Effectiveness of different models of case management for substance-abusing populations

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CRD summary
The authors concluded that some evidence existed for modest or small benefits of some models of case management, but that these did not significantly differ from most other substance abuse interventions. Given limitations in the review process, the unclear quality of included diverse studies and the absence of statistical data, the authors’ conclusions should be treated with caution.

Authors' objectives
To evaluate the effectiveness of different models of case-management in the treatment of substance abuse.

Searching
PubMed, PsycINFO, and Web of Knowledge were searched from 1993 to 2003. Search terms were reported. The reference lists of retrieved articles were handsearched. American and European experts were contacted to identify other published articles. The search was restricted to articles published in peer-reviewed journals.

Study selection
Studies of at least one model of case-management in substance-abusing participants, reporting on at least one outcome variable, were eligible for inclusion. Participants with co-morbid but not primary psychiatric disorders were eligible for inclusion.

Included studies were of intensive case management, assertive community treatment, strengths-based case management, generalist case management, brokerage case management and clinical case management. A wide range of target populations were included for the review. A range of outcomes were reported in the areas of substance use, housing, employment, general psychosocial functioning, quality of life, physical and mental health, legal problems or recidivism, engagement with treatment, utilisation of other health services, and cost of health services used. Follow-up ranged from three to 36 months. The majority of studies were conducted in the USA.

The authors did not state how the studies were selected for the review or how many reviewers performed the study selection.

Assessment of study quality
The authors did not state that they assessed validity

Data extraction
Where there was more than one article for a study, it appears that all articles were included for the review.

The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis
The results were combined in a narrative synthesis.

Results of the review
Thirty-six studies were included for the review (n=33,394): seventeen randomised controlled trials (RCTs, n=6,834 participants), two partial RCTs (n=1,073 participants), one non-randomised controlled trial (n=70 participants), two quasi-experimental studies (n=1,195 participants), six uncontrolled pre/post-tests (n=2,071 participants), one pre/post study (n=53 participants), six retrospective studies (n=22,088 participants) and one case study (n=10 participants). Statistical data were not provided for any of the studies.
**Intensive case management** (18 studies, n=6,546 participants): Intensive case management was associated with significantly improved outcomes in adolescents receiving residential treatment (one RCT, n=114 participants), pregnant and post-partum women (one study, n=152 participants), in people involved in the criminal justice system (two studies, n=1,454 participants) and in people with complex problems (one study, n=24 participants). Intensive case management of children with cocaine-abusing mothers only resulted in significant improvement in cognitive and verbal outcomes (one study, n=70 participants). Intensive case management did not significantly improve outcomes compared to controls in four of the five studies of homeless substance abusing populations (n=2,186 participants) and in the RCT (n=190 participants) of HIV (human immunodeficiency virus) populations. Participants with a dual diagnosis did not show significantly improved outcomes with intensive case management, except where intensive case management was robustly applied (three studies, n=245 participants).

**Assertive community treatment** (two studies, n=461 participants): Assertive community treatment did not show a significant benefit for substance misusing parolees (one RCT, n=258 participants) or for people with co-morbid mental illness (one RCT, n=203 participants), except for some measures of substance use and quality of life in the people with mental illness.

**Strengths-based case management** (three studies, n=1,304): Strengths-based case management was associated with significant improvements in use of medical and substance abuse services, legal outcomes, family relationships and parental attitudes (one RCT, n=662 participants), improved treatment retention, aftercare participation and employment functioning (one RCT, n=632 participants) compared to standard treatment. One case study found improved employment amongst those participants that continued with the programme.

**Generalist case management** (10 studies, n=23,801): Generalist case management was associated with some significantly improved outcomes in homeless substance-abusing populations (two of the three studies in this population, n=852 participants), in pregnant or post-partum women (two studies, n=883 women), in offenders (one study, n=259 participants) and in people discharged from treatment (one study, n=21,207 participants). Generalist case management had poorer outcomes for cocaine-abusing mothers compared to a comprehensive programme including psychotherapy (one RCT, n=84 participants) and the results were mixed for the two studies of intravenous drug users (n=516 participants).

**Brokerage case management** (one study, n=692 participants): Brokerage case management was associated with significant improvements in some aspects of service utilisation compared to no case management in one RCT (n=692 participants). Brokerage case management did not show significantly different outcomes to intensive case management, when used as a control condition for this intervention (two studies, n=912 participants).

**Clinical case management** (two studies, n=590): Clinical case management was associated with significantly improved alcohol and drug use, medical and psychiatric status and employment functioning at six months (one study, n=537 participants) and with significantly fewer emergency and inpatients visits and alcohol and drug use at 12 months (one study, n=53 participants).

**Cost information**
Intensive case management was associated with significant cost savings in three of four studies that reported this outcome. Assertive community treatment (one study) and generalist case management (one study) did not result in any significant cost savings. Clinical case management was associated with significantly reduced health care and hospital costs compared to pre-treatment levels (one study). Actual cost figures were not presented in the review.

**Authors’ conclusions**
Some evidence existed for modest or small benefits of some models of case management, but these did not significantly differ from most other substance abuse interventions. Positive effects were largely seen in increased utilisation of community services, decreased utilisation of inpatient services, prolonged treatment retention, improved quality of life and high client satisfaction. Outcomes in drug use and psychosocial functioning were less consistent.

**CRD commentary**
The review addressed a clear question. Inclusion criteria were stated for intervention and participants, but not for study design or outcome. Several relevant databases were searched, but unpublished data was excluded, which may have
introduced publication bias. It was unclear whether the search was language restricted, so language bias cannot be ruled out. The majority of included studies were conducted in the USA, so it is unclear to what extent the findings may be generalised to other countries. There was insufficient information about the review process to determine whether appropriate steps were taken to minimise reviewer error or bias. A validity assessment did not appear to have been carried out, so it was not possible to determine the reliability of the data upon which the review was based. The decision to combine the studies in a narrative synthesis was appropriate in light of the substantial clinical heterogeneity of the included studies, but the absence of any statistical data meant that the reader was unable to determine the significance of the findings. Also, the multiplicity of reported outcomes made it difficult to compare the studies and interpret the review findings. Given these limitations, the authors’ conclusions should be treated with caution.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that further large scale, long-term and methodologically rigorous studies are needed investigating multiple outcome measures and process variables, particularly outside of the USA. Qualitative studies are needed to identify aspects of effective case management, that may then be tested in RCTs.

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