The effectiveness of telemental health applications: a review

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CRD summary
This review assessed the delivery of mental health interventions by telephone, video conferencing, or the Internet. The authors concluded that evidence for the effectiveness of these interventions was encouraging, but limited. These conclusions appear to be reliable, but the broad scope of the review and the lack of detail might limit its usefulness in practice.

Authors' objectives
To review the evidence for the effectiveness of medical services provided by telecommunications for mental health conditions.

Searching
The authors searched MEDLINE, HealthSTAR, EMBASE, PsycINFO, and CINAHL for articles to June 2006. The ACP Journal Club, Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials (CENTRAL), and DARE were also searched. Search terms were reported.

Study selection
Telemental health was defined as any form of electronic communication technology used to reduce the geographic barriers to receiving mental health care. Controlled and uncontrolled studies of telemental health interventions were eligible; uncontrolled studies had to have at least 20 participants. The definition of mental health included alcohol and substance abuse, eating disorders, and smoking prevention. Studies had to report at least one clinical or administrative outcome.

The included studies covered a wide range of conditions and the most common one was general mental health and depression. Interventions involved telephones, video conferencing, or the Internet, with virtual reality used in one study.

Studies were selected independently by all three authors and final decisions were made by consensus.

Assessment of study quality
Studies were given a total score that ranged from zero to 15 based on their design (zero for uncontrolled studies to five for large randomised controlled trials) and execution (zero to two, for each of patient selection, description of the interventions, specification and analysis of the study, patient follow-up and compliance, and outcomes reported).

Studies were assessed by all three authors independently, with discrepancies being resolved by consensus.

Data extraction
For each study, the data extracted were whether the study had indicated that the telemental health application could be suitable for clinical use and whether additional research was recommended. The authors did not state how many reviewers performed this data extraction.

Methods of synthesis
Studies were synthesised in a narrative by type of mental health condition. For each condition, the number of studies indicating that the telemental health intervention was successful (suitable for clinical use); potentially successful (promising for clinical use, but further research needed); unsuccessful; or had unclear results, was reported in a table.

Results of the review
Sixty-five studies were included and 17 of them were considered to be high quality (scored 11.1 to 15), 15 were good (9.1 to 11) and 12 were fair-to-good (7.1 to 9). Study quality was generally higher for internet-based and telephone than for video-conferencing interventions.
Telemental health interventions were judged to be successful in most of the conditions studied and in 55% of included studies, but further research was also considered necessary or desirable in most cases.

**Authors' conclusions**
Evidence of benefit from telemental health applications was encouraging, but limited.

**CRD commentary**
The review had clear inclusion criteria. A wide range of study designs was included, which means that the review was not limited to the best quality evidence. The authors searched a range of relevant sources, but did not search for unpublished studies, so the review could be at risk of publication bias. It was not clear whether any language restrictions were imposed. The quality of included studies was assessed, but only limited details were reported, which makes it difficult for the reader to assess the strengths and limitations of the included studies. Study selection and quality assessment were done by all authors independently, which minimised the risk of errors or bias. A similar process was not reported for data extraction. Limited details of the included studies were reported, but further details were available from the authors. A narrative synthesis was appropriate given the range of interventions and health conditions studied. The criteria used to evaluate the clinical outcomes of the included studies were not reported.

The authors' conclusions reflected the evidence presented and appear to be reliable, but the broad scope of the review and the lack of detail might limit its usefulness.

**Implications of the review for practice and research**

**Practice**: The authors did not state any implications for practice.

**Research**: The authors stated that there was a need for more high quality studies of telemental health in routine care.

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