Do financial incentives increase treatment adherence in people with severe mental illness? A systematic review
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CRD summary
The review concluded that financial incentives may have improved treatment adherence in severely mentally ill populations, but very few studies were focused on psychiatric treatment. Limitations in the evidence base, which included uncertain study quality and a lack of reported review processes, make the reliability of the conclusions uncertain.

Authors' objectives
To determine the effectiveness of financial or material incentives to improve treatment adherence in individuals with severe mental illness.

Searching
EBM Reviews, PsycINFO, EMBASE, MEDLINE and AMED were searched up to October 2008. Search terms were reported. Ten key psychiatric journals (reported in full in the review) were searched manually from January 2004 to January 2009. Four authors of relevant primary studies were contacted to identify any further studies. Reference lists of identified articles were checked.

Study selection
Studies had to be of people with a severe mental illness and assess the effect on treatment adherence of an incentive (monetary payment, voucher-based or material goods) offered prior to any treatment were eligible for inclusion in the review. Studies of people with substance misuse disorders and no other diagnosed mental health problem were excluded.

Most of the included studies offered financial or material incentives to individuals with severe mental illness to encourage abstinence from substances and/or adherence to substance misuse treatment programmes. Other studies sought to encourage adherence to specific treatment programmes such as depot medication, therapy sessions, dance and active participation in group meetings and physical exercise. Type of incentives included money and vouchers; where reported the maximum possible amount that could be earned ranged from $12 to $1277.50. Material goods or vouchers redeemable for goods were offered in some studies. Reported treatment duration ranged from one to 40 weeks. Participants in half of the studies had a diagnosis of schizophrenia; other studies included individuals with diagnoses of depression, antisocial personality disorder or other psychiatric disorders. Study participants included outpatients (living in independent accommodation/hostels in the community or living in the community and accessing assertive outreach services) and psychiatric in-patients. Most studies were conducted in USA; one study was in UK.

The authors do not state how many reviewers were involved in study selection.

Assessment of study quality
The authors did not state that they systematically assessed the quality of the included studies.

Data extraction
Data were extracted for immediate and maintenance outcomes. Where provided, percentage increase/decrease in adherence was reported.

The authors did not state how many reviewers performed data extraction.

Methods of synthesis
A narrative synthesis was reported.

Results of the review
Fourteen studies were included in the review: three randomised controlled trials (RCTs) (171 participants, range 21 to 120), one controlled trial (74 participants), nine uncontrolled time series (179 participants, range two to 53) and one case observation (five participants).

All studies reported a beneficial effect of the intervention. This was reported to be statistically significant in 11 studies, three of which were RCTs.

Eleven studies assessed maintenance once the incentive was withdrawn and six of these studies demonstrated an improvement in adherence; this was significant in only one study. This study was an RCT of patients with antisocial personality disorder. It demonstrated that abstinence from cocaine remained significantly higher at 52 week follow-up in the incentive group compared with the control group.

The authors stated that one study found that participants increased the amount of physical exercise during the intervention phase and that this was maintained 50 days after the incentive was withdrawn, but no statistical analyses were reported.

**Authors' conclusions**
Financial incentives may improve treatment adherence in severely mentally ill populations, but very few studies were focused on psychiatric treatment and further research was required to address the long-term effectiveness of such incentives in this population.

**CRD commentary**
The review question was clear and supported by inclusion criteria. Several sources were searched, although it is not clear whether this search was restricted by language. It is unclear whether any attempt was made to locate unpublished research. Formal assessment of publication bias was not performed. It is not clear whether appropriate steps were taken to minimise the likelihood of reviewer error or bias in the selection of studies or data extraction. The authors did not assess the quality of the included studies, and thus the reliability of their results is not clear.

A narrative synthesis seemed appropriate due to the substantial heterogeneity between the studies in terms of interventions, participants and design. Most of the included studies were observational in design. Most studies were of fewer than 30 participants.

Even though the authors' conclusion was somewhat cautious, limitations in the evidence base (which included uncertain study quality) and a lack of reported review processes make the reliability uncertain.

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

**Practice:** The authors stated that financial incentives could be used as a tool for initiating engagement in mental health treatment and abstinence from substances.

**Research:** The authors stated that further research was required to determine the long-term effectiveness of incentives on treatment adherence as well as their effect on patient outcomes, attitudes to treatment and the potential effect incentives may have on the therapeutic relationship between patient and clinician.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.