Tele-education: a Collaborative Project in the Delivery of Mental Health Education in Rural Victoria

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Tele-education: a collaborative project in the delivery of mental health education in rural Victoria

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DEFINING THE PROBLEM

The recruitment and retention of health professionals in rural Australia is an area of major concern. “Studies have consistently highlighted the economic, professional and family/social/cultural difficulties of attracting and retaining health personnel in rural areas.” Access to professional development is a significant factor in recruitment and retention difficulties.

An understanding of child mental health is a major dimension in working with families and children. It is critical in terms of providing continuity of care for families that have multiple needs and who require long-term intervention. Access to professional development in child mental health is difficult for rural workers as the major teaching and training centres in this field are located in metropolitan centres.

This project was designed to evaluate the effectiveness of video conferencing technology both as a tool in the delivery of specialist professional education in child mental health and as a strategy to address barriers to professional development for rural workers.

PROJECT CONTEXT

Rural context

Isolation restricts access to professional development and to peers. It is more challenging for rural health professionals to engage in the “process of continually updating themselves regarding the latest practices, techniques models and technologies.” Isolation not only affects access to a peer group, which is so important in the ongoing development of a health professional but also has a negative effect on access to other specialist health providers.

As a result of geographical isolation, rural areas often lack referral networks resulting in agencies needing to provide both primary and secondary services. This blurs worker boundaries and necessitates the development of skills in a range of areas not required of their metropolitan counterparts. These workers are often expected to be both “generalist and specialist in their fields and communities.”

Factors such as the above and complex and demanding workloads can lead to worker burnout. Staff resignations exacerbate the effects of isolation and lack of referral networks further lessening the attractiveness of work in rural areas.
Identification of needs

In 1996 and 1997 Bendigo Health Care Group and the Royal Children’s Hospital (MH SKY) ran two short pilot tele-education programs for workers in child and family agencies in the Loddon Southern Mallee Region (LSMR). Important findings of these projects was that training in child mental health in the LSMR was an area of unmet need and that a more comprehensive needs survey was required as a basis for a more extensive project.

The resulting *Training Needs Survey in Children’s Mental Health* was designed to collect data on the following variables:

- access to training and information in child mental health;
- knowledge of child mental health disorders;
- confidence in working with children with mental health disorders;
- difficulties in attending training; and
- program format.

The survey was piloted in child and family agencies in the LSMR northern sector. It was then distributed to child and family agencies across the region. Both the survey and the project were promoted at health and welfare network meetings. A total of 97 agencies and individuals received the survey and 76 surveys were returned.

Training needs analysis

The most significant findings of the survey covered:

- difficulties attending training;
- access to training and information on child mental health; and
- knowledge of child mental health.

Figure 1 Barriers to attending training

![Difficulty in Attending Training](chart.png)
Time was the most significant barrier to attending training. It attracted a significantly higher rating than distance, arranging cover, cost and knowledge of training opportunities.

**Figure 2  Access to training and information in child mental health**

The majority of respondents rated their access to training and information in child mental health as poor. No respondent ticked excellent.

**Figure 3  Knowledge of child mental health**

The majority of respondents rated their knowledge of child mental health as either poor or satisfactory. No respondent ticked excellent.

**Topics of most interest to respondents**

The survey identified the following topics as of most interest to respondents:

- encopresis and enuresis;
- grief and loss issues;
◆ post-traumatic stress disorder;
◆ working with parents in understanding and managing children’s behaviour;
◆ understanding anxiety and aggression in children and implications for treatment; and
◆ attachment disorder in children and adolescents.

These findings validated the assumption that training in child mental health was an area of unmet need. The findings also confirmed that time and distance were barriers to accessing professional development in the LSMR for allied health workers.

These findings formed the basis of tele-education program development. This development was further refined by consultation with rural and metropolitan mental health clinicians. They added significantly to the program by identifying the importance of presenting topics within a developmental framework. As well they suggested including an area with a more organic base to round out the program.

**CHILDREN’S MENTAL HEALTH TELE-EDUCATION PROGRAM**

**Program aims and objectives**

**Aim**
The delivery a high-quality needs-based group education program in child mental health.

**Objectives**
◆ To promote increased knowledge and skills in child mental health.
◆ To have a positive impact on clinical practice.
◆ To disseminate information from the program to agencies involved in the program.
◆ To facilitate peer support and linkages between participants.
◆ To develop and document a model of education that promotes and strengthens integrated relationships.

**Target group**
Allied health workers employed in child and family agencies in the LSMR including occupational therapists, psychologists, nurses, social workers and welfare workers. The majority of participants were direct service providers.

**The program**
◆ A developmental framework 0–12.
◆ Identification of problems.
◆ Working with parents/carer in understanding and managing children’s behaviour.
◆ Managing the anxious and/or aggressive child.
♦ Understanding trauma in children.
♦ Working attention deficit and hyperactivity disorder.
♦ Managing loss and grief in children.
♦ How the child learns to relate: a developmental model.

The program comprised eight sessions consisting of four half day sessions and four full day sessions.

The Children’s Mental Health Tele-Education Project was developed in response to the rural context and needs of the target group. The context provided both project direction and a brief.

Project technology
The aim of using this technology was to deliver a live presentation incorporating PowerPoint slides and to enable a presenter in Melbourne to chair an interactive discussion with an audience located in Bendigo. This involved the simultaneous delivery of live video, audio and data streams.

Equipment used included:
♦ a monitor
♦ a camera
♦ a codec
♦ a data projector.

MAIN PROJECT CHALLENGES AND RESPONSES

Collaboration
A major challenge in delivering the project was using this collaborative relationship to achieve the maxim benefit from the project. Adam and Walker identified the role of trust as a key element in successful inter-organisational relationships and in facilitating joint action between organisations. A trusting relationship between the two organisations grew out of a number of successful pilot projects in telepsychiatry. This trust fostered a sense of confidence that both organisations would be able to collaborate effectively enough to successfully facilitate a sophisticated project such as this involving as it did the diverse elements of technology, distance, specialist clinical input and education.

The collaborative relationship underpinning the project this was operationalised by the exchange of a memorandum of understanding between the two services detailing project responsibilities.
Table 1  Memorandum of understanding

<table>
<thead>
<tr>
<th>Royal Children’s Hospital Mental Health Services</th>
<th>Bendigo Health Care Group Psychiatric Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical teaching staff</td>
<td>Administrative support</td>
</tr>
<tr>
<td>Preparation of resource materials</td>
<td>Site co-ordinator</td>
</tr>
<tr>
<td>Technical support</td>
<td>Needs analysis</td>
</tr>
<tr>
<td></td>
<td>Program infrastructure at the rural site</td>
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</tbody>
</table>

Maintaining the human interface in tele-education

In discussing tele-medicine Wootton says, “It cannot be overemphasised that simply buying the box won’t enable you to practise successful telemedicine.” Similarly, based on the experience of this project, technology alone is not sufficient for effective education to occur. The human interface that characterises both child psychiatry and effective education is paramount. The following describes strategies that were put in place to respond to the challenge of maintaining the human interface.

Orientation to the technology

The following strategies were used to establish a comfort level with the technology and as an important first step in maintaining the human interface in the program.

Both participants and presenters were orientated to the technology at the commencement of the program.

Presenters were offered training in the use of the technology and opportunities to practise their presentations.

Direct support was provided both in the preparation of material for transmission and during presentations by the program co-ordinator.

Program familiarity

Every effort was made to develop in participants a sense of familiarity with the program. A consistent and familiar program structure was important in building a sense of the known for participants dealing with a largely unfamiliar and to some intimidating technology. The following strategies were used to achieve this aim:

Preliminary information — Information packs were sent to participants prior to sessions to flag content. PowerPoint summaries were distributed at the commencement of each session. This meant that participants already had some familiarity with the topic being presented it easier for them to cope with unfamiliar technology.

All sessions followed a similar format of didactic presentation, case discussion and feedback and comments from the presenter. The same format was used so participants knew what to expect thereby increasing their sense of familiarity with the program.

Group work and case studies — Regular consultation occurred with participants to ensure that group work and case studies were grounded in their experience of providing services to children and families in a rural environment. These strategies were also
designed to encourage participants to engage in dialogue with presenters and increase their sense of connectedness with the presenter.

Site co-ordination
The site co-ordinator managed the distant classroom. Site co-ordination involved the following tasks:

♦ testing all equipment at the remote site;
♦ overseeing tasks related to the management of the distant classroom; and
♦ linking audience and presenter.

Linking audience and presenter to maintain the human interface was a critical aspect of this role. Achieving this aim involved the following strategies:

Use of a mobile phone to facilitate direct feedback to presenters on audience reaction to the session enabling them to clarify points or modify the session.

Regular discussions were held with presenters to evaluate sessions and fine tune subsequent sessions.

Participants were also regularly contacted for their feedback between sessions. This assisted participants to maintain a sense of involvement with the project between sessions.

Maintaining the human interface using this technology involved being sensitive to the possible emotional impact of the material on the audience. Liaison occurred between the presenter and the site co-ordinator to ensure appropriate follow up when such situations occurred. A presenter commented that her concerns about emotional distress were partly resolved by having the site co-ordinator “watching the audience and able to follow up on my behalf.”

Careful program design was important for both presenter and audience acceptance of video technology as an effective education tool. The key to this acceptance was maintaining the human element in the education exchange. The key findings described below demonstrate that this goal was achieved.

PROGRAM EVALUATION
Methodology
Program evaluation was continuous over the life of the project and influenced project development. An independent evaluator was employed to conduct both an independent evaluation and provide advice on internal evaluation measures. The resulting evaluation model collected quantitative and qualitative data from three sources: participants, presenters and managers/supervisors. Data was collected through: detailed attendance records, evaluation sheets, interviews and focus groups with participants, presenter interviews and agency managers interviews.
The following findings represent key factors in determining the success or otherwise of an education program. That is did respondents report an increase in knowledge and did they report change to practice as a result of attending the program. An additional area of high interest in this project was user acceptance of technology as an education tool.

**Key findings**

**Attendance**

Over a quarter of participants were present for all eight days. A further 50% attended intermittently but attended a median of 6 days. In participant interviews the main reason given for non-attendance was lack of backfill. Other significant reasons for non-attendance included emergencies, annual leave and illness.

**Reported gains in knowledge**

Eleven of sixteen respondents interviewed reported gains to knowledge as a result of the program. Participants said:

1. I found the developmental framework very useful particularly the developmental impact of different events on children and families.

2. Provided new information and methods of application. Working through disorders was exceptionally helpful.

This data is validated by the finding of the independent evaluator that “In response to the first three questions common across all sessions that the tele-training was well targeted in terms of prior knowledge of participants and in terms of their need for professional information.”

**Figure 4 Workshop informative**

There was some feedback that the program content did not always match the needs of either very experienced workers or inexperienced workers. “There are issues around getting training for more experienced people.”
Changes to practice

The Evaluation Report found a high level of anticipated changes to practice as a result of attending the sessions.

Figure 5 Changes to practice

This level of anticipated change was validated by post program interviews. Eleven of 16 participants interviewed reported a change in their perspective and practice in working with children as a result of attending the program.

When doing a physical exam on a three year-old I now tune into some of the things the kid says.

I have already used it to trigger things I should be looking for in the adolescents I am working with linked back to childhood.

Sometimes you don’t take the time you need to do the assessment. I am now taking more time to do assessments and placing more importance on taking a history.

I am now thinking about things more widely and looking for more possible causes for a child’s problem. I am sitting back more and thinking about the way I am going to work with a particular child and family. Taking more time to develop a plan.

Supervisors commented:

They have Greater knowledge of developmental steps, normal and abnormal behaviours, more sophisticated in their ability to identify potential issues.

Better understanding of attachment and better strategies for working in residential care.

At a case conference the case was reviewed in the light of new information. The worker had attended a morning session and information was used in case conference the following afternoon.
Response to video technology

Several respondents made the point that, “Nothing replaces the person in the room”. Despite this the response to the technology was positive and improved as the program progressed.

I had difficulty adjusting to the technology but I am starting to feel relaxed with it now.

Took a little while to feel comfortable with interactive technology.

This corresponds with the findings in the Independent Evaluation Report\(^{11}\) from that most respondents reported increased comfort with the technology as the program progressed.

Figure 6  Tele-education worked well for respondent\(^{12}\)

![Bar chart showing levels of comfort with technology]

However presenters’ perspective about the levels of interactivity not being as high as they could have been were matched by comments made by participants in individual interviews and focus group.

Interaction was not the same as in a face to face workshop.

Transmission problems also affected acceptance of the technology as a teaching tool.

Glitches with the teleconferencing were frustrating. Made it hard to concentrate.

Good when it’s going properly.

The quantitative data shows that levels of comfort with the technology were high but that there were a few participants who remained uncomfortable with the technology for all sessions.
Networking opportunities

An important outcome of the program revealed through participant and supervisor interviews was that the program provided opportunities for regional networking.

Networking is important. I am working with difficult cases with other workers who were there. The program provided a common understanding and starting point. It can take so many meetings just to get that sorted out.

Supervisors endorsed this point of view:

Networking that they do locally is more valuable than that done in Melbourne.

Workers could develop local networks.

Costs

Table 2 Estimate of worker costs

<table>
<thead>
<tr>
<th>Costs</th>
<th>Swan Hill – Melbourne</th>
<th>Swan Hill – Bendigo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worker time</td>
<td>$302</td>
<td>$210</td>
</tr>
<tr>
<td>Travel</td>
<td>$376</td>
<td>$128</td>
</tr>
<tr>
<td>Accommodation</td>
<td>$98</td>
<td>Nil</td>
</tr>
<tr>
<td>Total</td>
<td>$776</td>
<td>$338</td>
</tr>
</tbody>
</table>

Table 3 Estimate of presenter costs

<table>
<thead>
<tr>
<th>Presenter costs</th>
<th>Melbourne – Bendigo</th>
<th>Video link from Melbourne</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worker time</td>
<td>$340</td>
<td>$204</td>
</tr>
<tr>
<td>Travel</td>
<td>$111</td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td></td>
<td>$180</td>
</tr>
<tr>
<td>Total</td>
<td>$451</td>
<td>$384</td>
</tr>
</tbody>
</table>

*Worker and presenter costs are based on an average public sector rate
**Travel costs are calculated using the public sector rate.
***Worker costs include travel time to Melbourne/Bendigo
****Presenter costs include travel time to Bendigo

The tables demonstrate that tele-education is cost effective for agencies and workers. The savings for presenters are not significant when costs of technical support, site co-ordination etc. are also considered.

However the most important issues in discussing costs are access and availability. The reality was that presenters could not have made themselves available if travel had been factored into the time required by the project. From the evaluation it appears unlikely that participants would have been able to attend if travel to a metropolitan centre had been required. While the basic costing do not suggest significant savings in using tele-education, when access and availability are also considered in this instance tele-education proved to be a cost effective strategy.
This project was successful in developing a model for tele-education that can be replicated in a variety of health settings. The following describes the elements involved in this model.

Consultation
This project demonstrates the importance of adequate consultation with the target group to successful program design and implementation.

Communication
This occurred between all parties and over the life of the project. Most of this communication occurred using teleconferencing technology, email, telephone and fax. The use of electronic means of communication facilitated a much smoother planning and implementation process. It also resulted in significant time saving for the project co-ordinators when compared to travelling for meetings.

Communication occurred between:
- project co-ordinator and site co-ordinator to facilitate the collaborative relationship;
- site co-ordinator and audience to resolve any audience difficulties with program delivery; and
- site co-ordinator and presenters to fine tune presentation and delivery of sessions.

The human interface
The “Children’s Mental Health Tele-Education Project” demonstrates the importance of maintaining a human interface when using innovative technology for education purposes. In this project technology was the delivery tool and the project remained...
focused on the delivery of a quality education program. The key to quality education using technology is the human interface.

**High-quality equipment**

High-quality technology is important in gaining user acceptance of this technology as an educational tool. The transmission needs to be of the highest quality available and any transmission problems should be immediately rectified.

**Variety of teaching modalities:** Interactive video technology on its own is not an effective teaching tool. To be effective it must be integrated with a variety of teaching strategies. This also accommodates the different learning styles of participants which becomes even more important than normal due to participant lack of familiarity with the technology.

**CONCLUSION**

The Children’s Mental Health Program has achieved a number of significant outcomes.

- A sustained collaborative partnership between a metropolitan service provider and a rural service provider.
- Identification of needs of rural allied health workers for training in child mental health.
- Development and implementation of an education program in child mental health targeted at the needs of rural allied health workers.
- The further development of interactive video technology as an educational tool.
- Increased user acceptance of this technology as an educational tool.
- A reported increase in knowledge and skills in working with children with mental health disorders.
- Reported changes to practice as a result of attending the program.
- The program provided the opportunity to strengthen networks between agencies participating in the program.

This program provides a model for future tele-education programs to address the education and training needs of rural allied health workers. It addressed the “tyranny of distance” in providing quality specialist professional development. It was also an important way of introducing workers in the region to the possibilities for using this technology both in meeting training needs and in client work.

The program also raised some interesting areas for further investigation.

The response to the program exceeded all expectations and indicates that there is a significant gap in training provided to these workers in child mental health.
Data collected from the program indicates that the role of rural allied health workers in pathways to care and ongoing support of children with mental health disorders and their families is an area that needs more exploration.

Finally, sustainable training and education strategies need to be developed to support rural allied health workers in the critical work they do with children and families.

REFERENCES

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9. Ibid. p. 11

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11. Ibid. p. 23

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AUTHORS

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