Interventions to improve the health of the homeless: a systematic review
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CRD summary
This review evaluated interventions to improve health-related outcomes for homeless people. The authors concluded that coordinated programmes for homeless adults with mental illness or substance abuse usually result in better outcomes than usual care. This was a reasonably well-conducted review, but the poor presentation of results means that the extent to which the conclusions are reliable is unclear.

Authors' objectives
To evaluate interventions to improve the health-related outcomes of homeless people.

Searching
MEDLINE, CINAHL, HealthSTAR, PsycINFO, Sociological Abstracts and Social Services Abstracts were searched from inception to July 2004 for articles published in English; the search terms were reported. The bibliographies of relevant reviews and included articles were screened for additional studies.

Study selection
Study designs of evaluations included in the review
The eligible study designs were randomised controlled trials (RCTs), prospective longitudinal studies with non-randomised allocation to different treatment groups, retrospective studies with comparison of outcomes in different treatment groups, and secondary analyses of RCT data where the intervention was not the same as that allocated in the original trial.

Specific interventions included in the review
Studies of any intervention provided by primary care, or to which homeless patients could be referred, were eligible for inclusion. The eligible comparators were another intervention or no intervention (usual care). Those included in the review were case management services and/or supported housing; assertive community treatment (ACT); the Access to Community Care and Effective Services and Supports programme; post-detoxification stabilisation; abstinence-contingent work therapy; intensive residential treatment; other preventive health interventions for substance dependence; cash incentive schemes; educational programmes; and outreach initiatives.

Participants included in the review
Studies of homeless people, including those with no fixed, regular and adequate night-time residence, and those living in supervised shelters or locations not intended for human use, were eligible for inclusion. Studies that included non-homeless people as part of the population had to include at least half who were homeless, and report the results separately. The included studies contained homeless people with mental illness and/or substance abuse; those with tuberculosis; runaway youths; families, women and children; and those admitted to emergency departments or hospitals. The proportion of males ranged from 20 to 100%, with many studies at the higher end of this scale. The participants ranged from young children (aged 1 to 12 years) to adults with a mean age of 58 years.

Outcomes assessed in the review
Studies had to include health-related outcomes, defined as physical health, mental health (including psychiatric symptoms, psychological or cognitive function), substance use, human immunodeficiency virus (HIV) risk behaviours, health care use and adherence, and quality of life. Studies reporting only housing or employment outcomes were excluded. A variety of measurement scales were used. The duration of follow-up ranged from 2 weeks to 4 years.

How were decisions on the relevance of primary studies made?
One reviewer selected the studies and a second reviewer verified the decision. Any disagreements were resolved by the involvement of a third reviewer.

Assessment of study quality
Two reviewers independently assessed the methodological quality of the studies using a modified version of the U.S. Preventive Services Task Force Work Group guidelines. The studies were rated good, fair or poor, and any disagreements were resolved by consensus.

Data extraction
Two independent reviewers extracted the data for the review. Any disagreements were resolved by consensus.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative.

How were differences between studies investigated?
Differences between the included studies were explored according to sub-population and intervention categories.

Results of the review
Seventy-three studies were included in the review: 37 RCTs (n=16,235), 19 prospective longitudinal studies (n=10,983), 10 retrospective studies (n in excess of 2,938) and 7 secondary analyses of RCT data (n=9,758).

Thirteen studies were rated good quality, 32 fair and 28 poor (the latter largely because of small sample sizes and low follow-up rates). The results reported in this abstract were derived from studies that were rated good or fair quality.

Interventions for people with mental illness (15 studies).

One RCT showed improvements in psychiatric symptoms and quality of life when a multifactorial programme (including case management, housing and rehabilitation services) was compared with usual care. Three RCTs evaluating the ACT programme compared with usual care produced mixed results in terms of psychiatric outcomes and hospitalisation. Various other study designs targeting this group showed improvements in mental health, substance use, quality of life and health care utilisation outcomes, although some studies showed negative health outcomes following the intervention.

Interventions for people with substance abuse (13 studies).

Two RCTs of high- versus low-intensity case management found no significant differences in mental health or substance abuse outcomes. However, further studies of case management and other substance abuse-related therapies compared with usual care reported reduced alcohol and drug use. Studies focusing on immunisation and smoking cessation also suggested positive outcomes.

Interventions for people with concurrent mental illness and substance abuse (7 studies).

A randomised study comparing participants receiving housing and support services with a less intensive intervention found that they spent less time in hospitals, but psychiatric and substance abuse outcomes were not significantly different. There was some support for psychosocial rehabilitation and a multifactorial programme of behavioural, abstinence-contingent, housing and work therapy in reducing substance abuse.

In a further 10 studies, results suggested that cash incentives were effective in increasing adherence to tuberculosis screening and improved completion rates; education initiatives improved HIV risk behaviours in runaway youths; outreach services reduced primary care utilisation in homeless families and children; education programmes reduced injection drug use amongst homeless women; and compassionate care reduced emergency department visits.

Authors' conclusions
Coordinated programmes for homeless adults with mental illness or substance abuse generally result in better health outcomes than usual care.

CRD commentary
This review addressed a broad question and had very broad inclusion criteria. Relevant sources were searched to identify studies for inclusion, although only studies published in English were included, so the potential for language and publication bias cannot be ruled out. A published validity assessment tool was used and the better quality studies were identified and highlighted in the results. The review was conducted with adequate attempts to reduce potential error and bias. Extensive study details were tabulated, but the results were presented using symbols with no numerical effect sizes or confidence intervals. The reporting of these results in the text was brief and there was insufficient information to enable readers to verify the review’s conclusions. The authors addressed a diverse topic area but it is difficult to assess the reliability of their conclusions based on the results presented.

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

**Practice:** The authors stated that clinicians should focus on directing homeless people to tailored coordinated treatment and support programmes.

**Research:** The authors stated that future studies should include usual care control groups and address the diversity of the homeless population, with particular focus on the needs of runaway youths and homeless families and children.

**Funding**

Canadian Institutes of Health Research (new Investigator Award); Ontario Ministry of Health and Long-Term Care.

**Bibliographic details**


**PubMedID**

16242595

**DOI**

10.1016/j.amepre.2005.06.017

**Indexing Status**

Subject indexing assigned by NLM

**MeSH**

Health Services; Homeless Persons; Hospitalization; Humans; Mental Disorders /therapy; Substance-Related Disorders /therapy; Tuberculosis /therapy; United States

**AccessionNumber**

12006006132

**Date bibliographic record published**

04/07/2007

**Date abstract record published**

01/12/2008

**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.