Crisis intervention for people with severe mental illnesses (Review)

Joy CB, Adams CE, Rice K

This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2007, Issue 4

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Status: *Commented*

This record should be cited as:
Joy CB, Adams CE, Rice K. Crisis intervention for people with severe mental illnesses. *Cochrane Database of Systematic Reviews* 2006, Issue 4. Art. No.: CD001087. DOI: 10.1002/14651858.CD001087.pub3.

This version first published online: 18 October 2006 in Issue 4, 2006.
Date of most recent substantive amendment: 23 August 2006

ABSTRACT

Background
A particularly difficult challenge for community treatment of people with serious mental illnesses is the delivery of an acceptable level of care during the acute phases of severe mental illness. Crisis intervention models of care were developed as a possible solution.

Objectives
Our objectives are to review the effects of a crisis intervention model for anyone with serious mental illness experiencing an acute episode, compared with 'standard care'.

Search strategy
We updated the 1998 and 2003 searches with a search of the Cochrane Schizophrenia Group's Register of trials (January 2006).

Selection criteria
We included all randomised controlled trials of crisis intervention models versus standard care for people with severe mental illnesses.

Data collection and analysis
Working independently, we selected and critically appraised studies, extracted data and analysed on an intention-to-treat basis. Where possible and appropriate we calculated relative risk ratios (RR) and their 95% confidence intervals (CI), with the number needed to treat (NNT). We calculated Weighted Mean Differences (WMD) for continuous data.

Main results
Several home-care studies have been carried out recently but none of these met the inclusion criteria for this review. For the 2006 update we excluded four more studies (total excluded 25). Two other recent studies await assessment; we found no new studies to add to the five studies already included in this review. None of these included studies purely investigated crisis intervention; all used a form of home care for acutely ill people, which included elements of crisis intervention. Forty five percent of the crisis/home care group were unable to avoid hospital admission during their treatment period. Home care, however, may help avoid repeat admissions (n=465, 3 RCTs, RR 0.72 CI 0.54 to 0.92, NNT 11 CI 6 to 97), but these data are heterogeneous (I-squared 86%).

Crisis/home care reduces the number of people leaving the study early (n=594, 4 RCTs, RR lost at 12 months 0.74 CI 0.56 to 0.98, NNT 13 CI 7 to 130), reduces family burden (n=120, 1 RCT, RR 0.34 CI 0.20 to 0.59, NNT 3 CI 2 to 4), and is a more satisfactory form of care for both patients and families. We found no differences in death or mental state outcomes. All studies found home care to be more cost effective than hospital care but all numerical data were either skewed or unusable. No data on staff satisfaction, carer input, compliance with medication or number of relapses were available.

Authors' conclusions
Home care crisis treatment, coupled with an ongoing home care package, is a viable and acceptable way of treating people with serious mental illnesses. If this approach is to be widely implemented it would seem that more evaluative studies are still needed.

PLAIN LANGUAGE SUMMARY

Over the past three decades mental health care of people in crisis has moved from predominantly hospital-based to being largely community based. We sought evidence for the effectiveness of a specific home-care package for people in crisis; crisis intervention. It was difficult to find trials specifically randomising crisis intervention with hospital care as all crisis interventions were coupled with a broader home-based package. Overall, nearly half of the people in crisis allocated to home care eventually needed to be admitted to hospital. The crisis/home care package, however, may help avoid repeat admissions (although data are not strong and are overly influenced by one very positive study).

Crisis/home care does reduce the number of people leaving the study early and the burden on the family. It also seems to be a more satisfactory form of care for both people with severe mental illnesses and their families and may be less expensive than standard care. Several reports specifically mentioned that the burden on the teams was considerable and that the crisis/home care does not clearly affect a person's mental state. Management of a crisis at home is now widely incorporated into other care packages. More data from existing studies may help clarify if this is a prudent use of resources.

BACKGROUND

During the last 40 years large-scale closure of psychiatric hospitals and reduction in the availability of bed spaces has facilitated a sharp rise in the number of people with serious mental illnesses being treated in the community. After an initial reduction in admissions however, there was a rise in the number of people requiring hospital readmission, suggesting that this policy of community care was perhaps failing some vulnerable people (Ellison 1974). Although research suggested there were many benefits to community care (Pasamanick 1967, Langsley 1968), in practice it was proving difficult to implement. A particularly difficult area was the delivery of an acceptable level of care during the acute phases of severe mental illness (Audit Comm 1986, WHO 1987).

Severe psychiatric illnesses are phasic. After initial treatment, people with schizophrenia or other similar disorders usually experience long periods of relative stability (Bleuler 1974). Relapses can, however, occur for reasons such as exposure to environmental stressors or poor compliance with medication. During a psychotic relapse sufferers experience a sudden exacerbation of acute symptoms such as delusions and hallucinations and consequently will have disturbed and difficult behaviour. Some people become aggressive, threatening harm to themselves or others. Intervention at this stage is crucial as it brings much needed relief for both the sufferer and their carers and can help prevent further deterioration (Weisman 1989). A major problem with early community care was that although it could care for people during their relatively stable periods, it was unable to cope with acute phases or relapses. This created a cyclic pattern whereby people were hospitalised for short periods during a crisis, then discharged into the community until a further crisis arose (Hoult 1986).

Breaking this cycle required the development of some form of community care that could adequately treat psychiatric crises in the home environment. Psychiatric services in Amsterdam were at the forefront of such treatment introducing a 24-hour 'first-aid' emergency home service just after the Second World War (Querido 1968). In the 1970's more specific crisis intervention models were introduced. Like Amsterdam's first-aid service, crisis intervention models aimed to treat psychiatric crises in the community and if possible avoid hospitalisation or, if this was unavoidable, reduce time spent in hospital (Weisman 1989). Crisis intervention models for people with serious mental illnesses were based on models originally developed to treat normally healthy individuals in psychological crisis. A crisis can be defined as a situation where a person experiencing overwhelming stress due to a life event such as bereavement, rape or major illness finds that their usual coping mechanisms for everyday life break down (Lindemann 1944, Caplan 1964). People with severe psychiatric illnesses may have fragile coping mechanisms. If exposed to excessive stress, these coping mechanisms can breakdown, leading to an exacerbation of their acute symptoms for which crisis intervention techniques may be used (Weisman 1989).

In keeping with the original ethos of earlier crisis intervention models, the models used for people with serious mental illnesses usually, but not always, require a multidisciplinary team of specifically trained staff. These teams may be available 24 hours a day. They advocate prompt detection of exacerbation of serious mental illness followed by swift, time-limited, intense treatment delivered in a community setting. There is immediate assessment and identification of problems followed by initial implementation of treatment. Treatment usually involves a combination of medication, counselling/therapy plus practical help with living skills and support for close family members. After the crisis has been stabilised, sufferers are carefully introduced to other models of care more suited for the chronic phases of psychiatric illnesses. The aim of crisis intervention models is to prevent, where possible, hospitalisation, further deterioration of symptoms and stress experienced by relatives/others involved in the crisis situation (Thomas 1970).

Since their initial introduction several 'crisis' programs have emerged, all designed to offer intensive crisis-oriented treatment

to severely disturbed mentally ill people in a variety of community settings. These include programmes such as mobile crisis teams, crisis units in hospitals, crisis day treatment centres and crisis residential programs. This expansion of crisis intervention programs has been dramatic. In countries such as Australia and in North America it is now the central method of treatment used in community mental health programmes (Weisman 1989, Finch 1991).

The rapid dissemination of crisis intervention models suggests they have been successful methods of treatment for psychiatric crises. Supporting this is much research suggesting that crisis intervention models are beneficial in that they reduce hospital admissions by up to 50%, are more cost-effective, and reduce the stigma of institutionalisation for both the sufferer and their family (Hoult 1986, Hoult 1984a, Hoult 1984b, Lamb 1979, Schoenfeld 1986, Stein 1978, Test 1978). In addition, early intervention with immediate reduction of psychotic symptoms is said to be beneficial for the long-term prognoses of these illnesses (McGorry 1996). A survey, however, has suggested that the original claims for the efficacy of mobile crisis teams were not based on enough empirical evidence and it calls for more research into the effects of this intervention (Geller 1995).

OBJECTIVES

To review the effects of crisis intervention models for anyone with serious mental illness experiencing an acute episode compared to the 'standard care' they would normally receive.

If possible, to compare the effects of mobile crisis teams with crisis units based in hospitals or day centres.

CRITERIA FOR CONSIDERING STUDIES FOR THIS REVIEW

Types of studies

Randomised controlled trials. If a trial was described as 'double-blind' but only implied randomisation, we included it in a sensitivity analysis of all such trials. If there was no substantive difference within primary outcomes (see types of outcome measures) when these 'implied randomisation' studies were added, then we included them in the final analysis. If there was a substantive difference, we only included clearly randomised trials and described the results of the sensitivity analysis in the text. We excluded Quasi-randomised studies, such as those allocating by using alternate days of the week.

Types of participants

We included anyone with schizophrenia or other serious mental illness, however diagnosed, presenting to or referred to a social/psychiatric/nursing service because they were experiencing a psychosocial crisis, however defined. We excluded people in crisis with drug-induced psychosis or in a depressive crisis.

Types of intervention

i. Crisis intervention: any type of crisis-orientated treatment of an acute psychiatric episode by staff with a specific remit to deal with such situations, in and beyond 'office hours'.

ii. Standard care: the normal care given to those suffering from acute psychiatric episodes in the area concerned.

We also would compare different models of 'crisis intervention', mobile and non-mobile units if data were available.

Types of outcome measures

We considered five main outcomes:

1. Service utilisation
1.1 Admission to hospital
1.2 Number of days in hospital and
1.3 Number of staff/user contacts

2. Satisfaction with treatment
2.1 Number of people leaving the study early
2.2 Patient satisfaction
2.3 Staff satisfaction
2.4 Carer satisfaction

3. Clinical outcome
3.1 Death/suicide
3.2 Improvement, general or specific
3.3 Compliance with medication
3.4 Antipsychotic medication
3.5 Relapses

4. Social outcome
4.1 Social functioning including life skills
4.2 Employed (paid/voluntary/attendance at school/college)
4.3 Able to live independently
4.4 Number of carers - professional or significant others - needed to maintain stable state

5. Cost of treatment
5.1 Total, mental health care or medical care costs
5.2 Staff input - hours worked
5.3 Carer input - change in lifestyle/no change in lifestyle/loss of income

We selected outcome measures that provided global estimations of functioning. We did not report highly specific outcomes, such as, 'sense of safety'. Such specific outcomes are rarely reported in more than one study and it is difficult to assess their relevance to the effectiveness of the treatment. We recorded other outcomes that were not of pre-stated interest but did not readily falling into these categories.

We divided outcomes into short-term (less than six weeks) medium-term (six weeks-three months) and long-term (more than three months).

SEARCH METHODS FOR IDENTIFICATION OF STUDIES

See: methods used in reviews.

1. Electronic searching
1.1 Update searching
1.1.1 We searched The Cochrane Schizophrenia Group's Register (July 2003 and Jan 2006) using the phrase:

[and (acute or cris* or emergenc* or intensiv* or mobile or outreach or (time and limit*) or commun* or home) and (care* or interven* or treat* or therap* or management* or model* or programm* or team* or service* or base*) or hospital* and (diversion or alternative*)]

1.1.2 Reference searching
We inspected all citations of newly identified studies for more new relevant trials.

1.2 Searches for past versions of this review: We searched the following databases :-
1.1.1 Biological Abstracts on Silver Platter (1985 to February 1998) using the Cochrane Schizophrenia Group's terms for randomised controlled trials and the Cochrane Schizophrenia Group's terms for schizophrenia combined with the phrase:

[and (acute or cris* or emergenc* or intensiv* or mobile or outreach or (time near2 limit* or commun* or home)) near3 (care* or interven* or treat* or therap* or management* or model* or programm* or team* or service* or base*) or (hospital* near3 (diversion or alternative*))]

1.2.2 CINAHL on Silver Platter (1982 to February 1998) using the Cochrane Schizophrenia Group's terms for randomised controlled trials and the Cochrane Schizophrenia Group's terms for schizophrenia combined with the phrase:

[and (acute or cris* or emergenc* or intensiv* or mobile or outreach or (time near2 limit* or commun* or home)) near3 (care* or interven* or treat* or therap* or management* or model* or programm* or team* or service* or base*) or (hospital* near3 (diversion or alternative*)) or explode "CRISIS-INTERVENTION"/ all topical subheadings / all age subheadings or explode "CRISIS-THEORY"/ all topical subheadings / all age subheadings or explode "COMMUNITY-PROGRAMS"/ all topical subheadings / all age subheadings explode "COMMUNITY-MENTAL-HEALTH-NURSING"/ all topical subheadings / all age subheadings or explode "COMMUNITY-TRIALS"/ all topical subheadings / all age subheadings or explode "COMMUNITY-MENTAL HEALTH SERVICES"/ all topical subheadings / all age subheadings or explode "COMMUNITY-SERVICE"/ all topical subheadings / all age subheadings or explode "PSYCHIATRIC-HOME-CARE"/ all topical subheadings / all age subheadings or "PSYCHIATRIC-EMERGENCIES"/ all topical subheadings / all age subheadings or explode "MOBILE-HEALTH-UNITS"/ all topical subheadings / all age subheadings]

1.2.3 The Cochrane Library (Issue 3, 1998) using the Cochrane Schizophrenia Group's terms for schizophrenia combined with the phrase:

[and (acute or cris* or emergenc* or intensiv* or mobile or outreach or (time near limit* or commun* or home)) and (care* or interven* or treat* or therap* or management* or model* or programm* or team* or service* or base*) or (hospital* near diversion) or (hospital* near alternative*) or explode "CRISIS-INTERVENTION"/ all subheadings or explode "COMMUNITY-MENTAL-HEALTH-SERVICES"/ all subheadings or explode "COMMUNITY-INSTITUTIONAL-RELATIONS"/ all subheadings or explode "COMMUNITY-PSYCHIATRY"/ all subheadings or explode "HOME-CARE-SERVICES"/ all subheadings or explode "MOBILE-HEALTH-UNITS"/ all subheadings or "EMERGENCY-SERVICES,-PSYCHIATRIC"/ all subheadings]

1.2.4 EMBASE (January 1980 to February 1998) using the Cochrane Schizophrenia Group's terms for randomised controlled trials and the CSGs' terms for schizophrenia combined with the phrase:

[and (acute or cris* or emergenc* or intensiv* or mobile or outreach or (time near2 limit* or commun* or home)) near3 (care* or interven* or treat* or therap* or management* or model* or programm* or team* or service* or base*) or (hospital* near3 (diversion or alternative*)) or explode "COMMUNITY-CARE"/ all subheadings or explode "COMMUNITY-MENTAL-HEALTH/ all subheadings or explode "CRISIS-INTERVENTION"/ all subheadings or explode "HOME-CARE"/ all subheadings or "EMERGENCY-HEALTH-SERVICE"/ all subheadings or explode "PREVENTIVE-HEALTH-SERVICE"/ all subheadings or explode "SOCIAL-PSYCHIATRY"/ all subheadings]

1.2.5 MEDLINE on Silver Platter (January 1966 to February 1998) using the Cochrane Schizophrenia Group's terms for randomised controlled trials and the Cochrane Schizophrenia Group's terms for schizophrenia combined with the phrase:

[and (acute or cris* or emergenc* or intensiv* or mobile or outreach or (time near2 limit* or commun* or home)) near3 (care* or interven* or treat* or therap* or management* or model* or programm* or team* or service* or base*) or (hospital* near3 (diversion or alternative*)) or explode "CRISIS-INTERVENTION"/ all subheadings or explode "COMMUNITY-MENTAL-HEALTH-SERVICES"/ all

subheadings or explode "COMMUNITY-INSTITUTIONAL-RELATIONS"/ all subheadings or explode "COMMUNITY-PSYCHIATRY"/ all subheadings or explode "HOME-CARE-SERVICES"/ all subheadings or explode "MOBILE-HEALTH-UNITS"/ all subheadings or "EMERGENCY-SERVICES,-PSYCHIATRIC"/ all subheadings]

1.2.6 PsycLIT on Silver Platter (January 1974 to February 1998) using the Cochrane Schizophrenia Group's terms for randomised controlled trials and the Cochrane Schizophrenia Group's terms for schizophrenia combined with the phrase:

[and (acute or cris* or emergenc* or intensiv* or mobile or outreach or (time near2 limit* or commun* or home)) near3 (care* or interven* or treat* or therap* or management* or model* or programm* or team* or service* or base*) or (hospital* near3 (diversion or alternative*)) or explode "CRISIS-INTERVENTION" or explode "STRESS-REACTIONS" or explode "COMMUNITY-MENTAL-HEALTH-SERVICES" or explode "COMMUNITY-PSYCHIATRY" or explode "HOME-VISITING-PROGRAMS" or explode "PARTIAL-HOSPITALIZATION" or explode "PSYCHIATRIC-HOSPITAL-READMISSION" or explode "EMERGENCY-SERVICES"]

1.2.7 Sociofile on Silver Platter (1974 to February 1998) using the Cochrane Schizophrenia Group's terms for randomised controlled trials and the Cochrane Schizophrenia Group's terms for schizophrenia combined with the phrase:

[and (acute or cris* or emergenc* or intensiv* or mobile or outreach or (time near2 limit* or commun* or home)) near3 (care* or interven* or treat* or therap* or management* or model* or programm* or team* or service* or base*) or (hospital* near3 (diversion or alternative*)) or explode "CRISIS-INTERVENTION" or "COMMUNITY-MENTAL-HEALTH" IN DE or "EMERGENCY-MEDICAL-SERVICES" IN DE or explode "OUTREACH-PROGRAMS"]

We inspected all citations identified in this way for additional terms, and if found these will be added to the above searches and the process repeated.

1.2.8 Cited reference searching
1.2.8.1 ISI database - Science Citation Index and Social Science Citation Index
We sought each of the included studies as a cited reference on the above databases. We also inspected reports of articles that had cited these studies in order to identify further trials.

1.2.8.2 Reference lists
We examined all references cited in all included trials in order to identify any missing studies.

1.3 Personal contact
We contacted the authors of all studies initially selected for inclusion in order to identify further relevant trials.

METHODS OF THE REVIEW

1. Study selection
CJ inspected all reports of studies identified as above. A randomly selected (computer generated list) sample of 10% of all reports was re-inspected by KR in order to allow selection to be reliable. We resolved disagreement by discussion, and if there was still doubt, the full article was acquired for further inspection. Once we obtained the full articles, we independently decided whether the studies met the review criteria. KR was blinded to the names of the authors, institutions and journal of publication. If we disagreed, these trials were added to the list of those awaiting assessment pending acquisition of further information. For the 2003 and 2006 update CJ inspected all reports identified in the new search. Randomly selected samples of 10% of all new reports were re-inspected by KR. Again once full reports were obtained, CJ, CEA and KR resolved disputes over whether studies meet inclusion criteria by discussion.

2. Quality assessment
We allocated trials to three quality categories, as described in the Cochrane Collaboration Handbook (Higgins 2005). When disputes arose as to which category a trial was allocated, we again attempted resolution by discussion. When this was not possible and further information was necessary to clarify into which category to which to allocate the trial, we did not enter the data and the trial was allocated to the list of those awaiting assessment. We included trials only if they were in Category A or B.

3. Data management
3. 1 Data extraction
We independently extracted data from selected trials. When disputes arose we attempted resolution by discussion. When this was not possible and further information was necessary to resolve the dilemma, we did not enter data and added the trial to the list of those awaiting assessment. For the 2003 and 2006 updates, CJ extracted data and KR checked a random sample of data.

3.2 Intention to treat analysis
For this review, we excluded both binary and continuous data from studies where more than 30% of participants in any group were lost to follow up.

In studies with less than 30% drop out rate, we considered people leaving the study early to have a negative outcome (except for the event of death). For continuous, summary data it is not possible to include such an assumption so we presented non-intention to treat data for these outcomes.

4. Data analysis

4.1 Binary data

For binary outcomes we calculated the random effects risk ratio (RR) and its 95% confidence interval (CI). If the relative risk was statistically significant, we also calculated the number needed to treat/harm statistic (NNT/H) using StatsDirect Statistical Software (Buchan 2001).

4.2 Continuous data

4.2.1 Skewed data: continuous data on clinical and social outcomes are often not normally distributed. To avoid the pitfall of applying parametric tests to non-parametric data we applied the following standards to all data before inclusion: (a) standard deviations and means were reported in the paper or were obtainable from the authors; (b) when a scale starts from a finite number (such as zero), the standard deviation, when multiplied by two, was less than the mean (as otherwise the mean was unlikely to be an appropriate measure of the centre of the distribution - Altman 1996). Endpoint scores on scales often have a finite start and end point and this rule can be applied to them.

4.2.2 Summary statistic: for continuous outcomes we estimated a weighted mean difference (WMD) between groups. Again, if heterogeneity was found (see section 5) we used a random effects model.

4.2.3 Valid scales: we only included continuous data from rating scales that had been described in a peer-reviewed journal and/or the scale was either a self-report or completed by an independent rater or relative (not the therapist). Unpublished instruments are more likely to report statistically significant findings than those that have been peer reviewed and published (Marshall 2000).

4.2.4 Endpoint versus change data: where possible we presented endpoint data. If both endpoint and change data were available for the same outcomes then we only reported the former.

4.2.5 Cluster trials: studies increasingly employ 'cluster randomisation' (such as randomisation by clinician or practice) but analysis and pooling of clustered data poses problems. Firstly, authors often fail to account for intra class correlation in clustered studies, leading to a 'unit of analysis' error (Divine 1992) whereby p values are spuriously low, confidence intervals unduly narrow and statistical significance overestimated. This causes type I errors (Bland 1997, Gulliford 1999).

Where clustering was not accounted for in primary studies, we presented the data in a table, with a (*) symbol to indicate the presence of a probable unit of analysis error. In subsequent versions of this review we will seek to contact first authors of studies to obtain intra-class correlation co-efficients of their clustered data and to adjust for these using accepted methods (Gulliford 1999). Where clustering has been incorporated into the analysis of primary studies, we will also present these data as if from a non-cluster randomised study, but adjusted for the clustering effect.

We have sought statistical advice and have been advised that the binary data as presented in a report should be divided by a 'design effect'. This is calculated using the mean number of participants per cluster (m) and the intraclass correlation co-efficient (ICC) [Design effect=1+(m-1)*ICC] (Donner 2002). If the ICC was not reported it was assumed to be 0.1 (Ukoumunne 1999).

If cluster studies had been appropriately analysed taking into account intra-class correlation coefficients and relevant data documented in the report, synthesis with other studies would have been possible using the generic inverse variance technique.

5. Investigation for heterogeneity

Firstly, consideration of all the included studies within any comparison was undertaken to judge clinical heterogeneity. Then we visually inspected graphs to investigate the possibility of statistical heterogeneity. This was supplemented using, primarily, the I-squared statistic. This provides an estimate of the percentage of variability due to heterogeneity rather than chance alone. Where the I-squared estimate was greater than or equal to 75%, we interpreted this as indicating the presence of high levels of heterogeneity (Higgins 2003). If inconsistency was high, data were not summated, but presented separately and reasons for heterogeneity investigated.

6. Addressing publication bias

We entered data from all included studies into a funnel graph (trial effect against trial size) in an attempt to investigate the likelihood of overt publication bias (Egger 1997).

7.Sensitivity analyses

The effect of including studies with high attrition rates was analysed in a sensitivity analysis.

8. General

Where possible, we entered data in such a way that the area to the left of the line of no effect indicated a favourable outcome for crisis intervention.

DESCRIPTION OF STUDIES

1. Excluded Studies

For detailed descriptions please see 'Excluded Studies' table.

We have now excluded twenty-five studies from this review, four of which we added after the 2006 search (Harrison 2003, Jones 2003, Kuipers 2004, Metcalfe 2005). Only four of the excluded studies were not randomised (Bond 1989, Harrison 2003, Mosher 1975, Pai 1982). One, Kuipers 2004, did randomise treatments but did not randomise a homecare package with standard care. Five studies focused on people who did not meet the eligibility criteria (Bush 1990, Henlegger 1999, Muijen 1994, Pasamanick 1964b, van Minnen 1997). Although severely mentally ill, it was unclear if they were in crisis and in need of immediate hospitalisation. Henlegger 1999 focused on young people who were severely ill and in crisis, but the majority were not suffering from schizophrenia.

Most of the trials, twelve, were judged to have unsuitable home care intervention. Some specifically did not provide 24-hour emergency cover (Merson 1992, Gater 1997) or diverted people from hospital to attendance at a daily clinic rather than home based care (Levenson 1997, Fenton 2000). We had to exclude seven (Ghandi 2001, Herz 2000, Linszen 1998, Rosenheck 1995, Sledge 1996, Taylor 1998, Tyrer 1995) in this category as they were investigating 'home care packages' versus hospital care rather than a pure form of crisis intervention. Two recent studies (Jones 2003 and Metcalfe 2005) used forms of intensive case management.

Finally, Burns 1993 met most eligibility criteria but, because of the design of the study, many people were lost after allocation (48%). We felt that data with such a degree of loss incorporated too great a level of assumption (see 'Methods') so we excluded these. We also excluded Polak 1976 as too much of the data were unusable.

2. Awaiting assessment.
Two studies (Mattejat 2001 and Power 2004) require further assessment. Both need clarification about the type of intervention used and we have written to the authors and await their reply.

3. Ongoing
We are not aware of any ongoing trials relevant to this review.

4. Included
For detailed descriptions please see 'Included studies' table.

After the 2006 update the total number of included studies remains as before, five. These five studies randomised at total of 724 people (Fenton 1979, Hoult 1983, Muijen 1992, Pasamanick 1964a, Stein 1975).

4.1 Length of trials
All of the trials were long-term (over three months) with the shortest trials (Fenton 1979, Hoult 1983) having a duration of 12 months. Pasamanick 1964a, the longest trial, lasted two years.

4.2 Participants
All five included studies focused on severely mentally ill people who were in crisis and required or were in need of immediate hospitalisation. The majority of participants were psychotic (most suffering from schizophrenia), but there was a substantial representation of other diagnoses such as depression and severe neuroses. Three studies stated how they had used diagnostic criteria for diagnosis (Fenton 1979, Hoult 1983, Muijen 1992). Most studies excluded people with dual diagnosis and those who were in danger of being harmful to themselves or others. All included people of both sexes, aged 18 years and above.

4.3 Setting
Due to the inclusion criteria, all included studies needed to take place in hospital and the community. The trials were based in Australia (Hoult 1983), Canada (Fenton 1979), the USA (Pasamanick 1964a, Stein 1975) and the UK (Muijen 1992).

4.4 Size
The trials were similar in size with the number of participants ranging from 120 (Hoult 1983) to 189 (Muijen 1992).

4.5 Interventions
1. Home care: all five trials had similar home-based treatment. A multidisciplinary team, usually comprising of psychiatrists, psychologists, nurses, occupational therapists and social workers, delivered care. To be included in this review the teams had to treat crises occurring out of office hours. All included studies provided emergency care although the type of cover varied. Three had members of staff on call ready to visit 24 hours a day if needed (Fenton 1979, Hoult 1983, Stein 1975). Muijen 1992 provided a telephone answering service only, but if people wanted further help they could use the walk-in emergency clinic at the local hospital. Pasamanick 1964a initially provided a telephone service with home visits but then switched to an answer-machine instructing callers to call back during office hours. If it was truly an emergency they could contact the local police station.

2. Standard care: standard care for all the included studies involved hospitalisation if required. The majority of standard care patients were hospitalised immediately after allocation. Once hospitalised, people received the standard level of care for that hospital. This tended to be short and intense care with the overall aim being early discharge. As well as medication, various forms of treatment programmes such as counselling, physiotherapy and occupational therapy were available on site. Social workers were also available. After discharge all trials used their normal outpatient services.

4.6 Outcomes
4.6.1 Missing
None of the studies evaluated staff satisfaction, compliance with medication, or number of carers (professional or lay) needed to maintain the well being of an individual. Although readmission to hospital was evaluated, it was not clear if all relapses necessitated readmission so it is impossible to see if crisis intervention helped postpone relapse. Stein 1975 did attempt to evaluate the living situation of participants but did not report usable data. There was no follow-up period for the first few days or weeks after allocation, therefore we were unable to use the pre-stated time categories for dividing outcomes (made in the protocol) and we changed them accordingly.

4.6.2 Scales
Fourteen different instruments were used to collect continuous data. Only six of these rating scales, however, collected data useful to this review. The primary reason for exclusion of these data was that the scales had never been validated. To prevent bias in data collection, the quality and validity of scales need to be assessed through unbiased peer review. Recent research shows trials using non-validated scales are more likely to find significant differences in outcomes than trials using peer-reviewed scales (Marshall 2000).

Other methodological problems in data collection are recorded in the 'Included studies' table.

4.6.2.1 Details of the scales that provided useful data

i. Brief Psychiatric Rating Scale (BPRS, Overall 1962)
A brief clinician-rated scale used to assess the global severity of a range of psychiatric symptoms. Scores range from 24 (not present) to 168 (extremely severe impairment). Used in Hoult 1983.

ii. Client Satisfaction Questionnaire (Larsen 1979).
Eight item patient-rated scale measuring patients' satisfaction with different aspects of their care (quality of service, amount of support received, needs and preferences). Measured on a scale of 1-4 for each item. Higher scores indicate greater satisfaction. Used in Muijen 1992.

iii. Global Assessment Scale (GAS, Endicott 1976)
A clinician-rated assessment of overall functioning on a scale of 1-100. Lower scores indicate poorer functioning. Used in Muijen 1992.

iv. Present State Examination - 9th Edition (PSE, Wing 1974)
Clinician-rated scale measuring mental status. One hundred and forty symptom items are rated and combined to give various syndrome and sub-syndrome scores. Higher scores indicate greater clinical impairment. Used in Hoult, Sydney and Muijen, London.

v. Psychiatric Evaluation Form (PEF, Endicott 1972)
A clinician-rated scale used to assess psychological functioning during the week prior to interview. Consists of 24 individual and eight summary scales. Scoring on each scale ranges from 1-5 with higher scores indicating greater impairment. Used in Fenton 1979.

vi. Social Adjustment Scale (SAS, Weissman 1971)
Measures social functioning in a number of life domains (work, social, extended family, marital, parental, family unit, and economic adequacy) on a scale of 1-7. Lower scores indicate poorer functioning. Used in Muijen 1992.

METHODOLOGICAL QUALITY

1. Randomisation
All trials were randomised but two studies did not describe how this took place (Fenton 1979, Stein 1975) and, therefore we categorised these as 'B', moderate risk of bias with some doubt about the results (see 'Methods 3. Assessment of a trial's methodological quality'). Other trials used sealed envelopes to blind the sequence of allocation (Hoult 1983, Muijen 1992) or allocated by a deck of randomly sequenced cards (Pasamanick 1964a). Both systems are open to the possibility of selection bias operating and so are also categorised B.

2. Blindness
Due to the nature of the intervention it is impossible to blind participants to the type of treatment received. All studies, therefore were 'single-blind with raters either blind to treatment allocation or not part of treatment teams. Four studies used independent raters who were not part of the treatment teams (Fenton 1979, Hoult 1983, Muijen 1992, Stein 1975). Three studies did not state if these raters were blind to treatment group but Muijen 1992 did report that raters were not blinded for reasons of safety. Pasamanick 1964a was the only trial where the raters were clearly not independent. In this study nurses and clinicians responsible for care completed follow-up ratings.

3. Leaving the study early
Proportions of follow-up varied with outcome. For example, for the outcome of 'hospital admission and readmission', four studies had no loss to follow-up. The one exception (Hoult 1983) did not report data for 19/119 people. The follow-up assessments of clinical state and 'satisfaction with treatment' were not so good but only Fenton 1979 had greater than 30% loss (57/157). Most of the attrition was clearly explained as the result of refusal or inability to complete the assessments (Pasamanick 1964a did lose 21 people, seven of whom were impossible to trace). Loss of data from relatives was more substantial. Again it was primarily due to inability or refusal to complete assessments but the logistics of this made the attrition understandable. Consent had to be obtained from the patient as well as the relative, and, in some cases the person in crisis had to be present at the interview. Reasons for loss of data were, however, well explained.

4. Data reporting
Most problems arose with continuous data. Several studies failed to present the standard deviation/error of the means, making data unusable. Several outcomes were presented as p-values alone. These were also reported as 'p< 0.05 or p>0.05' rather than their exact value thus making it impossible to extract data. Other problems were (a) data given for one group only (Muijen 1992, Pasamanick 1964a, Stein 1975), (b) data combined and not presented by randomised group (Fenton 1979), (c) data obtained using non-validated scales (Muijen 1992, Stein 1975) and (d) in some cases, no data presented on specific outcomes (Hoult 1983, Muijen 1992). We tried to contact authors some time ago for additional data but it now seems unlikely that further information will become available.

RESULTS

1. Search
The initial search yielded 2446 references (Joy 2000). An initial electronic and subsequent paper scan of all abstracts produced a final database of 61 possible reports. A full copy of each of these was obtained and sorted into 18 separate studies. From the original 2446 references only five studies met the specified inclusion criteria. When the search was run again in 2003 the resulting numbers of possible references and actual studies was very similar. Because the search term is so broad, the 2003 search term yielded over 2000 references (Joy 2004). Again, these were scanned and narrowed down to a possible nine trials, none of which met the

inclusion criteria and we added all of these to the excluded studies table. A rethinking of the search term for the 2006 update resulted in a much more manageable list of hits but again none of the new trials met our inclusion criteria.

We presented the eight main outcomes as follows: death/harm, hospital use, leaving the study early, global state, mental state, burden, satisfaction and economic costs.

2. COMPARISON. HOME-BASED CARE + INITIAL CRISIS INTERVENTION versus STANDARD CARE

2.1 Death/harm

Overall, the number of deaths was similar for both groups. For the outcome of death by natural causes, pooled data showed no statistical difference between treatment groups (n=601, 4 RCTs, RR 0.84 CI 0.23 to 3.09). Death by suicide also showed no statistical difference for pooled data (n=601, 4 RCTs, RR 0.74 CI 0.24 to 2.32). Combining these groups for the outcome death by any cause produced similar results (n=601, 4 RCTs, RR 0.75 CI 0.3 to 1.88).

We analysed two outcomes of harm. Again pooled data for 'attempted suicide' showed no difference between crisis interventions and standard care (n=250, 2 RCTs, RR 1.33 CI 0.87 to 2.03). Muijen 1992 was the only study with a homicide. This occurred in the crisis team group (n=189, RR 3.16 CI 0.13 to 76.63).

2.2 Hospital use

We assessed hospital admission in several ways.

2.2.1 Unable to keep to initial trial protocol as regards admission

It is misleading to compare treatment groups on the 'number of hospital admissions' as those in standard care usually had an index admission as part of their care package. This 'result', in effect, records only the treatment given rather than its outcome. In order to present the difficulty the home care teams experienced in keeping people out of hospital, the relative success at 'keeping to initial trial protocol' was assessed instead. The difference between the groups was highly significant with more home care 'failures'. These data also show the difficulty encountered by the home care teams in keeping people from admission. By 12 months pooled data from all the trials showed 44.8% of those allocated to home care on presentation were admitted.

2.2.2 Repeat admissions

A second analysis looked at repeat admissions and did not include the index admission for the standard care group. By 12 months there was a difference between groups (n=465, 3 RCTs, RR 0.72 CI 0.54 to 0.97, NNT 11 CI 6 to 97). There was, however, significant heterogeneity for this outcome (I-squared 86%). By 20 months data from Muijen 1992 did not show a statistically significant effect (n=188, 1 RCT, RR 1.10 CI 0.75 to 1.60).

2.2.3 Mean number of days in hospital

It was impossible to compare the two treatment groups, as data were unusable. Three studies (Fenton 1979, Muijen 1992, Stein 1975) included 'index admission' in their data and the remaining two did not report standard deviations (Hoult 1983, Pasamanick 1964a).

2.2.3 Number of visits

Again, skewed data were presented. One study reported that the home group had significantly fewer staff contacts during months 6-12 (p=0.005) but by 12 months there was no statistical difference between the two groups use of staff time (p>0.05) (Fenton 1979).

2.3 Leaving the study early

If data for this outcome were not clearly presented in the tables, we took relevant data from the text of each report.

Fenton 1979 provided data for patient loss at three months. This group found no difference between treatment groups (n=162, RR 0.75 CI 0.45 to 1.25). Small differences favouring the home care group were found for pooled data at six (n=599, 4 RCTs, RR 0.70 CI 0.53 to 0.94, NNT 12 CI 7 to 54) and 12 months (n=594, 4 RCTs, RR 0.74 CI 0.56 to 0.98, NNT 13 CI 7 to 130). By 20 months a very slight but not statistically significant effect was found (n=475, 3 RCTs, RR 0.79 CI 0.57 to 1.08).

Only Hoult 1983 presented data for all relatives of those randomised. We found no difference in attrition between the groups (n=120, RR 1.01 CI 0.52 to 2.28). Muijen 1992 reported only on those relatives who were living with the randomised person and again found no clear differences between groups at 20 months (n= 76, RR 0.71 CI 0.43 to 1.17).

2.4 Global state

Global state did not vary greatly between the two groups. Two scales were used, the GAS and SAS. Data for GAS in Muijen 1992 were equivocal at six, 12 and 20 months (n=127, WMD 6 months 5.10 CI -0.86 to 11.06; n=131, WMD 12 months 3.50 CI -3.15 to 10.15; n=142, WMD 20 months 5.70 CI -0.26 to 11.66). SAS data from Muijen 1992 were also not significantly different over the same time periods (n=130, WMD 6 months -0.20 CI 0.75 to 0.35; n=120, WMD 12 months -0.30 CI -0.86 to 0.26; n=139, WMD 20 months -0.60 CI -1.15 to -0.05).

Muijen 1992 also reported change in global state during the first three months. They found no difference for GAS change scores (n=129, WMD 5.20 CI -1.19 to 11.59) or for SAS change scores (n=127, WMD -0.09 CI -0.31to 0.13). The data, however, were likely to be skewed. Hoult 1983 found the home care patients had significantly higher scores on the HSRS (p<0.05) but reported no variance of these data.

2.5 Mental state

2.5.1 Numbers unwell

The crisis intervention packages investigated within this review seem to have little discernible effect on mental state. Hoult 1983 gave numbers unwell at 12 months and reported a slight, statistically non-significant effect favouring the home care group (n= 120, RR 0.65 CI 0.40 to 1.07).

2.5.2 Scale data

2.5.2.1 Endpoint data

Muijen 1992 assessed mental state using the BPRS and found no significant difference between the groups by six or 12 months (n= 129, WMD -2.1 CI -6.4 to 2.2; n=131 WMD -2.2 CI -6.0 to 2.0 respectively) but a statistically significant difference favouring the home care group by 20 months (n=142, WMD -4.5 CI -8.9 to -0.3). Hoult 1983 also assessed mental state using the BPRS and claimed no difference between the groups but reported no data to support this.

Fenton 1979 used the PEF and found a very slight effect at three months showing slight improvement in the standard care group (n=118, WMD 0.2 CI -0.2 to 0.6) but this advantage was lost by six months (n=111, WMD 0.1CI -0.4 to 0.6). By 12 months there was a small difference suggesting home care group to be more improved (n=97, WMD -0.4 CI -0.8 to 0.04). Again this advantage was lost by 20 months when the difference between the groups was not significant (n=100, WMD 0.1 CI -0.5 to 0.7).

Muijen 1992 used the PSE but data were skewed. No significant difference was found at six or 12 months (p not reported) but they found a slight difference favouring the home group at 20 months (p=0.09, trend only). Hoult 1983 also reported data for the PSE endpoint scores. He found a significant difference favouring the home care group but did not report standard deviations
'.

2.5.2.2 Change

Muijen 1992 presented skewed data for change in mental state. At three months they found no significant differences for scores on the BPRS (n=129, WMD -3.5 CI -8.9 to 1.9) or the PSE (n= 129, WMD -2.7 CI -7.7 to 2.3).

2.5.3 Specific symptoms or behaviour

Hoult 1983 found no significant difference between the crisis-orientated home care and standard care groups for patient sociability at three months (n=129, RR 0.86 CI 0.66 to 1.12) but the crisis care group was significantly more 'sociable' by six months (n=120 RR 0.43 CI 0.3 to 0.64, NNT 2 CI 2 to 4). This study also reported that there was no significant difference in aggressive behaviour at three or six months (n=120, RR 0.97 CI 0.72 to 1.31; n=120, RR 0.7 CI 0.39 to 1.25 respectively).

Hoult 1983 also recorded various behaviours such as agitation, depression, disorientation, psychotic thoughts, substance abuse and withdrawal (at four months).

The home care group was less agitated (n=120 RR 0.59 CI 0.36 to 0.95, NNT 5 CI 3 to 34) and disorientated (n=120, RR 0.47 CI 0.28 to 0.79, NNT4 CI 2 to 10) than the standard care group. There was a very small effect favouring the home care group on the outcomes of 'psychotic behaviour' (n=120, RR 0.58 CI 0.30 to 1.11) and 'withdrawal' (n=120, RR 0.72 CI 0.48 to 1.07) but these results are not statistically significant. No differences were found for 'depression' (n=120, RR 0.80 CI 0.57 to 1.13) or 'substance abuse' (n=120, RR 0.67 CI 0.33 to 1.36).

2.6 Burden

Studies measured two types of burden; the burden placed on the families of the patients and burden placed on the community.

In general, the families of patients in the home care group reported less burden than those of standard care patients. Fewer home care families reported disruption to their daily routine at three months (n=220, 2 RCTs, RR 0.74 CI 0.58 to 0.96, NNT 7 CI 4 to 42) and at six months (n=220, 2 RCTs, RR 0.69 CI 0.52 to 0.92, NNT 6 CI 3 to 30) than their standard care counterparts (homogeneous data).

Fewer home care families reported significant disruption to their social life at three and six months (n=220, 2 RCTs, RR disruption to social life at three months 0.67 CI 0.52 to 0.87, NNT 5 CI 3 to 14; n=220, 2 RCTs, RR disruption to social life at six months 0.73 CI 0.57 to 0.94, NNT 6 CI 3 to 30) and less physical illness over the same time periods (n=100, 1 RCT, RR physically ill by three months 0.78 CI 0.65 to 0.95, NNT 5 CI 3 to 18; n=100, 1 RCT, RR physically by six months 0.71 CI 0.55 to 0.92, NNT 4 CI 2 to 14) than those allocated to standard care. Data from Hoult 1983 show no significant difference in financial burden at three months (n=120, RR 0.76 CI 0.52 to 1.10) and at six months (n=120 RR 0.84 CI 0.53 to 1.33). This study also reported the number of families who felt that the overall burden was great. The outcome favoured the home care group at three months (n=120 RR 0.57 CI 0.41 to 0.80, NNT 3 CI 2 to 7) and also at six months (n=120, RR 0.34 CI 0.20 to 0.59, NNT 3 CI 2 to 4).

Fenton 1979 assessed family burden using the FEF but presented combined data. The two significant items (assuming patient's responsibilities and finding extra chores difficult) were the only items presented as individual data. A total of 61 items were analysed.

No differences were found between those allocated to the home care crisis intervention and standard care for 'community burden'. The number of people without full time employment was similar for both groups at 20 months (n=189, 1 RCT, RR 0.97 CI 0.85 to 1.12) as were the risk of using the emergency services at least once (n=120, 1 RCT, RR 0.81 CI 0.43 to 1.54). Slightly fewer home care patients had at least one arrest by 12 months although this result was not statistically significant (n=120, 1 RCT, RR 0.71 CI 0.46 to 1.12). Hoult 1983 commented on community burden. They did not claim significant difference between the groups but no data were reported.

2.7 Satisfaction

One trial gave count data for patient and relative satisfaction (Hoult 1983). Another study used a satisfaction scale to obtain continuous data (Muijen 1992). Overall, people allocated to home care, and their relatives were more satisfied with their treatment and level of support than those given standard care. By 12 months significantly less numbers of people in the home care groups felt

'unimproved' (n=119, 1 RCT, RR 0.48 CI 0.31 to 0.74, NNT 3 CI 2 to 6) when compared to the standard care group. Also data favoured the home care group when it came to dissatisfaction with the level of treatment received (n=119, 1 RCT, RR 0.66 CI 0.5 to 0.88, NNT 4 CI 2 to 10) and or feeling less able to cope than before their treatment (n=119, 1 RCT, RR 0.36 CI 0.21 to 0.62, NNT 3 CI 2 to 5).

More people allocated to standard care felt they would have preferred community treatment when compared to the numbers of home care patients preferring to have received hospital care (n= 119, 1 RCT, RR 0.46 CI 0.27 to 0.77, NNT 4 CI 2 to 9). There was a small effect suggesting more home care patients felt they would need extra help in the future but the difference was not statistically significant (n=119, 1 RCT, RR 1.48 CI 0.88 to 2.48). Muijen 1992 measured patient satisfaction using the CSQ and found significant differences favouring the home care group at six months (n=115, WMD 5.1CI 3.16 to 7.04), at 12 months (n= 121 WMD 4.8 CI 3.12 to 6.49) and also at 20 months (n=137 WMD 5.4 CI 3.91 to 6.89).

Only Hoult 1983 assessed relative satisfaction using count data. At three months slightly fewer relatives in the home care crisis group were dissatisfied with the patients' improvement (n=120, RR 0.79 CI 0.60 to 1.04). By six months the difference was statistically significant (n=120, RR 0.71 CI 0.53 to 0.97, NNT 5 CI 3 to 35). Significantly fewer home care relatives were dissatisfied with the treatment the patient was receiving at three months (n=120, RR 0.62 CI 0.44 to 0.89, NNT 4 CI 2 to 13), six months (n=120, RR 0.57 CI 0.42 to 0.78, NNT 3 CI 2 to 6) and one year (n= 120, RR 0.46 CI 0.29 to 0.72, NNT 3 CI 2 to 6). There was no difference in the number of relatives preferring the patient to have been allocated to the other treatment at any of the time points. There was a slight tendency towards more home care relatives being satisfied with their allocated treatment as time progressed (n=120, RR 3 months 1.27 CI 0.63 to 2.57; n=120, RR six months 1.11 CI 0.49 to 2.54; n=120, RR one year 0.81 CI 0.43 to 1.54).

Significantly fewer relatives in the home care crisis group felt unable to cope at 12 months than they had felt before treatment began (n=120, 1 RCT, RR 0.57 CI 0.42 to 0.78, NNT 3 2 to 6) when compared to the standard care group. A small effect was found at 12 months showing more home care relatives felt they would need future help. This difference was not statistically significant (n=120, 1 RCT, RR 1.21 CI 0.91 to 1.60).

2.8 Economics

The two trials that reported relevant data found home care for those in crisis was significantly cheaper than standard care ($p<0.001$) but all data presented were highly skewed (Fenton 1979, Muijen 1992). The other two trials (Hoult 1983, Stein 1975) also found home care to be significantly cheaper but gave no variance of the average cost.

2.9 Outcomes with no data - staff satisfaction.

No data were presented for this outcome although three trials (Hoult 1983, Muijen 1992, Pasamanick 1964a) mentioned considerable problems with staff recruitment, despondency and 'burnout' within the home care team.

DISCUSSION

1. General

Overall, the description of the methodology within the included studies was poor. Trials were small and data reporting problematic. We had great difficulty in acquiring a definitive description of 'crisis intervention' and used the criteria that it should involve an intense, time limited, input of care during a crisis period and that this care should be available 24 hours. None of the included studies investigated 'crisis intervention' in a pure form. All employed packages of home care that included an element of crisis intervention according to the above criteria. The crisis intervention elements ranged from an automated 24-hour telephone help line to on call staff who could provide immediate response. The results of this review relate to this type of home care (i.e. home care designed to treat those in psychiatric crisis) compared to standard hospital care. To complicate matters further, as the home care intervention was not only implemented during a crisis but also lasted well beyond, results also relate to the effects of this ongoing treatment.

It should be noted that one of the included studies (Pasamanick 1964a) took place over 40 years ago. In general the care of people with schizophrenia has changed enormously since then and the relevance of this trial is questionable. It does, however, meet all the criteria necessary for inclusion and the two results obtained from this trial (hospital admission and leaving the study early) are in line with findings from other studies.

2. COMPARISON. CRISIS INTERVENTION versus STANDARD CARE

2.1 Death or harm

There were few episodes of self-harm and even less of death. There is no indication of any effect crisis intervention may have on these important outcomes. The only firm conclusion possible is that much larger studies are needed if this is to be investigated within the context of trials.

2.2. Hospital use

Care needs to be taken when interpreting hospital admission rates. Comparing the treatment groups on overall number of admissions is misleading as admission was an integral part of the standard care. However we felt it important to present hospital admission rates for the home care group. One possible solution is to compare the number of people in the home care group failing to meet the initial trial protocol, that is avoiding admission, with the number of standard care people failing to meet the standard care's protocol on admission. When compared in this way, the home care group had a significantly greater number of admission

'failures', but this is to be expected as the control group could only 'succeed' in meeting their admission policy. The interesting result from this comparison is the actual number of home care failures; 44.8% of people allocated to home care were admitted at least once after 12 months of home care treatment. Another, perhaps more informative comparison, is the number of repeat admissions, as this excludes index admissions for the standard care group. Pooled data from three studies (Fenton 1979, Hoult 1983, Muijen 1992) suggested home care was superior, with significantly less repeat admissions by 12 months. This result contains a considerable amount of heterogeneity (I-sqared 86%), with one very positive study (Hoult 1983) affecting data from the other two studies which found no differences in repeat admissions. There is no clear reason why Hoult 1983 sits apart from the other two trials. This particularly positive outcome gets no specific reference in their discussion. For the purposes of this review, therefore, it is assumed that the home care team management of Hoult 1983 was particularly successful in avoiding repeat admissions. The other two teams, however, where no more successful at avoiding repeat admissions than standard care by 12 months, and Muijen 1992 also found no difference in repeat admissions by 20 months. Until further data are available no decisive conclusions can be made as regards hospital readmission. Data from Fenton 1979 suggested the home care group had less staff contacts, but this information was not supported by usable data and more research is needed.

2.3 Leaving the study early
Homogeneous data suggest that people who were allocated to have their crisis managed within the home care group were more likely to stay in care for at least a year. This is an important finding (NNT 13 CI 7 to 130) and even though findings for several other important effects of this package may be unremarkable these data alone may be enough to promote the use of a crisis ethos within home care teams (see implications for practice).

2.4 Global state and mental state
Muijen 1992 was the only study reporting usable data for global measures of outcome. Although there was some suggestion that within the GAS score there was an effect favouring the home care crisis group, no major differences between the two treatments were found and the clinical meaning is unclear.

No data for mental state could be pooled as each trial used different instruments. Within the individual studies no differences in scale scores were found. Hoult 1983 was the only trial to give binary data based on relatives' observations. Some differences in behaviours such as sociability, agitation and disorientation were found favouring the home care crisis group but it would be prudent to replicate these findings as they are all from one very positive small study (n=120, Hoult 1983).

2.5 Burden
Overall, specific burden on families such as 'disruption to daily routine' (NNT 6 CI 3 to 30), 'physical illnesses experienced' (NNT 4 CI 2 to 14), and 'disruption to social life' (NNT 6 CI 3 to 30), favoured the home care group. None of these findings are based on large numbers and, again, all should be replicated. The direction of effect, however, is consistent within and across trials. These data, at the very least are hypotheses-generating for further studies and may suggest that families find routine admission more disruptive and burdensome than well-motivated home care crisis intervention.

Little can be said about the effect of home care crisis intervention regarding 'community burden' in terms of employment, numbers of people being arrested or using emergency teams, except perhaps that the results are resolutely equivocal. It is a shame that more of the included studies did not record and report these important outcomes.

2.6 Satisfaction
Patient and relatives' satisfaction was higher in the home care crisis group than those allocated to standard care. This finding was consistent over several measures although all continuous measures are difficult to interpret. Only one of the scales used was validated by peer review. These data would fit with the findings relating to 'burden' and further supports the suggestion that the experimental intervention is acceptable to both those with serious mental illness and their 'lay' carers.

2.7 Economics
The limited data available found home care to be significantly cheaper than standard care. Again data were difficult to interpret, as they were either very skewed or unusable. We recognise the difficulty in recording such data but nevertheless such outcomes are of crucial importance if research is to be relevant to managers and policy makers.

2.8 Staff satisfaction
It is unfortunate that no data are available for staff satisfaction. Issues such as staff recruitment, despondency and burnout are essential to the successful implementation of home care packages. Several of the studies mentioned these as notable problems affecting the running of the project. If such problems were prominent in these usually well-resourced and well-motivated research teams, they may amount to insurmountable obstacles to the implementation of similar projects in routine psychiatric settings.

AUTHORS' CONCLUSIONS

Implications for practice

It is impossible to comment on the effects of crisis intervention in a 'pure' form as data do not exist. Understandably, crisis intervention has been evaluated on top of an ongoing package of community-based care. The conclusions, therefore, apply to this package as a whole.

1. For people with serious mental illnesses and their families

Data relating to readmission, length of stay, general functioning and mental state are inconclusive. If a person with serious mental illness is experiencing a crisis, however, a well organised team using a crisis intervention ethos within their home care support may provide a care that is more acceptable to both sufferers and their families and less burdensome for the families than if the person was admitted to standard hospital care. Perhaps, as a result, the ill person would be more likely to stay in care.

2. For clinicians
Where clinicians are working within teams that provide crisis intervention in the background of ongoing home care, it is likely that this combination of approaches decreases the loss to follow-up so prevalent for those with serious mental illness. It also seems to be a more acceptable type of care than standard hospital treatment. Where clinicians intend to establish a service, it may be advisable to consider better defined care packages or, if this is not feasible, introduce a crisis intervention ethos within the context of a well-designed trial.

3. For policy makers and managers
The results of this review have to be considered carefully in the context of other community packages already evaluated and reviewed. Lessons from crisis intervention theorists have been learnt by those formulating better defined care packages such as Assertive Community Treatment (ACT). More robust data from a Cochrane review of ACT illustrates how this package may have many of the desired effects originally envisaged for crisis intervention (Marshall 2004). Results from our search of 2003 and 2006 confirm this as all new trials were investigating packages of 'community care' rather than 'crisis intervention'. These studies should be incorporated into reviews and then policy makers and funders would be in a better position for decision making.

Implications for research

1. General
Should we acquire more data from existing studies we would probably know much more about the effects of this widely implemented ethos of care. Much important data within the included studies were not reported clearly and therefore clinicians, funders and recipients of care may feel that they have been let down by the research community. If the CONSORT recommendations (Begg 1996, Moher 2001) were to be followed in reporting of future studies this would greatly assist synthesis of data in reviews.

2. Specific
There are very few data on the role crisis intervention plays in treatment of people with severe mental illnesses. Currently it is implemented without good evidence. A trial of home care treatment, perhaps the ACT approach, with crisis intervention versus a similar home care treatment without crisis intervention would be informative (Table 01). This trial should be large and simple. The interesting dichotomous outcomes that have been used in individual studies in this review could be incorporated with the addition of clear measures of the burden on the community and staff involved. Certainly researchers should use well-validated instruments for outcome measurement.

FEEDBACK

General comments

Summary

Background
The historical background to the development of crisis intervention is useful and important. However it can be argued that this form of intervention dates back at least to the 1950s where it was well established in Amsterdam (Querido 1968).

The ethos of crisis intervention is given and accurately reflects the desire to avoid hospitalisation. This review incorporated major misunderstandings concerning the nature of crisis intervention which was wrongly assumed to be designed to replace hospital care, a claim not made in any of the five studies included in the review. Even in early studies it was not usually claimed that hospitalisation could be entirely avoided. For example in discussing crisis intervention Stein and Test make reference to minimal hospital use as necessary for some of those given "training in community living" (see Trial ID, Stein - Madison, citation Stein 1980). Later authors were more explicit in their expectation that hospitalisation was inevitable for some patients. For example Muijen et al state that brief hospitalisation where this is unavoidable is one of the "principles of the daily living programme" (see Trial ID, Muijen - London, citation Muijen 1992 p. 380). The assumption in other parts of the review that admission to hospital reflects a "failure" of crisis intervention is hence questionable and is not supported by the authors of the main studies in this field.

In the final sentence of the introduction a number of statements are made concerning possible problems of crisis intervention. None of these is referenced and each is questionable, with some published evidence to the contrary particularly for the issues of family burden (Dean 1993). Indeed the issue of burden is discussed later in the review and evidence given appears to contradict this part of the introduction.

Data synthesis
The treatment of dichotomous data seems appropriate.

The decision to treat rating scales as continuous data is questionable. Despite checks for normal distribution it cannot be concluded that data from such instruments is parametric. To do so implies that for example a BPRS score of 40 indicates a person is twice as unwell as a patient with a score of 20. Although this error is often made in published trials, including those presented in this review, this does not justify replication of this fault. The subsequent difficulties in quantitative analysis of data from the studies may partly reflect methodological inadequacies in the review. If the RevMan software is not designed to cope appropriately with

data from psychiatric rating scales then either a different package should be used, at least some of these issues should be discussed.

Description of studies

Excluded studies

It is not clear why certain important crisis intervention studies that do not meet the selection criteria are not listed here (for example Dean 1993).

Results

Hospital use

No mention is made of the dramatic reduction in mean number of days in hospital, encountered in every study. There is no explanation why this outcome was excluded. It is reasonable to note that a direct comparison of number of hospital admissions gives unfair advantage to the crisis group. However this does not justify excluding a comparison of mean number of days in hospital. Number of days in hospital was stated as an outcome measure in the methods section of the review and yet there is no mention of this in the results. The information is available in the references cited. Despite the fact that the nature of the control treatment necessitated admission to hospital it is still valid and important to compare mean number of days in hospital. If there are concerns about the interpretation of the findings because the hospital-treated patients inevitably spent at least one night in hospital this can be discussed, but does not justify omission of meta-analysis of these data. Another possible cause for omission of this data may have been its likelihood of skew. Any study which examines length of stay inevitably will include a small number of individuals whose admission was much longer than average for good clinical reasons. If the data is analysed using non-parametric means this should not prevent meaningful comparison between the groups, which are both likely to display this effect.

Discussion

The review uncovered an interesting possible confounding influence, which may have favoured the crisis teams in the main studies. This was the fact that crisis intervention continued for the duration of the studies, and hence presumably for much longer than the episode of acute disturbance that would have required hospitalisation. Hence it can be argued that the results from longer-term follow-up of patients reflect a service similar to assertive community treatment. This issue has not been widely recognised in the past. However the results of assessments made within the mean period of hospital treatment of the control group could be said to reasonably reflect the effectiveness of home treatment as an adjunct to hospitalisation. Perhaps separate analysis of such data may be possible in future amendments.

The assumptions that hospital admission reflects home care failure have been discussed earlier and are again repeated in this section.

Conclusions

The implications for policy makers do not include the conclusions made for patients, families and clinicians, that home care may have significant advantages in terms of patient acceptability and burden to family, with no evidence of significant differences in social or clinical outcomes.

It is important to emphasise the need for high quality hospital care, and the report rightly implies that crisis intervention should not replace inpatient care. Given that there is little difference in outcomes between crisis intervention and standard care, and that crisis intervention is more acceptable to patients and their carers, it is surprising that no recommendation is made to encourage development of home treatment services. If the issue is considered from another perspective it could be argued that there is even less evidence for the efficacy and desirability of hospitalisation. The proposal for future research that attempts to control for the effect of the crisis team continuing its input well beyond the initial episode is reasonable. However if the effect of the period of acute illness were to be studied in more detail this may be more relevant to current home treatment interventions, which are often short in duration and directly comparable to a typical inpatient admission.

Miscellaneous

A number of the charts (e.g. GAS) place crisis on the right although in the methods section it is stated that it would be to the left.

Conflicts of interest

Given the considerable debate that the issue of home treatment has generated, often with highly polarised views, the opinions of the reviewers prior to the report should perhaps have been given as potential conflicts of interest. This may explain the conclusions which are unduly negative towards home treatment, and which may lack objectivity.

Recommendations

The review does not reflect an accurate objective appraisal of the current evidence concerning crisis intervention. It is recommended that:

1. An analysis of mean number days in hospital is included. If required any potential problems of such a comparison could be included.
2. The data from rating scales should be re-examined and if possible re-analysed as non-continuous using appropriate tests for significance.
3. The nature of crisis intervention as an adjunct to, not a replacement for hospitalisation should be explicitly stated, and those sections, which wrongly interpret hospital admission as a failure of home treatment, should be corrected.
4. The potential problems of home treatment mentioned at the end of the introduction should either be referenced, including evidence to the contrary, or removed.
5. Conclusions should take more account of the almost total lack of evidence from randomised controlled trials which support hospitalisation as a treatment. Thus a more objective conclusion and recommendations could be made.
6. Intellectual or clinical conflicts of interest should be declared.

Conflict of Interest

I believe both from experience working in home treatment teams and hospital based services that crisis intervention is an important and more acceptable adjunct to hospitalisation for those with acute psychiatric disorders. I certify that I have no affiliations with or involvement in any organisation or entity with a direct financial interest in the subject matter of my criticisms.

Author's reply

Background

The reviewers have incorporated some of the recommendations but cannot accept others.

The additional helpful reference (Querido 1968) has been sought and the Background amended.

The ethos of crisis intervention does reflect the desire to avoid hospitalisation but the reviewers continue to contend that this review incorporated major misunderstandings concerning the nature of crisis intervention. The commentator stated that we assumed that crisis intervention was "assumed to be designed to replace hospital care". This was not stated and we are sorry if it was implied. We have scrutinised the 'Background' of the review and tried to modify text that could have been misinterpreted.

Although early studies usually did not claim that hospitalisation could be entirely avoided this was the desired outcome. Hospitalisation was indeed seen as a failure of community care (see Trial ID, Muijen - London, citation Muijen 1992 page 753, paragraph 4, line 1 "Early in the programme, hospital admission of home care patients was seen as a failure but gradually positive indications for admission were identified.") It was only well after the trials started that the tone as regards hospitalisation became more realistic and balanced. One of the studies even refers to 'home care failures' (see Trial ID, Pasamanick-Ohio, citation Pasamanick 1964, page 179, paragraph 3, line 2 "Some patients of course, do not succeed on home treatment and are admitted to the hospital.") Other studies describe how "every effort is made to avoid hospitalisation (see Trial ID, Stein - Madison, citation Stein 1975 page 518, paragraph 4, line 5). Finally Hoult 1984 (Trail ID Hoult - Sydney) page 360, paragraph 4 describes the aims of the study being "to demonstrate that is feasible to treat psychiatric patients in the community as an alternative to hospital admission." The final sentence of the introduction did present a number of statements concerning possible problems with crisis intervention. None of these were referenced and because each is questionable, this text has been modified.

Data synthesis

The Cochrane Schizophrenia Group has widely consulted on the management of these problematic and unsatisfying data. The problems, for the purposes of this comment, fall into two large categories - analysis and interpretation. After discussion with the ALLSTAT discussion list and personal communication with key members in the Cochrane Statistical Methods Working Group the Editors of the Cochrane Schizophrenia Group decided to advise a conservative line to reviewers. Statisticians, acknowledged the world over for their expertise in the field of meta-analysis, are unable to give clear answers at the present time. There is no right way of analysis of these data - although there are many ways that are wrong. In this case we accepted the advice of the Cochrane Schizophrenia Group's editors but, essentially, the commentator suggests that a yet more conservative line should have been followed.

The commentator states that the scale derived data are not in fact continuous, although have been described as such. This is true and we have amended the text accordingly. These scales provide ordinal, and not interval data. However, the exceedingly fine gradation of such scales, does result, in a few instances that have been studied, in them behaving as if they were continuous in analysis. For statisticians that have had access to individual patient data the fine categorical scale did not benefit from a more sophisticated analysis in which ranking was incorporated. There is, however, as far as the Cochrane Schizophrenia Group's statistical advisors are aware, no published literature to replicate this impression. It is felt, and there is no greater evidence than this at present, that RevMan's relatively simple analysis is entirely adequate. The decision to treat these data as continuous is, as the commentator states, worthy of question, but practical solutions have not been presented.

Scales are largely research tools used for the subtle purposes of research by researchers. Assuming the scales are used reliably and are validated for the outcome they are measuring in the population that they are rating, even if the data are then valid their clinical interpretation is problematic. Scales are unusual in clinical practice and interpretation of any correctly analysed data is problematic for front-line clinicians.

Description of studies

Excluded studies

We have re-read Dean 1993. For those undertaking reviews there are difficult decisions to take regarding exclusion of studies. The usual rule is that the studies in the excluded section of a Cochrane review should be presented as a service to the reader. Should a paper, from its title or abstract, be so obviously not appropriate, presentation in the Excluded studies section serves little purpose. Usually studies in the excluded section are those that have caused the reviewers to be sufficiently in doubt as to need to acquire full copies. This is not a hard and fast rule and sometimes it is worth including an oft-cited study even if its exclusion is not in doubt. Dean 1993 is not a randomised trial. The title and abstract provided enough information for the reviewers to come to this conclusion and the study is therefore not presented in the 'Excluded studies' table.

Results

Hospital use

The commentator states that "no mention is made of the dramatic reduction in mean number of days in hospital, encountered in every study. There is no explanation why this outcome was ex-

cluded." We made mention of this important outcome in the 'Included studies' table. In the column containing information on outcomes recorded in each trial average stay is frequently recorded as being part of the trial design. The reason for exclusion of these data is always reported. Several of the studies include index admission in the data and others provide no measure of variance, making data impossible to interpret. This should have been highlighted in the text of the review and it has been amended.

As was noted by the commentator, it is reasonable to note that a direct comparison of number of hospital admissions gives "unfair advantage" to the crisis group. The reviewers were concerned at how to present data, especially when "unfair advantage" is bound to be evident. This is also why little credence is given to outcome "04 Hospitalisation: Unable to keep to initial protocol as regards admission" in the text. The reviewers thank the commentator for stressing the point that days in hospital should have been presented - but remain doubtful. The reviewers will not amend this version of the review but in the following months will seek advice and respond fully to this criticism. As the commentator states, all such data are likely to be skewed and difficult to present.

Discussion

The commentator rightly draws the reader's attention to the likely confounding of the longer-term effects of crisis intervention by ongoing community care packages. This was clearly stated in the text of the review. It would indeed be desirable to tease out any effects of 'pure' crisis intervention should data be made available.

Conclusions

The 'Implications' section is divided into separate sections for specific named groups. The reviewers do not wish to imply that each set of implications do not have meaning for the other groups.

The commentator finds it surprising that, because this review find little differences between crisis intervention and standard care (excepting some measures of burden and satisfaction), that no recommendation is made to encourage development of home treatment services. The largest combined data set (two trials) in the series of measures of burden and satisfaction was 220 people. All studies were undertaken by teams of such quality that it is difficult to generalise any results to more usual clinical care. The reviewers suggest that it would have been surprising if objective appraisal of this interesting and important data had not reached the conclusions as presented in the original review.

Miscellaneous

It was not possible to present the GAS data with the data favouring the experimental outcome to the left of the line. All graphs, however, were appropriately labelled. The 'Methods' 4.4 General has been amended with the words 'where possible'.

Conflicts of interest

The commentator may be correct in suggesting that the reviewers should have pre-stated their views on the effects of crisis intervention, in order to protect themselves from accusations of bias and lack of objectivity. The reviewers restate their original claim that they have no conflicts of interest that would affect their objectivity with regard to this review.

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Both these citations are now added to the main text of the review.

Contributors

Comment received from Andrew Owens, Warwick, UK, September 1999.
Reply by Claire Joy, York, and Clive Adams, Oxford, UK, January 2000.

Results and conclusions

Summary

NNTs are used somewhat incautiously. If the summary OR is the constant across all studies say for loss to follow-up at 6 or 12 months, the NNT cannot be constant too. Thus the range of NNTs with which the included trials are compatible is not the 'summary NNT' quoted, but the summary OR applied to the range of baseline risks actually occurring in the included studies.

The impact on family burden appears to be rather overstated given that only two out of the five included trials contributed data on this outcome, and the size of effect differed depending on which of the five specific measures of family burden was examined.

Author's reply

We would like to thank the commentator for highlighting these points and we are sorry not to have addressed then for such a long time. We have taken them into account in the 2003-4 update.

We have changed the way we calculate the NNT and now take into account the risk in the control group and hope this addresses the concern above.

In 2003-4 we substantially rewrote the review, taking into account all comments, and hope the emphasis is now not overstated.

Contributors

Comment received from Chris Hyde, Birmingham, UK, July 2000.
Comment replied to by Clive Adams, Leeds, UK, July 2004.

POTENTIAL CONFLICT OF INTEREST

There was no potential conflict of interest.

ACKNOWLEDGEMENTS

Thanks to Professor Tom Burns for help with defining crisis intervention, Professor Max Marshall who also helped with difficult definitions and Leanne Roberts for administrative support. Thanks also to Gill Rizzello and Tessa Grant for their help with the 2003 and 2006 updates and many thanks to Judith Wright for narrowing the 2006 search down to a manageable number of trials. Also thanks to Mark Fenton of the James Lind Alliance for his suggestions for Table 01.

SOURCES OF SUPPORT

External sources of support

- Welsh Office of Research and Development for Health and Social Care UK

Internal sources of support

- Gwent Community Health NHS Trust, Adult Services UK
- NHS Executive Anglia and Oxford R&D Directorate UK
- University of Leeds UK

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** Indicates the major publication for the study*

TABLES

Characteristics of included studies

Study	Fenton 1979
Methods	Allocation: randomised. Blindness: single. Duration: 12 months. Raters: independent.
Participants	Diagnosis: schizophrenia 41.9%, psychosis 30.3%, neurosis 27.8% (ICD-8). N=162.* History: in need of psychiatric admission, 40% first admissions. Sex: 40% M, 60% F. Age: over 18 yrs, modal range 24-35 yrs.

Characteristics of included studies (*Continued*)

	Exclusions: organic brain syndrome, alcoholism, drug dependency, violent or suicidal behaviour, non english speaking, non resident of Montreal.
Interventions	1. Home care: assessment & treatment in home environment, multidisciplinary team, 24 hr service, drug treatment, psychotherapy, instruction in living skills. N=78. 2. Standard care: short-term, intensive care in hospital, normal staffing levels, social work, follow-up visits after discharge. N=84.
Outcomes	Death.** Hospital admission: unable to keep to initial protocol. Readmission. Leaving the study early (patients). Staff contact.*** Mental state: PEF. Economic cost. Unable to use - Days in hospital: includes index admission. Leaving the study early (relatives): no indvidual data available for each group. Family burden: FEF (reported only 2 'significant' items out of 61 analysed).
Notes	* Demographic data on 155 patients only. ** Assumed deaths occured at 6 months. ***Home care: number of visits made by team to families or patients in community. Standard care: number of visits made by patient to OPD.
Allocation concealment	B – Unclear

Study	**Hoult 1983**
Methods	Allocation: random assignment. Blindness: single, independent raters. Duration: 12 months.
Participants	Diagnosis: severe psychosis (PSE), 50.4% schizophrenia (DSM III). N=120. History: presenting for admission to psychiatric hospital. Sex: 45.8% M, 54.2% F. Age: 15-65 yrs. Exclusions: dual diagnosis, organic brain disorder, mental retardation, non resident of local area.
Interventions	1. Home care: multidisciplinary team, 24 hr crisis service, drug treatment, counselling, training in basic living skills, family intervention, support & education, intensive treatment during acute phase. N=60. 2. Standard care: admission (mean of 3 weeks), normal staffing levels, day programmes, discussion groups, arts & crafts, sporting activities, after care by standard community mental health centres. N=60.
Outcomes	Death. Harm. Hospital admission: unable to keep to initial prtocol. Readmissions. Leaving the study early (patients, relatives-total). Mental state.* Family burden. Patient satisfaction. Relative satisfaction (total and sub-group). Unable to use - Number of days in hospital: no SD.

	Loss (relatives-sub): not clear how many relatives lived with patients. Global State: HSRS (no SD). Mental State: BPRS (no data). Mental state: PSE (no SD). Community burden: no data. Economic cost: no SD.
Notes	* 19 symptoms, rated by relatives. For purposes of this review these were grouped into affective symptoms, psychotic symptoms, behaviour, physical problems, social functioning, substance abuse & most relevant symptom taken from each category for analysis.
Allocation concealment	B – Unclear

Study	**Muijen 1992**
Methods	Allocation: randomised. Blindness: single. Duration: 20 months. Raters: independent.
Participants	Diagnosis: serious mental illness (PSE), 53% met criteria for schizophrenia. N=189. History: in need of immediate hospitalisation. Sex: 49.7% M, 50.3% F. Age: 17-64 yrs, mean ~35yrs. Exclusions: dual diagnosis.
Interventions	1. Home care: DLP's home based care, multidisciplinary team, crisis clinics, 24hr answering service, problem solving, home visits & relative support, life skills training, assistance with financial & housing problems. N= 92. 2. Standard care: hospital care, normal staffing levels, standard outpatient services, CPN. N=97.
Outcomes	Death. Hospital admission: unable to keep to initial protocol.* Readmission.* Leaving the study early (patients and relatives-sub**). Mental state: PSE, BPRS. Global state: GAS, SAS. Patient satisfaction: CSQ. Economic cost. Unable to use- Harm to self: incomplete information, data given refers only to patients who were admitted. Days in hospital: includes index admission.* Daily living: DLS (was adapted for use in the SAS by authors) Relative's satisfaction: RSQ (devised by authors, as yet not peer reviewed). Service Use: no data for standard care group.
Notes	* After 31 months change in policy meant DLP team lost control of admission & discharges. ** Only relatives living with patient were followed up.
Allocation concealment	B – Unclear

Study	**Pasamanick 1964a**
Methods	Allocation: randomised. Blindness: single. Duration: 24 months.

Characteristics of included studies (*Continued*)

	Raters: not blind.
Participants	Diagnosis: schizophrenia. N=163.* History: recently hospitalized or in need of hospitalisation. Sex: 68% F, 32% M. Age: mean ~37 yrs. Exclusions: homicidal or suicidal tendencies.
Interventions	1. Home-drug care: home based nurse visits, drug treatment, practical assistance & support for patient & family, multidisciplinary team, 24 hour answering service. N=64.** 2. Home-placebo care: as above except placebos given instead of prescribed medication. N=45.*** 3. Standard care: hospitalisation & medication, normal staffing levels & treatment programmes. N=54.
Outcomes	Hospital admission: unable to keep to initial protocol. Leaving the study early (patients). Unable to use- Readmission: individual data not presented. Days in hospital: no SD. Mental state: IMPS, MSPP, SORR & PHNR (no SD). Family burden: no data for standard care group. Role fulfillment: no data for standard care group. Social activity: no data for standard care group.
Notes	* A second cohort recruited from community centres - only randomised to home-drug or home-placebo care - not used in this review. ** Once a patient from the home-care group was admitted they were no longer treated by the community team, follow-up interviews still conducted. *** Not used in this analysis.
Allocation concealment	B – Unclear

Study	**Stein 1975**
Methods	Allocation: randomised. Blindness: single. Duration: 14 months. Raters: indpendent.
Participants	Diagnosis: any severe psychiatric disorder. N=130. History: in need of psychiatric hospital admission. Sex: 55% M, 45% F. Age: 18-62 yrs, mean ~31 yrs. Exclusions: dual diagnosis.
Interventions	1. Home care: CLP's home based care, multidisciplinary team, 24hr service, drug treatment, coping skills taught, family support given, use of community agencies - for 14 months & then withdrawn. N=65. 2. Standard care: hospitalisation, aim of returning to community as soon as possible, normal staffing levels, standard outpatient follow-up. N=65.
Outcomes	Death. Harm. Hospital admission: unable to keep to initial protocol.* Leaving the study early (patients). Community burden. Unable to use-

	Readmission: no data for home care group. Days in hospital: includes index admission. Leaving the study early (relatives): not clear if all relatives followed up or just relatives living with the patient. Mental state: SCRS (no mean or SD). Global State: CAF (devised by authors, as yet not peer reviewed). Family burden: FBS (devised by authors, as yet not peer reviewed). Life satisfaction: LSS (no mean or SD). Self Esteem: SES (no mean or SD). Economic cost: no SD.
Notes	* At 6 months only 60 people in each group - preliminary report data.
Allocation concealment	B – Unclear

Abbreviations
1. Diagnostic systems
DSM III: Diagnostic Statistical Manual, version 3
ICD - 8: International Classification of Diseases - 8th Review
PSE: Present State Examination
2.Scales/Forms used to collect data
BPRS: Brief Psychiatric Rating Scale
CAF: Community Adjustment Form
DLS: Daily Living Score
FBS: Family Burden Scale
FEF: Family Evaluation Form
HSRS: Health and Sickness Rating Scale
IMPS: Inpatient Multidimensional Psychiatric Scale
LSS: Life Satisfaction Scale
MSPP: Multidmensional Scale for Rating Psychiatric Patients
PEF: Psychiatric Evaluation Form
PHNR: Public Health Nursing Report
SAS: Social Adjustment Scale
SCRS: Short Clinical Rating Scale
SES: Self Esteem Scale
SORR: SIgnificant Other Rating Report
RSQ: Relative' s Satisfaction Questionnaire
Other
ACT: Assertive Community Treatment
M: Male
F: Female
N: Number
CLP: Community Living Programme
CPN: Community Psychiatric Nurse
DLP: Daily Living Programme
OPD: Outpatient department
relatives-sub - sub group of relatives actually living with the patient.
SD: Standard deviation
WMD: Weighted mean diffference

Characteristics of excluded studies

Study	Reason for exclusion
Bond 1989	Allocation: not randomised, parallel case series.
Burns 1993	Allocation: randomised - but 332 allocated yet only 162 entered study. Participants: anyone presenting for treatment to the mental health services in relevant catchment area, majority not severely ill, only 35% met PSE catego 'psychotic'.

Bush 1990	Allocation: randomised. Participants: people with severe psychosis + high rate of rehospitalisation - not necessarily in 'crisis' or need of readmission at time of allocation. Interventions: community intensive outreach versus hospital care.
Fenton 2000	Allocation: randomised. Participants: people with schizophrenia or other serious psychiatric disorder. Interventions: crisis care in residential setting versus hospital care.
Gater 1997	Allocation: randomised. Participants: people with schizophrenia. Interventions: multi-disiplinary community team versus hospital care but the community care did not involve an 'out of hours' emergency serivce, this was only provided on the day of referral.
Ghandi 2001	Allocation: randomised. Paricipants: 55% people with schizophrenia, others with bipolar affect disorder, depressive disorders or other psychiatric conditions. Interventions: community teams versus standard care but not care for those in crisis.
Harrison 2003	Allocation: not randomised.
Henlegger 1999	Allocation: randomised. Participants: adolescents (mean age ~13 years) requiring psychiatric hospitialisation, majority not suffering from schizophrenia.
Herz 2000	Allocation: randomised. Participants: people with schizophrenia or schizoaffective disorder. Interventions: intensive community aftercare vs standard community aftercare.
Jones 2003	Allocation: randomised. Participants: homeless people with severe mental illness. Interventions: critical time intervention (an adapted form of intensive case management) versus standard care , not specific to care during a crisis.
Kuipers 2004	Allocation: randomised. Participants: people with functional psychosis. Interventions: COAST versus treatment as usual, both interventions were multidisciplinary team-based community care but COAST included specialised psychological interventions and information geared towards early intervention issues, not specifically crisis intervention.
Levenson 1997	Allocation: randomised. Participants: people with acute schizophrenia. Intervention: admission versus 'community care'; non hospitalised group sent home but not treated there - required to attend outpatient clinic daily, treatment not delivered by multidisciplinary team, not available 24 hrs.
Linszen 1998	Allocation: randomised. Participants: young people with recent onset schizophrenia. Interventions: family intervention, not crisis intervention.
Merson 1992	Allocation: randomised. Participants: anyone with a psychiatric disorder referred as a psychiatric emergency from the accident and emercengy department or GP. Intervention: early intervention service (EIS) designed to treat people as quickly as possible versus standard care; EIS assessment at home and then case managers assigned - not a crisis intervention, not availabe 24 hrs a day.
Metcalfe 2005	Allocation: randomised. Participants: people with severe psychosis complicated by additional needs. Interventions: intensive case management (10-15 cases) versus standard case management (30-35 cases), not crisis intervention.
Mosher 1975	Allocation: quasi randomisation. Participants: people with schizophrenia, first admission.

Characteristics of excluded studies (*Continued*)

	Interventions: treated in a residential home versus hospital care - not managed in their home environment.
Muijen 1994	Allocation: randomised. Partcipants: people with serious mental illness in home care for 18 months (Phase I of study) - not in acute phase.
Pai 1982	Allocation: quasi randomised.
Pasamanick 1964b	Allocation: randomised. Participants: people with serious mental illness referred to the study from community centres; not necessarily in a crisis, not allocated to standard care as not in need in of hospitalisation - instead were allocated to home-drug or home-placebo group. See included studies table (Pasmanick-Ohio) for more detail.
Polak 1976	Allocation: randomised. Participants: people with psychiatric illness requiring hospitalisation in a setting where a crisis ethos was already being practiced. Intervention: home based care via multidisciplinary team with 24 hrs on call service available vs hospital based care. Outcomes: demoninators unclear, no usable data.
Rosenheck 1995	Allocation: randomised. Paticipants: people with shcizophrenia or other serious psychiatric illness. Intervention: Intensive Psychiatric Community Care (IPCC) versus hospitalization; IPCC form of ACT (Assertive Community Treatment) rather than crisis intervention.
Sledge 1996	Allocation: randomised. Participants: people in acute phase of psychiatric disorder. Intervention: partial hospitalisation versus standard hospitalisation - both hospital-based packages.
Taylor 1998	Allocation: randomised. Participants: people with psychosis. Interventions: intensive community care versus standard community care.
Tyrer 1995	Allocation: randomised. Participants: people who were psychiatrically vulnerable. Interventions: close supervision by key-worker versus standard psychiatric follow-up.
van Minnen 1997	Allocation: randomised. Participants: people with both "mental retardation and severe mental illness" - not clearly schizophrenia.

ADDITIONAL TABLES

Table 01. Suggestions for trial design

Methods	Participants	Interventions	Outcomes	Notes
Allocation: randomised, with sequence generation and concealment of allocation clearly described. Blindness: single. Duration: 12 months at least. Raters: independent.	Diagnosis: schizophrenia or related psychoses. N=300.* History: in need of psychiatric admission. Sex: both. Age: any.	1. Home care: assertive community treatment + crisis team, multidisciplinary, 24 hr service, drug treatment, psychotherapy, instruction in living skills. N=150. 2. Home care: assertive community treatment without crisis team. N= 150.	Death. Serious harm to self and others. Service outcomes: hospital admission, readmissions. Leaving the study early. Global and mental state (CGI, binary outcome).** Satisfaction: family burden, patient	* Size of study with sufficient power to highlight about a 10% difference between groups for primary outcome. ** Primary outcome.

Table 01. Suggestions for trial design (*Continued*)

Methods	Participants	Interventions	Outcomes	Notes
			satisfaction, relative satisfaction, staff burden (binary data) Economic data.	

ANALYSES

Comparison 01. HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome title	No. of studies	No. of participants	Statistical method	Effect size
01 Death: 1. Any cause	4	601	Relative Risk (Fixed) 95% CI	0.75 [0.30, 1.88]
02 Death: 2. By cause			Relative Risk (Fixed) 95% CI	Subtotals only
03 Harm to self or others			Relative Risk (Fixed) 95% CI	Subtotals only
04 Hospital use: 1. Unable to keep to initial trial protocol as regards admission			Relative Risk (Fixed) 95% CI	Subtotals only
05 Hospital use: 2. Unable to avoid repeat admissions			Relative Risk (Fixed) 95% CI	Subtotals only
06 Hospital use: 3. Home or outpatient visits (data likely to be skewed)			Other data	No numeric data
07 Leaving the study early (unwilling or unable to provide infomation): 1. Patients			Relative Risk (Fixed) 95% CI	Subtotals only
08 Leaving the study early (unwilling or unable to provide information) 2. Relatives			Relative Risk (Fixed) 95% CI	Subtotals only
09 Global state: 1. GAS (endpoint score, range 1-100, low = poor) (loss in some cases is greater than 30%)			Weighted Mean Difference (Fixed) 95% CI	Subtotals only
10 Global state: 2. SAS (endpoint score, high=poor) (loss in some cases in greater than 30%)			Weighted Mean Difference (Fixed) 95% CI	Subtotals only
11 Global state: 3. GAS scale change data by 3 months (+ve change=good, data likely to be skewed)	1	129	Weighted Mean Difference (Fixed) 95% CI	5.20 [-1.19, 11.59]
12 Global state: 4. SAS change data by 3 months (-ve change= good, data likely to be skewed)	1	127	Weighted Mean Difference (Fixed) 95% CI	-0.09 [-0.31, 0.13]
13 Mental state - general: 1. Unwell by 12 months	1	120	Relative Risk (Fixed) 95% CI	0.65 [0.40, 1.07]
14 Mental state - general: 2. BPRS (endpoint score, range 24-168, high=poor) (loss in standard group >30%)			Weighted Mean Difference (Fixed) 95% CI	Subtotals only

15 Mental state - general: 3. PEF (endpoint score, range 0-5, high=poor) (loss is greater than 30%)			Weighted Mean Difference (Fixed) 95% CI	Subtotals only
16 Mental state - general: 4. PSE (endpoint score, high score = poor, data likely to be skewed)			Other data	No numeric data
17 Mental state - general: 5. BPRS scale change data by 3 months (-ve change=good, data likely to be skewed)	1	129	Weighted Mean Difference (Fixed) 95% CI	-3.50 [-8.92, 1.92]
18 Mental state - general: 6. PSE scale change data by 3 months (-ve change=good, data likely to be skewed).	1	129	Weighted Mean Difference (Fixed) 95% CI	-2.70 [-7.69, 2.29]
19 Mental state - specific: 1. Unsociable (reported by relatives)			Relative Risk (Fixed) 95% CI	Subtotals only
20 Mental state - specific: 2. Aggression (reported by relatives)			Relative Risk (Fixed) 95% CI	Subtotals only
21 Mental state - specific: 3. Various problems at 4 months (reported by relatives)			Relative Risk (Fixed) 95% CI	Subtotals only
22 Burden - family: 1. Disruption to daily routine			Relative Risk (Fixed) 95% CI	Subtotals only
23 Burden - family: 2. Disruption to social life			Relative Risk (Fixed) 95% CI	Subtotals only
24 Burden - family: 3. Financial strain			Relative Risk (Fixed) 95% CI	Subtotals only
25 Burden - family: 4. Physical illness due to patient's illness			Relative Risk (Fixed) 95% CI	Subtotals only
26 Burden - family: 5. Overall burden is great			Relative Risk (Fixed) 95% CI	Subtotals only
27 Burden - community: 1. Not employed by 20 months	1	189	Relative Risk (Fixed) 95% CI	0.97 [0.85, 1.12]
28 Burden - community: 2. Various outcomes by 12 months			Relative Risk (Fixed) 95% CI	Subtotals only
29 Satisfaction - patient: 1. Various outcomes by 12 months			Relative Risk (Fixed) 95% CI	Subtotals only
30 Satisfaction - patient: 2. Patient not satisitfied with care: Satisfaction Scale (endpoint score, range 0 -32,			Weighted Mean Difference (Fixed) 95% CI	Subtotals only
31 Satisfaction - relatives: 1. Feels patient is not improved			Relative Risk (Fixed) 95% CI	Subtotals only
32 Satisfaction - relatives: 2. Dissatisfied with treatment received			Relative Risk (Fixed) 95% CI	Subtotals only

33 Satisfaction - relatives: 3. Would have preferred patient to have received other treatment	Relative Risk (Fixed) 95% CI	Subtotals only
34 Satisfaction - relatives: 4. Various outcomes by 12 months	Relative Risk (Fixed) 95% CI	Subtotals only
35 Economic cost per patient (data likely to be skewed)	Other data	No numeric data

INDEX TERMS

Medical Subject Headings (MeSH)

*Crisis Intervention; Mental Disorders [*therapy]; Randomized Controlled Trials

MeSH check words

Humans

COVER SHEET

Title	Crisis intervention for people with severe mental illnesses
Authors	Joy CB, Adams CE, Rice K
Contribution of author(s)	Claire Joy - protocol writing, searching, trial selection, data extraction, completion of report, completion of 2003 and 2006 update. Clive Adams - acquisition of funding, protocol writing, help and supervision of data extraction, completion of report. Karl Rice - trial selection, data extraction, completion of report, help with identification of relevant trials for 2003 and 2006 update.
Issue protocol first published	1998/2
Review first published	1998/4
Date of most recent amendment	08 August 2006
Date of most recent SUBSTANTIVE amendment	23 August 2006
What's New	In response to comments and criticisms the following changes have been made: 1. Change of text in Abstract, Background 2. Outcome Hospital Use - Mean number of days added to text section of results. 3. New reference in background (Querido 1968). 2003 Update New search of CSG database (July 2003) Nine studies added to excluded studies table and references. Statistics changed from OR to RR Results updated Conclusions updated Methdology changed to current CSG format Included studies table changed to current CSG format Text changes to reflect findings of the update 2006 Update New search of CSG database (Jan 2006) Four new studies added to excluded studies table and references.

	Text changed to reflect new findings of the update.
Date new studies sought but none found	Information not supplied by author
Date new studies found but not yet included/excluded	Information not supplied by author
Date new studies found and included/excluded	Information not supplied by author
Date authors' conclusions section amended	Information not supplied by author
Contact address	Claire Bronwen Joy Cochrane Schizophrenia Group 15 Hyde Terrace Leeds University Leeds UK E-mail: claireirving@btopenworld.com
DOI	10.1002/14651858.CD001087.pub3
Cochrane Library number	CD001087
Editorial group	Cochrane Schizophrenia Group
Editorial group code	HM-SCHIZ

GRAPHS AND OTHER TABLES

Analysis 01.01. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 01 Death: 1. Any cause

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 01 Death: 1. Any cause

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
Fenton 1979	2/78	5/84		46.9	0.43 [0.09, 2.16]
Hoult 1983	0/60	2/60		24.4	0.20 [0.01, 4.08]
Muijen 1992	4/92	2/97		19.0	2.11 [0.40, 11.24]
Stein 1975	1/65	1/65		9.7	1.00 [0.06, 15.65]
Total (95% CI)	295	306		100.0	0.75 [0.30, 1.88]

Total events: 7 (CRISIS), 10 (STANDARD)

Test for heterogeneity chi-square=2.70 df=3 p=0.44 I^2 =0.0%

Test for overall effect z=0.62 p=0.5

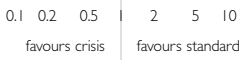
Analysis 01.02. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 02 Death: 2. By cause

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 02 Death: 2. By cause

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 natural causes					
Fenton 1979	2/78	3/84		59.2	0.72 [0.12, 4.18]
Hoult 1983	0/60	1/60		30.8	0.33 [0.01, 8.02]
Muijen 1992	1/92	0/97		10.0	3.16 [0.13, 76.63]
× Stein 1975	0/65	0/65		0.0	Not estimable
Subtotal (95% CI)	295	306		100.0	0.84 [0.23, 3.09]
Total events: 3 (CRISIS), 4 (STANDARD)					
Test for heterogeneity chi-square=1.02 df=2 p=0.60 I² =0.0%					
Test for overall effect z=0.26 p=0.8					
02 suicide or death in suspicious circumstances					
Fenton 1979	0/78	2/84		35.1	0.22 [0.01, 4.41]
Hoult 1983	0/60	1/60		21.9	0.33 [0.01, 8.02]
Muijen 1992	3/92	2/97		28.4	1.58 [0.27, 9.25]
Stein 1975	1/65	1/65		14.6	1.00 [0.06, 15.65]
Subtotal (95% CI)	295	306		100.0	0.74 [0.24, 2.32]
Total events: 4 (CRISIS), 6 (STANDARD)					
Test for heterogeneity chi-square=1.64 df=3 p=0.65 I² =0.0%					
Test for overall effect z=0.51 p=0.6					



Analysis 01.03. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 03 Harm to self or others

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 03 Harm to self or others

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 attempted suicide					
Hoult 1983	6/60	0/60		2.0	13.00 [0.75, 225.75]
Stein 1975	26/65	24/65		98.0	1.08 [0.70, 1.67]
Subtotal (95% CI)	125	125		100.0	1.33 [0.87, 2.03]
Total events: 32 (CRISIS), 24 (STANDARD)					
Test for heterogeneity chi-square=3.29 df=1 p=0.07 I² =69.6%					
Test for overall effect z=1.30 p=0.2					
02 homicide					
Muijen 1992	1/92	0/97		100.0	3.16 [0.13, 76.63]
Subtotal (95% CI)	92	97		100.0	3.16 [0.13, 76.63]
Total events: 1 (CRISIS), 0 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=0.71 p=0.5					

Analysis 01.04. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 04 Hospital use: 1. Unable to keep to initial trial protocol as regards admission

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 04 Hospital use: 1. Unable to keep to initial trial protocol as regards admission

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 by 6 months					
Muijen 1992	73/92	0/97		31.9	154.90 [9.74, 2463.92]
Pasamanick 1964a	12/64	0/54		35.4	21.15 [1.28, 349.19]
Stein 1975	6/60	0/60		32.7	13.00 [0.75, 225.75]
Subtotal (95% CI)	216	211		100.0	61.09 [12.58, 296.63]
Total events: 91 (CRISIS), 0 (STANDARD)					
Test for heterogeneity chi-square=2.11 df=2 p=0.35 I² =5.3%					
Test for overall effect z=5.10 p<0.00001					
02 by 12 months					

(*Continued . . .*)

(. . . *Continued*)

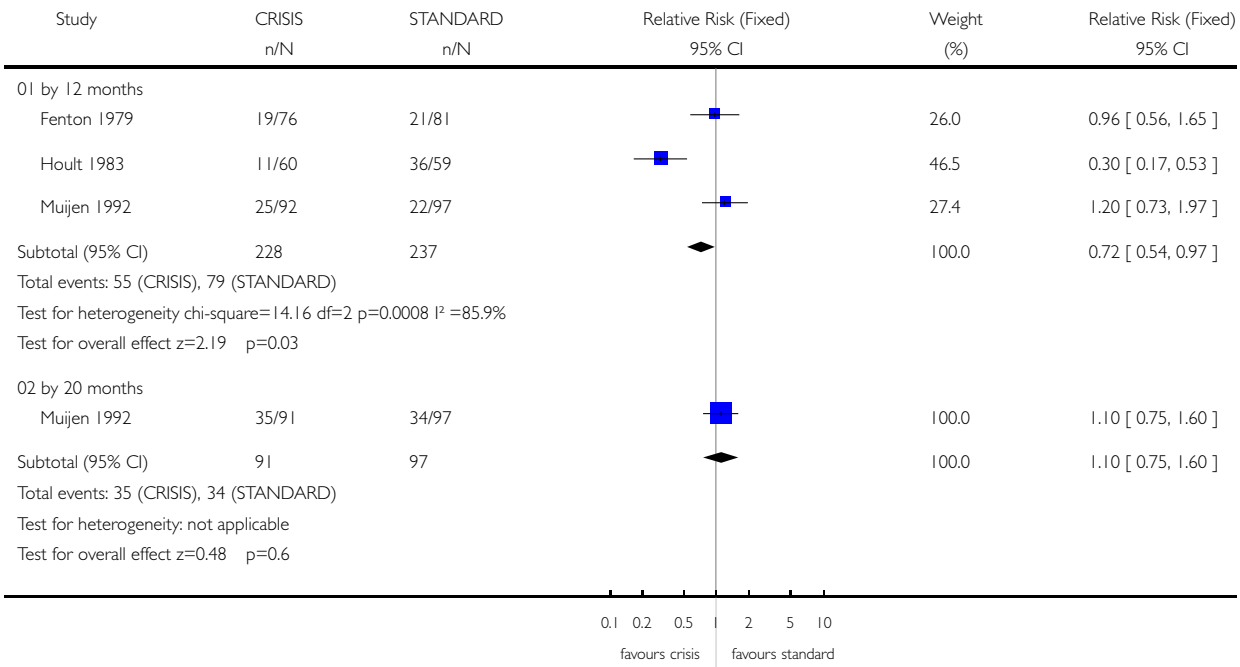
Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
Fenton 1979	30/76	0/81		19.2	64.96 [4.04, 1044.05]
Hoult 1983	28/60	0/59		20.0	56.07 [3.50, 897.61]
Muijen 1992	76/92	0/97		19.3	161.23 [10.14, 2563.54]
Pasamanick 1964a	14/64	0/54		21.5	24.54 [1.50, 402.01]
Stein 1975	12/65	0/65		19.9	25.00 [1.51, 413.60]
Subtotal (95% CI)	357	356		100.0	65.16 [19.04, 223.06]
Total events: 160 (CRISIS), 0 (STANDARD)					
Test for heterogeneity chi-square=1.34 df=4 p=0.85 I^2 =0.0%					
Test for overall effect z=6.65 p<0.00001					
03 by 20 months					
Muijen 1992	80/91	0/97		47.2	171.50 [10.79, 2725.45]
Pasamanick 1964a	15/64	0/54		52.8	26.23 [1.61, 428.42]
Subtotal (95% CI)	155	151		100.0	94.80 [13.90, 646.37]
Total events: 95 (CRISIS), 0 (STANDARD)					
Test for heterogeneity chi-square=0.99 df=1 p=0.32 I^2 =0.0%					
Test for overall effect z=4.65 p<0.00001					
04 by 24 months					
Pasamanick 1964a	23/64	0/54		100.0	39.77 [2.47, 639.78]
Subtotal (95% CI)	64	54		100.0	39.77 [2.47, 639.78]
Total events: 23 (CRISIS), 0 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=2.60 p=0.009					

Analysis 01.05. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 05 Hospital use: 2. Unable to avoid repeat admissions

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 05 Hospital use: 2. Unable to avoid repeat admissions



Analysis 01.06. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 06 Hospital use: 3. Home or outpatient visits (data likely to be skewed)

6 - 12 months

Study	Interventions	Mean	SD	N	Notes
Fenton 1979	Crisis/home group	2.1	3.4	76	Difference favouring home group (two tailed t-test, p=0.005)
Fenton 1979	Standard care group	6.3	12.3	79	

by 12 months

Study	Interventions	Mean	SD	N	Notes
Fenton 1979	Crisis/home group	16.5	11.7	76	No difference between the groups (two tailed t test p>0.05)
Fenton 1979	Standard care group	13.0	19.2	79	

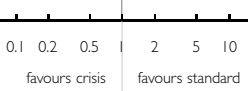
Analysis 01.07. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 07 Leaving the study early (unwilling or unable to provide infomation): 1. Patients

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 07 Leaving the study early (unwilling or unable to provide infomation): 1. Patients

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 by 3 months					
Fenton 1979	18/78	26/84		100.0	0.75 [0.45, 1.25]
Subtotal (95% CI)	78	84		100.0	0.75 [0.45, 1.25]
Total events: 18 (CRISIS), 26 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=1.12 p=0.3					
02 by 6 months					
Fenton 1979	21/78	30/84		35.3	0.75 [0.47, 1.20]
Muijen 1992	24/92	36/97		42.8	0.70 [0.46, 1.08]
Pasamanick 1964a	9/64	12/54		15.9	0.63 [0.29, 1.39]
Stein 1975	3/65	5/65		6.1	0.60 [0.15, 2.41]
Subtotal (95% CI)	299	300		100.0	0.70 [0.53, 0.94]
Total events: 57 (CRISIS), 83 (STANDARD)					
Test for heterogeneity chi-square=0.21 df=3 p=0.98 I^2 =0.0%					
Test for overall effect z=2.40 p=0.02					
03 by 12 months					
Fenton 1979	24/76	36/81		42.5	0.71 [0.47, 1.07]
Hoult 1983	7/60	11/59		13.5	0.63 [0.26, 1.50]
Muijen 1992	25/91	32/97		37.8	0.83 [0.54, 1.29]
Stein 1975	3/65	5/65		6.1	0.60 [0.15, 2.41]
Subtotal (95% CI)	292	302		100.0	0.74 [0.56, 0.98]
Total events: 59 (CRISIS), 84 (STANDARD)					
Test for heterogeneity chi-square=0.55 df=3 p=0.91 I^2 =0.0%					
Test for overall effect z=2.13 p=0.03					
04 by 20 months					
Fenton 1979	23/76	34/81		51.4	0.72 [0.47, 1.10]
Muijen 1992	19/91	26/97		39.3	0.78 [0.46, 1.31]
Stein 1975	7/65	6/65		9.4	1.17 [0.41, 3.28]
Subtotal (95% CI)	232	243		100.0	0.79 [0.57, 1.08]
Total events: 49 (CRISIS), 66 (STANDARD)					
Test for heterogeneity chi-square=0.72 df=2 p=0.70 I^2 =0.0%					
Test for overall effect z=1.50 p=0.1					

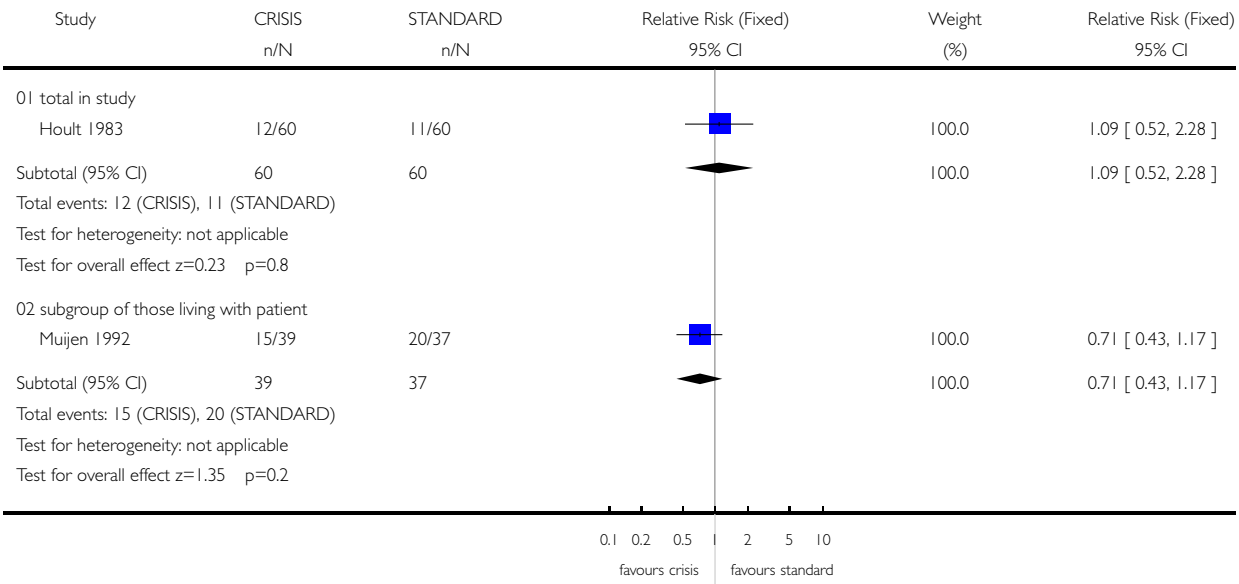


Analysis 01.08. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 08 Leaving the study early (unwilling or unable to provide information) 2. Relatives

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 08 Leaving the study early (unwilling or unable to provide information) 2. Relatives



Analysis 01.09. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 09 Global state: 1. GAS (endpoint score, range 1-100, low = poor) (loss in some cases is greater than 30%)

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 09 Global state: 1. GAS (endpoint score, range 1-100, low = poor) (loss in some cases is greater than 30%)

Study	CRISIS N	CRISIS Mean(SD)	STANDARD N	STANDARD Mean(SD)	Weighted Mean Difference (Fixed) 95% CI	Weight (%)	Weighted Mean Difference (Fixed) 95% CI
01 by 6 months							
Muijen 1992	68	60.10 (17.30)	61	55.00 (17.20)		100.0	5.10 [-0.86, 11.06]
Subtotal (95% CI)	68		61			100.0	5.10 [-0.86, 11.06]
Test for heterogeneity: not applicable							
Test for overall effect z=1.68 p=0.09							
02 by 12 months							
Muijen 1992	66	63.00 (17.80)	65	59.50 (20.90)		100.0	3.50 [-3.15, 10.15]
Subtotal (95% CI)	66		65			100.0	3.50 [-3.15, 10.15]
Test for heterogeneity: not applicable							
Test for overall effect z=1.03 p=0.3							
03 by 20 months							
Muijen 1992	71	70.10 (17.70)	71	64.40 (18.50)		100.0	5.70 [-0.26, 11.66]
Subtotal (95% CI)	71		71			100.0	5.70 [-0.26, 11.66]
Test for heterogeneity: not applicable							
Test for overall effect z=1.88 p=0.06							

Analysis 01.10. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 10 Global state: 2. SAS (endpoint score, high=poor) (loss in some cases in greater than 30%)

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 10 Global state: 2. SAS (endpoint score, high=poor) (loss in some cases in greater than 30%)

Study	CRISIS N	CRISIS Mean(SD)	STANDARD N	STANDARD Mean(SD)	Weighted Mean Difference (Fixed) 95% CI	Weight (%)	Weighted Mean Difference (Fixed) 95% CI
01 by 6 months							
Muijen 1992	67	3.40 (1.60)	63	3.60 (1.60)		100.0	-0.20 [-0.75, 0.35]
Subtotal (95% CI)	67		63			100.0	-0.20 [-0.75, 0.35]
Test for heterogeneity: not applicable							
Test for overall effect z=0.71 p=0.5							
02 by 12 months							
Muijen 1992	59	2.90 (1.50)	61	3.20 (1.60)		100.0	-0.30 [-0.85, 0.25]
Subtotal (95% CI)	59		61			100.0	-0.30 [-0.85, 0.25]
Test for heterogeneity: not applicable							
Test for overall effect z=1.06 p=0.3							
03 by 20 months							
Muijen 1992	71	2.50 (1.70)	68	3.10 (1.60)		100.0	-0.60 [-1.15, -0.05]
Subtotal (95% CI)	71		68			100.0	-0.60 [-1.15, -0.05]
Test for heterogeneity: not applicable							
Test for overall effect z=2.14 p=0.03							

Analysis 01.11. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 11 Global state: 3. GAS scale change data by 3 months (+ve change=good, data likely to be skewed)

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 11 Global state: 3. GAS scale change data by 3 months (+ve change=good, data likely to be skewed)

Study	CRISIS		STANDARD		Weighted Mean Difference (Fixed)	Weight	Weighted Mean Difference (Fixed)
	N	Mean(SD)	N	Mean(SD)	95% CI	(%)	95% CI
Muijen 1992	68	26.80 (17.30)	61	21.60 (19.50)		100.0	5.20 [-1.19, 11.59]
Total (95% CI)	68		61			100.0	5.20 [-1.19, 11.59]
Test for heterogeneity: not applicable							
Test for overall effect z=1.59 p=0.1							

Analysis 01.12. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 12 Global state: 4. SAS change data by 3 months (-ve change=good, data likely to be skewed)

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 12 Global state: 4. SAS change data by 3 months (-ve change=good, data likely to be skewed)

Study	CRISIS		STANDARD		Weighted Mean Difference (Fixed)	Weight	Weighted Mean Difference (Fixed)
	N	Mean(SD)	N	Mean(SD)	95% CI	(%)	95% CI
Muijen 1992	66	-0.40 (0.65)	61	-0.31 (0.62)		100.0	-0.09 [-0.31, 0.13]
Total (95% CI)	66		61			100.0	-0.09 [-0.31, 0.13]
Test for heterogeneity: not applicable							
Test for overall effect z=0.80 p=0.4							

Analysis 01.13. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 13 Mental state - general: 1. Unwell by 12 months

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 13 Mental state - general: 1. Unwell by 12 months

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
Hoult 1983	17/60	26/60		100.0	0.65 [0.40, 1.07]
Total (95% CI)	60	60		100.0	0.65 [0.40, 1.07]
Total events: 17 (CRISIS), 26 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=1.68 p=0.09					

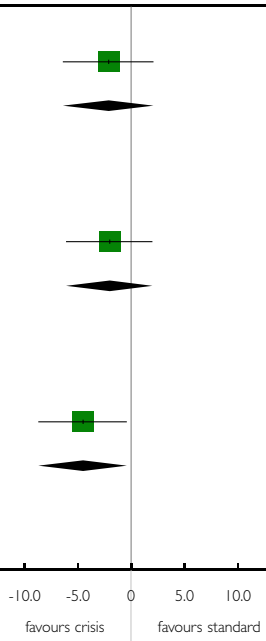
Analysis 01.14. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 14 Mental state - general: 2. BPRS (endpoint score, range 24-168, high=poor) (loss in standard group >30%)

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 14 Mental state - general: 2. BPRS (endpoint score, range 24-168, high=poor) (loss in standard group >30%)

Study	CRISIS N	CRISIS Mean(SD)	STANDARD N	STANDARD Mean(SD)	Weighted Mean Difference (Fixed) 95% CI	Weight (%)	Weighted Mean Difference (Fixed) 95% CI
01 by 6 months							
Muijen 1992	68	39.30 (13.20)	61	41.40 (11.70)		100.0	-2.10 [-6.40, 2.20]
Subtotal (95% CI)	68		61			100.0	-2.10 [-6.40, 2.20]
Test for heterogeneity: not applicable							
Test for overall effect z=0.96 p=0.3							
02 by 12 months							
Muijen 1992	66	37.70 (11.40)	65	39.70 (12.10)		100.0	-2.00 [-6.03, 2.03]
Subtotal (95% CI)	66		65			100.0	-2.00 [-6.03, 2.03]
Test for heterogeneity: not applicable							
Test for overall effect z=0.97 p=0.3							
03 by 20 months							
Muijen 1992	71	35.10 (10.90)	71	39.60 (14.30)		100.0	-4.50 [-8.68, -0.32]
Subtotal (95% CI)	71		71			100.0	-4.50 [-8.68, -0.32]
Test for heterogeneity: not applicable							
Test for overall effect z=2.11 p=0.03							



Analysis 01.15. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 15 Mental state - general: 3. PEF (endpoint score, range 0-5, high=poor) (loss is greater than 30%)

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 15 Mental state - general: 3. PEF (endpoint score, range 0-5, high=poor) (loss is greater than 30%)

Study	CRISIS N	CRISIS Mean(SD)	STANDARD N	STANDARD Mean(SD)	Weighted Mean Difference (Fixed) 95% CI	Weight (%)	Weighted Mean Difference (Fixed) 95% CI
01 by 3 months							
Fenton 1979	60	3.90 (1.10)	58	3.70 (1.20)		100.0	0.20 [-0.22, 0.62]
Subtotal (95% CI)	60		58			100.0	0.20 [-0.22, 0.62]
Test for heterogeneity: not applicable							
Test for overall effect z=0.94 p=0.3							
02 by 6 months							
Fenton 1979	57	3.40 (1.30)	54	3.30 (1.50)		100.0	0.10 [-0.42, 0.62]
Subtotal (95% CI)	57		54			100.0	0.10 [-0.42, 0.62]
Test for heterogeneity: not applicable							
Test for overall effect z=0.37 p=0.7							
03 by 12 months							
Fenton 1979	52	3.10 (1.10)	45	3.50 (1.10)		100.0	-0.40 [-0.84, 0.04]
Subtotal (95% CI)	52		45			100.0	-0.40 [-0.84, 0.04]
Test for heterogeneity: not applicable							
Test for overall effect z=1.79 p=0.07							
04 by 20 months							
Fenton 1979	53	3.00 (1.40)	47	2.90 (1.50)		100.0	0.10 [-0.47, 0.67]
Subtotal (95% CI)	53		47			100.0	0.10 [-0.47, 0.67]
Test for heterogeneity: not applicable							
Test for overall effect z=0.34 p=0.7							

Analysis 01.16. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 16 Mental state - general: 4. PSE (endpoint score, high score = poor, data likely to be skewed)

by 6 months

Study	Interventions	Mean	SD	N	Notes
Muijen 1992	Crisis/home care group	13.5	11.5	67	No difference between groups (ANCOVA, p = not reported).
Muijen 1992	Standard care group	16.5	12.1	61	

by 12 months

Study	Interventions	Mean	SD	N	Notes
Muijen 1992	Crisis/home care group	11.8	12.0	64	No difference between groups (ANCOVA, p = not reported).
Muijen 1992	Standard care group	13.8	14.4	64	

by 20 months

Study	Interventions	Mean	SD	N	Notes
Muijen 1992	Crisis/home care group	8.2	9.3	72	Result not statistically significant (p=0.09)
Muijen 1992	Standard care group	12.2	15.0	70	

Analysis 01.17. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 17 Mental state - general: 5. BPRS scale change data by 3 months (-ve change=good, data likely to be skewed)

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 17 Mental state - general: 5. BPRS scale change data by 3 months (-ve change=good, data likely to be skewed)

Study	CRISIS N	CRISIS Mean(SD)	STANDARD N	STANDARD Mean(SD)	Weighted Mean Difference (Fixed) 95% CI	Weight (%)	Weighted Mean Difference (Fixed) 95% CI
Muijen 1992	68	-13.70 (17.30)	61	-10.20 (14.10)		100.0	-3.50 [-8.92, 1.92]
Total (95% CI)	68		61			100.0	-3.50 [-8.92, 1.92]
Test for heterogeneity: not applicable							
Test for overall effect z=1.26 p=0.2							

Analysis 01.18. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 18 Mental state - general: 6. PSE scale change data by 3 months (-ve change=good, data likely to be skewed).

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 18 Mental state - general: 6. PSE scale change data by 3 months (-ve change=good, data likely to be skewed).

Study	CRISIS N	CRISIS Mean(SD)	STANDARD N	STANDARD Mean(SD)	Weighted Mean Difference (Fixed) 95% CI	Weight (%)	Weighted Mean Difference (Fixed) 95% CI
Muijen 1992	67	-15.30 (14.70)	62	-12.60 (14.20)		100.0	-2.70 [-7.69, 2.29]
Total (95% CI)	67		62			100.0	-2.70 [-7.69, 2.29]
Test for heterogeneity: not applicable							
Test for overall effect z=1.06 p=0.3							

Analysis 01.19. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 19 Mental state - specific: 1. Unsociable (reported by relatives)

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 19 Mental state - specific: 1. Unsociable (reported by relatives)

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 by 3 months					
Hoult 1983	36/60	42/60		100.0	0.86 [0.66, 1.12]
Subtotal (95% CI)	60	60		100.0	0.86 [0.66, 1.12]
Total events: 36 (CRISIS), 42 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=1.14 p=0.3					
02 by 6 months					
Hoult 1983	20/60	46/60		100.0	0.43 [0.30, 0.64]
Subtotal (95% CI)	60	60		100.0	0.43 [0.30, 0.64]
Total events: 20 (CRISIS), 46 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=4.25 p=0.00002					

Analysis 01.20. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 20 Mental state - specific: 2. Aggression (reported by relatives)

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 20 Mental state - specific: 2. Aggression (reported by relatives)

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 by 3 months					
Hoult 1983	35/60	36/60		100.0	0.97 [0.72, 1.31]
Subtotal (95% CI)	60	60		100.0	0.97 [0.72, 1.31]
Total events: 35 (CRISIS), 36 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=0.19 p=0.9					
02 by 6 months					
Hoult 1983	14/60	20/60		100.0	0.70 [0.39, 1.25]
Subtotal (95% CI)	60	60		100.0	0.70 [0.39, 1.25]
Total events: 14 (CRISIS), 20 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=1.20 p=0.2					

Analysis 01.21. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 21 Mental state - specific: 3. Various problems at 4 months (reported by relatives)

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 21 Mental state - specific: 3. Various problems at 4 months (reported by relatives)

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 agitation					
Hoult 1983	17/60	29/60		100.0	0.59 [0.36, 0.95]
Subtotal (95% CI)	60	60		100.0	0.59 [0.36, 0.95]
Total events: 17 (CRISIS), 29 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=2.18 p=0.03					
02 depression					
Hoult 1983	28/60	35/60		100.0	0.80 [0.57, 1.13]
Subtotal (95% CI)	60	60		100.0	0.80 [0.57, 1.13]
Total events: 28 (CRISIS), 35 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=1.27 p=0.2					
03 disorientation					
Hoult 1983	14/60	30/60		100.0	0.47 [0.28, 0.79]
Subtotal (95% CI)	60	60		100.0	0.47 [0.28, 0.79]
Total events: 14 (CRISIS), 30 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=2.85 p=0.004					
04 psychotic behaviour					
Hoult 1983	11/60	19/60		100.0	0.58 [0.30, 1.11]
Subtotal (95% CI)	60	60		100.0	0.58 [0.30, 1.11]
Total events: 11 (CRISIS), 19 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=1.65 p=0.1					
05 substance abuse					
Hoult 1983	10/60	15/60		100.0	0.67 [0.33, 1.36]
Subtotal (95% CI)	60	60		100.0	0.67 [0.33, 1.36]
Total events: 10 (CRISIS), 15 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=1.11 p=0.3					
06 withdrawl					
Hoult 1983	23/60	32/60		100.0	0.72 [0.48, 1.07]

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Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
Subtotal (95% CI)	60	60		100.0	0.72 [0.48, 1.07]
Total events: 23 (CRISIS), 32 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=1.62 p=0.1					

Analysis 01.22. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 22 Burden - family: 1. Disruption to daily routine

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 22 Burden - family: 1. Disruption to daily routine

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 by 3 months					
Hoult 1983	21/60	32/60		48.5	0.66 [0.43, 1.00]
Stein 1975	28/50	34/50		51.5	0.82 [0.60, 1.12]
Subtotal (95% CI)	110	110		100.0	0.74 [0.58, 0.96]
Total events: 49 (CRISIS), 66 (STANDARD)					
Test for heterogeneity chi-square=0.76 df=1 p=0.38 I^2 =0.0%					
Test for overall effect z=2.29 p=0.02					
02 by 6 months					
Hoult 1983	12/60	25/60		42.4	0.48 [0.27, 0.86]
Stein 1975	29/50	34/50		57.6	0.85 [0.63, 1.15]
Subtotal (95% CI)	110	110		100.0	0.69 [0.52, 0.92]
Total events: 41 (CRISIS), 59 (STANDARD)					
Test for heterogeneity chi-square=3.28 df=1 p=0.07 I^2 =69.5%					
Test for overall effect z=2.52 p=0.01					

Analysis 01.23. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 23 Burden - family: 2. Disruption to social life

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 23 Burden - family: 2. Disruption to social life

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 by 3 months					
Hoult 1983	17/60	30/60		44.8	0.57 [0.35, 0.91]
Stein 1975	28/50	37/50		55.2	0.76 [0.56, 1.02]
Subtotal (95% CI)	110	110		100.0	0.67 [0.52, 0.87]
Total events: 45 (CRISIS), 67 (STANDARD)					
Test for heterogeneity chi-square=1.12 df=1 p=0.29 I^2 =10.5%					
Test for overall effect z=2.99 p=0.003					
02 by 6 months					
Hoult 1983	18/60	33/60		49.3	0.55 [0.35, 0.85]
Stein 1975	31/50	34/50		50.7	0.91 [0.68, 1.22]
Subtotal (95% CI)	110	110		100.0	0.73 [0.57, 0.94]
Total events: 49 (CRISIS), 67 (STANDARD)					
Test for heterogeneity chi-square=3.88 df=1 p=0.05 I^2 =74.2%					
Test for overall effect z=2.44 p=0.01					

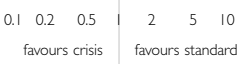
Analysis 01.24. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 24 Burden - family: 3. Financial strain

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 24 Burden - family: 3. Financial strain

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 by 3 months					
Hoult 1983	25/60	33/60		100.0	0.76 [0.52, 1.10]
Subtotal (95% CI)	60	60		100.0	0.76 [0.52, 1.10]
Total events: 25 (CRISIS), 33 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=1.44 p=0.1					
02 by 6 months					
Hoult 1983	21/60	25/60		100.0	0.84 [0.53, 1.33]
Subtotal (95% CI)	60	60		100.0	0.84 [0.53, 1.33]
Total events: 21 (CRISIS), 25 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=0.75 p=0.5					



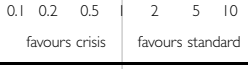
Analysis 01.25. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 25 Burden - family: 4. Physical illness due to patient's illness

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 25 Burden - family: 4. Physical illness due to patient's illness

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 by 3 months					
Stein 1975	36/50	46/50		100.0	0.78 [0.65, 0.95]
Subtotal (95% CI)	50	50		100.0	0.78 [0.65, 0.95]
Total events: 36 (CRISIS), 46 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=2.51 p=0.01					
02 by 6 months					
Stein 1975	30/50	42/50		100.0	0.71 [0.55, 0.92]
Subtotal (95% CI)	50	50		100.0	0.71 [0.55, 0.92]
Total events: 30 (CRISIS), 42 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=2.57 p=0.01					



Analysis 01.26. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 26 Burden - family: 5. Overall burden is great

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 26 Burden - family: 5. Overall burden is great

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 by 3 months					
Hoult 1983	25/60	44/60		100.0	0.57 [0.41, 0.80]
Subtotal (95% CI)	60	60		100.0	0.57 [0.41, 0.80]
Total events: 25 (CRISIS), 44 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=3.30 p=0.001					
02 by 6 months					
Hoult 1983	12/60	35/60		100.0	0.34 [0.20, 0.59]
Subtotal (95% CI)	60	60		100.0	0.34 [0.20, 0.59]
Total events: 12 (CRISIS), 35 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=3.82 p=0.0001					

Analysis 01.27. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 27 Burden - community: 1. Not employed by 20 months

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 27 Burden - community: 1. Not employed by 20 months

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
Muijen 1992	73/92	79/97		100.0	0.97 [0.85, 1.12]
Total (95% CI)	92	97		100.0	0.97 [0.85, 1.12]
Total events: 73 (CRISIS), 79 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=0.36 p=0.7					

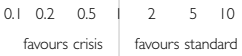
Analysis 01.28. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 28 Burden - community: 2. Various outcomes by 12 months

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 28 Burden - community: 2. Various outcomes by 12 months

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 at least one arrest					
Stein 1975	20/60	28/60		100.0	0.71 [0.46, 1.12]
Subtotal (95% CI)	60	60		100.0	0.71 [0.46, 1.12]
Total events: 20 (CRISIS), 28 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=1.47 p=0.1					
02 at least one use of emergency services					
Stein 1975	13/60	16/60		100.0	0.81 [0.43, 1.54]
Subtotal (95% CI)	60	60		100.0	0.81 [0.43, 1.54]
Total events: 13 (CRISIS), 16 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=0.64 p=0.5					



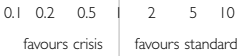
Analysis 01.29. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 29 Satisfaction - patient: 1. Various outcomes by 12 months

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 29 Satisfaction - patient: 1. Various outcomes by 12 months

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 feels unimproved					
Hoult 1983	18/60	37/59		100.0	0.48 [0.31, 0.74]
Subtotal (95% CI)	60	59		100.0	0.48 [0.31, 0.74]
Total events: 18 (CRISIS), 37 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=3.33 p=0.0009					
02 dissatisfied with treatment received					
Hoult 1983	31/60	46/59		100.0	0.66 [0.50, 0.88]
Subtotal (95% CI)	60	59		100.0	0.66 [0.50, 0.88]
Total events: 31 (CRISIS), 46 (STANDARD)					



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Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
Test for heterogeneity: not applicable					
Test for overall effect z=2.88 p=0.004					
03 prefered to get other treatment					
Hoult 1983	14/60	30/59		100.0	0.46 [0.27, 0.77]
Subtotal (95% CI)	60	59		100.0	0.46 [0.27, 0.77]
Total events: 14 (CRISIS), 30 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=2.92 p=0.003					
04 feels less able to cope					
Hoult 1983	12/60	33/59		100.0	0.36 [0.21, 0.62]
Subtotal (95% CI)	60	59		100.0	0.36 [0.21, 0.62]
Total events: 12 (CRISIS), 33 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=3.64 p=0.0003					
05 feels will need more help outside working hours in the future					
Hoult 1983	24/60	16/59		100.0	1.48 [0.88, 2.48]
Subtotal (95% CI)	60	59		100.0	1.48 [0.88, 2.48]
Total events: 24 (CRISIS), 16 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=1.46 p=0.1					

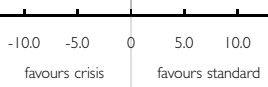
Analysis 01.30. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 30 Satisfaction - patient: 2. Patient not satisitfied with care: Satisfaction Scale (endpoint score, range 0 -32,

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 30 Satisfaction - patient: 2. Patient not satisitfied with care: Satisfaction Scale (endpoint score, range 0 -32,

Study	CRISIS N	CRISIS Mean(SD)	STANDARD N	STANDARD Mean(SD)	Weighted Mean Difference (Fixed) 95% CI	Weight (%)	Weighted Mean Difference (Fixed) 95% CI
01 by 6 months							
Muijen 1992	61	28.80 (5.46)	54	23.70 (5.14)		100.0	5.10 [3.16, 7.04]
Subtotal (95% CI)	61		54			100.0	5.10 [3.16, 7.04]
Test for heterogeneity: not applicable							
Test for overall effect z=5.16 p<0.00001							
02 by 12 months							
Muijen 1992	62	27.10 (3.94)	59	22.30 (5.37)		100.0	4.80 [3.11, 6.49]
Subtotal (95% CI)	62		59			100.0	4.80 [3.11, 6.49]
Test for heterogeneity: not applicable							
Test for overall effect z=5.58 p<0.00001							
03 by 20 months							
Muijen 1992	69	27.40 (2.49)	68	22.00 (5.77)		100.0	5.40 [3.91, 6.89]
Subtotal (95% CI)	69		68			100.0	5.40 [3.91, 6.89]
Test for heterogeneity: not applicable							
Test for overall effect z=7.09 p<0.00001							



Analysis 01.31. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 31 Satisfaction - relatives: 1. Feels patient is not improved

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 31 Satisfaction - relatives: 1. Feels patient is not improved

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 by 3 months					
Hoult 1983	34/60	43/60		100.0	0.79 [0.60, 1.04]
Subtotal (95% CI)	60	60		100.0	0.79 [0.60, 1.04]
Total events: 34 (CRISIS), 43 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=1.69 p=0.09					
02 by 6 months					
Hoult 1983	30/60	42/60		100.0	0.71 [0.53, 0.97]
Subtotal (95% CI)	60	60		100.0	0.71 [0.53, 0.97]
Total events: 30 (CRISIS), 42 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=2.18 p=0.03					

Analysis 01.32. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 32 Satisfaction - relatives: 2. Dissatisfied with treatment received

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 32 Satisfaction - relatives: 2. Dissatisfied with treatment received

Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 by 3 months					
Hoult 1983	25/60	40/60		100.0	0.63 [0.44, 0.89]
Subtotal (95% CI)	60	60		100.0	0.63 [0.44, 0.89]
Total events: 25 (CRISIS), 40 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=2.64 p=0.008					
02 by 6 months					
Hoult 1983	27/60	47/60		100.0	0.57 [0.42, 0.78]
Subtotal (95% CI)	60	60		100.0	0.57 [0.42, 0.78]
Total events: 27 (CRISIS), 47 (STANDARD)					
Test for heterogeneity: not applicable					

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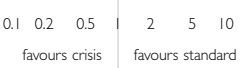
Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
Test for overall effect z=3.51 p=0.0005					
03 by 12 months					
Hoult 1983	17/60	37/60		100.0	0.46 [0.29, 0.72]
Subtotal (95% CI)	60	60		100.0	0.46 [0.29, 0.72]
Total events: 17 (CRISIS), 37 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=3.39 p=0.0007					



Analysis 01.33. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 33 Satisfaction - relatives: 3. Would have preferred patient to have received other treatment

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 33 Satisfaction - relatives: 3. Would have preferred patient to have received other treatment

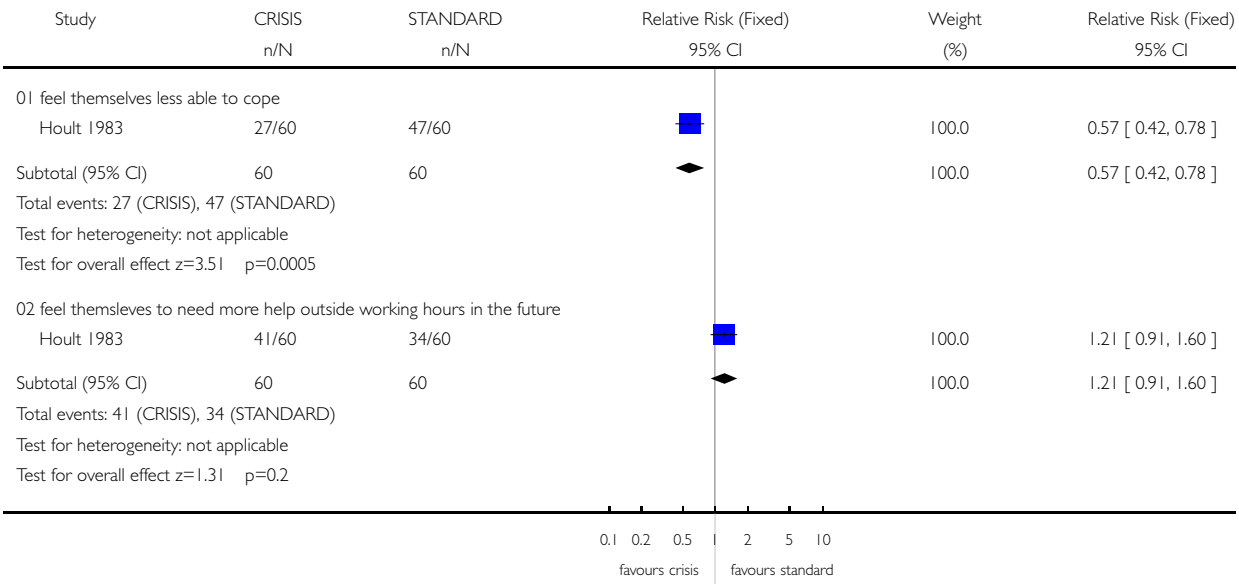
Study	CRISIS n/N	STANDARD n/N	Relative Risk (Fixed) 95% CI	Weight (%)	Relative Risk (Fixed) 95% CI
01 by 3 months					
Hoult 1983	14/60	11/60		100.0	1.27 [0.63, 2.57]
Subtotal (95% CI)	60	60		100.0	1.27 [0.63, 2.57]
Total events: 14 (CRISIS), 11 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=0.67 p=0.5					
02 by 6 months					
Hoult 1983	10/60	9/60		100.0	1.11 [0.49, 2.54]
Subtotal (95% CI)	60	60		100.0	1.11 [0.49, 2.54]
Total events: 10 (CRISIS), 9 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=0.25 p=0.8					
03 by 12 months					
Hoult 1983	13/60	16/60		100.0	0.81 [0.43, 1.54]
Subtotal (95% CI)	60	60		100.0	0.81 [0.43, 1.54]
Total events: 13 (CRISIS), 16 (STANDARD)					
Test for heterogeneity: not applicable					
Test for overall effect z=0.64 p=0.5					

Analysis 01.34. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 34 Satisfaction - relatives: 4. Various outcomes by 12 months

Review: Crisis intervention for people with severe mental illnesses

Comparison: 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE'

Outcome: 34 Satisfaction - relatives: 4. Various outcomes by 12 months



Analysis 01.35. Comparison 01 HOME-BASED CARE + INITIAL CRISIS INTERVENTION vs 'STANDARD CARE', Outcome 35 Economic cost per patient (data likely to be skewed)

total cost for trial period - as assessed by researchers

Study	Interventions	Mean	SD	N	Notes
Fenton 1979	Crisis/home care group	$1980	$1850	79	Difference favouring home group stated (2 tailed t-test p<0.001)
Fenton 1979	Standard care group	$3250	$2410	76	

total cost for trial period - as assessed by finance department

Study	Interventions	Mean	SD	N	Notes
Fenton 1979	Crisis/home care group	$3230	$5120	79	Difference favouring home group (2 tailed t-test p=0.001)
Fenton 1979	Standard care group	$6750	$7180	76	

per week

Study	Interventions	Mean	SD	N	Notes
Muijen 1992	Crisis/home care group	£196	£97	55	Over 20 month trial period
Muijen 1992	Standard care group	£358	£241	48	Difference favouring home group (p=0.000)