Randomized and non-randomized evidence for the effect of compulsory community and involuntary out-patient treatment on health service use: systematic review and meta-analysis

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CRD summary
This review evaluated the effect of compulsory community treatment of psychiatric patients on hospital readmissions, psychiatric bed-days, adherence to treatment and compliance with out-patient follow-up. The authors concluded that there is limited evidence to support this type of intervention. The review had some methodological limitations, but the authors' conclusions reflect the data presented and seem appropriate.

Authors' objectives
The authors appear to evaluate the effect of compulsory community treatment on hospital admissions, bed-days, compliance to treatment and out-patient contacts in psychiatric patients.

Searching
CINAHL, EMBASE, MEDLINE and PsycINFO were searched up to June 2006; the search terms were reported. Additional studies were identified by searching the Cochrane Schizophrenia Group's Register of Trials and abstracts from relevant meetings, and by screening the references of identified studies and other review articles. Authors of articles and experts in the field were also contacted. It was not clear if non-English language literature was searched.

Study selection

Study designs of evaluations included in the review
Randomised controlled trials (RCTs), controlled before-and-after (CBA) studies and interrupted time series analyses were eligible for inclusion.

Specific interventions included in the review
Studies of community treatment orders (CTOs), involuntary out-patient treatment, involuntary out-patient commitment (OPC), and extended leave or supervised discharge were eligible for inclusion. Studies involving compulsory treatment in the community for drug or alcohol dependence were excluded, as were community treatments for mentally or behaviourally disordered offenders. The included studies evaluated OPC in the USA and CTOs in Australia.

Participants included in the review
The authors did not state the inclusion and exclusion criteria relating to participants. The characteristics of the patients in the included studies were also not described, although it appears that the participants were patients with psychiatric illnesses.

Outcomes assessed in the review
Studies evaluating the outcomes of readmission rates, psychiatric bed-days and adherence to psychiatric treatment/contact adherence were eligible for inclusion.

How were decisions on the relevance of primary studies made?
Two authors independently selected studies for the review; the authors did not state how any disagreements were resolved.

Assessment of study quality
Study quality was assessed according to the recommendations of the Cochrane Collaboration and the Cochrane EPOC criteria, which included items on allocation concealment, consideration of unit of allocation and analysis, follow-up rate, blinding, comparability of the groups at baseline, reliability of the outcome assessment and protection against contamination. The authors did not state how many reviewers performed the validity assessment.
Data extraction
Two reviewers independently extracted the data. Any disagreements were resolved by discussion and consultation with the third reviewer. Data on psychiatric admissions, bed-days and treatment/contact adherence were used to calculate absolute difference, relative percentage difference, absolute change from baseline and difference in absolute change from baseline between the intervention and control groups. Only the data from RCTs were included in the primary meta-analysis. Weighted mean differences (WMDs) and 95% confidence intervals (CIs) were calculated for continuous data. The authors stated that odds ratios were calculated, but in fact reported relative risks (RRs) and 95% CIs for dichotomous data. Data were extracted in an intention-to-treat format when conducting the meta-analysis.

Methods of synthesis
How were the studies combined?
Only RCTs were included in the meta-analysis. A fixed-effect model was used. A random-effects model was used post hoc to confirm the results. Results from non-RCTs were discussed in the text and tables.

How were differences between studies investigated?
Statistical heterogeneity was calculated using the Q statistic. A sensitivity analysis was conducted by adding one CBA study to the meta-analysis for the outcome of admissions and bed-days.

Results of the review
Eight papers covering 5 studies (n=1,108) were included in the review: 2 RCTs and 3 CBA studies.

Readmission rates.
There was no statistically significant reduction in the readmission rate for participants on OPC compared with control groups at the 11- to 12-month follow-up (RR 0.98, 95% CI: 0.8, 1.2; 2 RCTs). The 3 CBA studies also reported similar findings. Patients on compulsory community treatment had a shorter time to admission compared with matched controls (2 CBA studies). The sensitivity analysis did not alter the results.

Psychiatric bed-days.
There were no statistically significant differences in the number of bed-days between the OPC and control groups (WMD -7.63, 95% CI: -19.2, 3.9; 2 RCTs). Significant heterogeneity was found for this outcome. Only one of the 3 CBA studies showed statistically significant reductions in bed-days in the OPC group. One CBA study reported that patients on compulsory community treatment were less likely to have long admissions over 100 days. The sensitivity analysis did not alter the results.

Treatment/contact adherence.
There was no statistically significant difference in adherence to treatment between the OPC and control groups (RR 0.99, 95% CI: 0.8, 1.2; 2 RCTs). One CBA study reported an increase in the mean number of psychiatric contacts in the CTO group compared with controls. One RCT reported increase in visits to psychiatrists.

Authors’ conclusions
There is very limited evidence to support involuntary out-patient treatment in reducing admissions or hospital bed-days.

CRD commentary
The review had clearly stated inclusion criteria with respect to the study design, interventions and outcomes. However, the type of participants in the review was not explicitly described. Many relevant databases and other sources were searched. The authors attempted to minimise bias and errors during the review process by carrying out the study selection and data extraction processes in duplicate. It was unclear if study quality was assessed in duplicate, therefore reviewer error and bias might have been introduced at this stage. The potential influence of publication bias does not seem to have been assessed. The statistical methods used in the meta
analysis appeared appropriate, although significant heterogeneity was present for one outcome; however, the graphs of the results of the meta-analysis were not given. The authors' conclusions reflect the data presented and seem appropriate.

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

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

**Research:** The authors stated that, given the difficulties of conducting RCTs in this area, future research should use quasi-experimental designs with analyses of routine databases, interrupted time series analyses, and comparisons of similar jurisdictions in the same country.

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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.