontario, the Canadian Psychiatric Association, Alberta HeritageFoundation for Medical Research, Project Outreach, Canada Health Infostructure Partnership Program (CHIPP), North Network, Digital Group of Telehealth Companies (telehealth consultant to Nunavut) and individual clinicians practicing telepsychiatry.

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Dear Dr.Broder

Thank you very much tor sending me a copy of the Telepsychiatry Guidelines and Procedures for Clinical Activities. I have looked through it and, in my view, it is very well done. You and your colleagues are to be congratulated for this excellent and forward looking work. I know the President of our College, Dr. Dody Bienenstock and all the members of Council would join me congratulating you all.

Kindest personal regards.

Yours very truly,

John R. Carlisle, M.D., LL.B.
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