TECHNICAL COMMENTARY

Community care

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Introduction

Community care refers to community-based interventions that involve medication, psychosocial treatments, monitoring of clinical progress, and housing and supportive services. These programs encourage patients to establish meaningful relationships, occupations and activities, while also establishing routines at home. Community treatment may also involve involuntary outpatient commitment (compulsory community treatment) to ensure patients receive their necessary treatment.

Method

We have included only systematic reviews (systematic literature search, detailed methodology with inclusion/exclusion criteria) published in full text, in English, from the year 2000 that report results separately for people with a diagnosis of schizophrenia, schizoaffective disorder, schizophreniform disorder or first episode schizophrenia. Reviews were identified by searching the databases MEDLINE, EMBASE, CINAHL, Current Contents, PsycINFO and the Cochrane library. Hand searching reference lists of identified reviews was also conducted. When multiple copies of reviews were found, only the most recent version was included. Reviews with pooled data are prioritised for inclusion.

Review reporting assessment was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist that describes a preferred way to present a meta-analysis[1]. Reviews rated as having less than 50% of items checked have been excluded from the library. The PRISMA flow diagram is a suggested way of providing information about studies included and excluded with reasons for exclusion. Where no flow diagram has been presented by individual reviews, but identified studies have been described in the text, reviews have been checked for this item. Note that early reviews may have been guided by less stringent reporting checklists than the PRISMA, and that some reviews may have been limited by journal guidelines.

Evidence was graded using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group approach where high quality evidence such as that gained from randomised controlled trials (RCTs) may be downgraded to moderate or low if review and study quality is limited, if there is inconsistency in results, indirect comparisons, imprecise or sparse data and high probability of reporting bias. It may also be downgraded if risks associated with the intervention or other matter under review are high. Conversely, low quality evidence such as that gained from observational studies may be upgraded if effect sizes are large or if there is a dose dependent response. We have also taken into account sample size and whether results are consistent, precise and direct with low associated risks (see end of table for an explanation of these terms)[2]. The resulting table represents an objective summary of the available evidence, although the conclusions are solely the opinion of staff of NeuRA (Neuroscience Research Australia).

Results

We found five systematic reviews that met our inclusion criteria[3-7].

- Moderate to high quality evidence suggests no differences between compulsory and voluntary community care for the number of hospital readmissions. Lower quality evidence also suggests no differences for the number of bed days, symptom severity or functioning.

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- Moderate to low quality evidence suggests community care may provide some benefit over standard care for treatment adherence.
- Moderate to low quality evidence suggests some benefit of community based mental health programs in low and middle income countries for improving symptoms, and reducing relapse rates and disability ratings.
- Moderate to low quality evidence suggests barriers to feasibility of community care in low and middle income countries include; low education, unavailability of caregivers, resource constraints, and logistical issues. Barriers to acceptability include; fear of stigma and lack of appreciation of intervention benefits. Facilitators of acceptability include; satisfaction with, and appropriateness of, interventions, participation rates, and health worker characteristics (knowledge, trustworthiness, fluency in local dialects, listening skills).

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Brooke-Sumner C, Petersen I, Asher L, Mall S, Egbe CO, Lund C

Systematic review of feasibility and acceptability of psychosocial interventions for schizophrenia in low and middle income countries

BMC Psychiatry 2015; 15:19

View review abstract online

Comparison	**Community care in low and middle income countries.**
Summary of evidence	**Moderate to low quality evidence (unable to assess consistency or precision, direct) suggests barriers to feasibility of community care in low and middle income countries include; low education, unavailability of caregivers, resource constraints and logistical issues.** **Barriers to acceptability include; fear of stigma and lack of appreciation of intervention benefits.** **Facilitators of acceptability include; satisfaction with, and appropriateness of, the intervention, participation rates and health worker characteristics (knowledge, trustworthiness, fluency in local dialects, listening skills).**

Feasibility and acceptability

Authors highlight barriers to feasibility:

Patients' low education levels (2 studies)

Logistical issues (3 studies) such as difficulties in rolling out programs, and unfounded concerns about safety of case managers

Unavailability of caregivers (5 studies)

Resource constraints (2 studies)

Authors highlight barriers to acceptability:

Fear of stigma (4 studies)

Lack of appreciation of intervention benefits (2 studies)

Authors highlight facilitators of acceptability:

Participants' satisfaction with intervention (10 studies, most reporting good satisfaction levels)

Participation rates (3 studies, all reporting high to moderate levels)

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Appropriateness of intervention content and materials (6 studies, emphasizing psychoeducation, photos, illustrations, charts, video and internet) Health worker characteristics (3 studies, well-trained, knowledgeable of illness and cultural context, fluent in local dialects, good listener, trustworthy	
Consistency in results‡	No measure of consistency is reported.
Precision in results§	No measure of consistency is reported.
Directness of results‖	Direct

Kisely S, Hall K

An Updated Meta-Analysis of Randomized Controlled Evidence for the Effectiveness of Community Treatment Orders

Canadian Journal of Psychiatry 2014; 59(10): 561-564

View review abstract online

Comparison	**Compulsory community treatment (an intensive, court ordered commitment) for outpatients with psychotic disorders (mainly schizophrenia) vs. voluntary care.**
Summary of evidence	**Moderate to high quality evidence (consistent, precise, direct, large samples, non-optimal study quality) suggests no differences between compulsory and voluntary community care for the number of hospital readmissions. Lower quality evidence (inconsistent or unable to assess) also suggests no differences for the number of bed days, symptom severity or functioning.**
Readmission to hospital and bed days	
No differences between compulsory community care and standard care by 12 months; Readmission: 3 RCTs, N = 749, RR = 0.98, 95%CI 0.82 to 1.16, $p > 0.05$, $I^2 = 0\%$, $p = 0.49$ Bed days: 3 RCTs, N = 749, MD = -16.36, 95%CI -40.8 to 8.05, $p > 0.05$, $I^2 = 73\%$, p-value not reported Authors state that the quality of the included studies was not optimal.	
Symptoms and functioning	

No differences between compulsory community care and standard care by 12 months; Symptoms (PANSS, BPRS): 2 RCTs, N = 331, SMD = -0.03, 95%CI -0.25 to 0.19, $p > 0.05$ Functioning (GAF): 2 RCTs, N = 335, MD = -1.36, 95%CI -4.07 to 1.35, $p > 0.05$ Authors state that the quality of the included studies was not optimal.	
Consistency in results	Consistent for readmission, inconsistent for bed days, unable to assess symptoms and functioning (I^2 not reported).
Precision in results	Precise for readmission and symptoms, unable to assess MDs (not standardised).
Directness of results	Direct

Preti A, Cella M

Randomized-controlled trials in people at ultra-high risk of psychosis: A review of treatment

Schizophrenia Research 2010; 123: 30-36

View review abstract online

Comparison	**2 years of community care including family intervention vs. standard care.** **Sample: Ultra High Risk group based on ICD-10 criteria for Schizotypal disorder (deemed at high risk of psychosis).**
Summary of evidence	**Low quality evidence (1 small RCT, direct, imprecise) is unable to determine any benefits of community care for reducing transition to psychosis or retaining patients in treatment.**
Transition to psychosis	
Significant large effect of reduced risk of transition to psychosis at 1 year for the treatment group compared to the control group; Community treatment 3/37 (8.1%) transition vs. standard care 10/30 (33.3%) transition 1 RCT, N = 79, RR = 0.264, 95%CI 0.079 to 0.888, $p = 0.031$ *No difference in the risk of transition at more than 1 year (within 2 years);* Community treatment 9/36 (25.0%) transition vs. standard care 14/26 (48.2%) transition	

RR = 0.566, 95%CI 0.278 to 1.153, *p* = 0.117	
Dropout rates	
1 RCT, N = 79 *During treatment;* Dropout = 12 (5 treatment / 7 controls) *At more than 1 year (within 2 years);* Dropout = 14 (6 treatment / 8 controls)	
Consistency in results	Not applicable (1 RCT).
Precision in results	Imprecise
Directness of results	Direct

Wiley-Exley E

Evaluations of community mental health care in low- and middle-income countries: a 10-year review of the literature

Social Science & Medicine 2007; (6): 1231-41

View review abstract online

Comparison	**Community based mental health programs in low and middle income countries vs. standard in- or outpatient care.**
Summary of evidence	**Moderate to low quality evidence (most studies not randomised, unable to assess consistency or precision) suggests some benefit of community based mental health programs in low and middle income countries may be conferred for improving symptoms, and reducing relapse rates and disability ratings.**
Effectiveness of community care programs	
5 studies (1 RCT, 4 quasi-experimental) explored community mental health care programs for schizophrenia. One study in India (N = 207) compared community-based rehabilitation with outpatient care over 1 year, and reported some improvement in disability ratings (non-significant in ITT analysis). One study in Jamaica (N = 317) compared community mental health services with standard	

outpatient care over 1 year and reported significantly reduced relapse rates. One RCT in China (N = 357) compared family interventions plus medication with medication alone over 9 months and reported significantly better compliance and lower relapse rates, with no differences in disability measures. One study in Poland (N = 90) investigated a community mobile team (control group details not reported) over 1 year and reported improved social function, hospital admission and treatment satisfaction. One study in India (N = 100) investigated a community outreach program (control group not reported) over 1.5 years and reported improvement in symptoms, family burden and disability.	
Consistency in results	No measure of consistency is reported.
Precision in results	No measure of consistency is reported.
Directness of results	Direct

Zygmunt A, Olfson M, Boyer CA, Mechanic D

Interventions to improve medication adherence in schizophrenia.

American Journal of Psychiatry 2002; 159(10): 1653-64

View review abstract online

Comparison	**Community-based care (up to 24 months) vs. standard care or case management.**
Summary of evidence	**Moderate to low quality evidence (direct, large sample, unable to assess consistency or precision) suggests community care may provide some benefit over standard care for treatment adherence.**
Medication adherence	
Community care programs were broadly defined to require a social network, monitoring of clinical status, stable housing and supportive services. Specific interventions in 10 studies (6 randomised, N = 2509) included assertive community treatment, intensive case management, educational support. 4 of the 10 studies (3 randomised), reported better medication adherence in the community care group over the comparison condition. One study reported assertive community treatment was more effective than intensive case management for increasing adherence.	

Consistency in results	No measure of consistency is reported.
Precision in results	No measure of consistency is reported.
Directness of results	Direct

Explanation of acronyms

CI = Confidence Interval, I^2 = the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance), ICD-10 = International Classification of Disease, tenth edition, World Health Organization, ITT = intention to treat analysis, MD = mean difference, N = number of participants, *p* = statistical probability of obtaining that result ($p < 0.05$ generally regarded as significant), Q = Q statistic for the test of heterogeneity, RCT = randomised controlled trial, RR = risk ratio, SMD = standardised mean difference, vs = versus

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Explanation of technical terms

* Bias has the potential to affect reviews of both RCT and observational studies. Forms of bias include; reporting bias – selective reporting of results; publication bias - trials that are not formally published tend to show less effect than published trials, further if there are statistically significant differences between groups in a trial, these trial results tend to get published before those of trials without significant differences; language bias – only including English language reports; funding bias - source of funding for the primary research with selective reporting of results within primary studies; outcome variable selection bias; database bias - including reports from some databases and not others; citation bias - preferential citation of authors. Trials can also be subject to bias when evaluators are not blind to treatment condition and selection bias of participants if trial samples are small[8].

† Different effect measures are reported by different reviews.

Prevalence refers to how many existing cases there are at a particular point in time. Incidence refers to how many new cases there are per population in a specified time period. Incidence is usually reported as the number of new cases per 100,000 people per year. Alternatively some studies present the number of new cases that have accumulated over several years against a person-years denominator. This denominator is the sum of individual units of time that the persons in the population are at risk of becoming a case. It takes into account the size of the underlying population sample and its age structure over the duration of observation.

Reliability and validity refers to how accurate the instrument is. Sensitivity is the proportion of actual positives that are correctly identified (100% sensitivity = correct identification of all actual positives) and specificity is the proportion of negatives that are correctly identified (100% specificity = not identifying anyone as positive if they are truly not).

Weighted mean difference scores refer to mean differences between treatment and comparison groups after treatment (or occasionally pre to post treatment) and in a randomised trial there is an assumption that both groups are comparable on this measure prior to treatment. Standardised mean differences are divided by the pooled standard deviation (or the standard deviation of one group when groups are homogenous) which allows results from different scales to be combined and compared. Each study's mean difference is then given a weighting depending on the size of the sample and the variability in the data. Less than 0.4 represents a small effect, around 0.5 a medium effect, and over 0.8 represents a large effect[8].

Odds ratio (OR) or relative risk (RR) refers to the probability of a reduction (< 1) or an increase (> 1) in a particular outcome in a treatment group, or a group exposed to a risk factor, relative to the comparison group. For example, a RR of 0.75 translates to a reduction in risk of an outcome of 25% relative to those not receiving the treatment or not exposed to the risk factor. Conversely, a RR of 1.25 translates to an increased risk of 25% relative to those not receiving treatment or not having been exposed to a risk factor. A RR or OR of 1.00 means there is no difference between groups. A medium effect is considered if RR > 2 or < 0.5 and a large effect if RR > 5 or < 0.2[9]. lnOR stands for logarithmic OR where a lnOR of 0 shows no difference between groups. Hazard ratios

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measure the effect of an explanatory variable on the hazard or risk of an event.

Correlation coefficients (eg, r) indicate the strength of association or relationship between variables. They can provide an indirect indication of prediction, but do not confirm causality due to possible and often unforseen confounding variables. An r of 0.10 represents a weak association, 0.25 a medium association and 0.40 and over represents a strong association. Unstandardised (*b*) regression coefficients indicate the average change in the dependent variable associated with a 1 unit change in the independent variable, statistically controlling for the other independent variables. Standardised regression coefficients represent the change being in units of standard deviations to allow comparison across different scales.

‡ Inconsistency refers to differing estimates of effect across studies (i.e. heterogeneity or variability in results) that is not explained by subgroup analyses and therefore reduces confidence in the effect estimate. I^2 is the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance) - 0% to 40%: heterogeneity might not be important, 30% to 60%: may represent moderate heterogeneity, 50% to 90%: may represent considerable heterogeneity and over this is considerable heterogeneity. I^2 can be calculated from Q (chi-square) for the test of heterogeneity with the following formula[8];

$$I^2 = \left(\frac{Q - df}{Q}\right) \times 100\%$$

§ Imprecision refers to wide confidence intervals indicating a lack of confidence in the effect estimate. Based on GRADE recommendations, a result for continuous data (standardised mean differences, not weighted mean differences) is considered imprecise if the upper or lower confidence limit crosses an effect size of 0.5 in either direction, and for binary and correlation data, an effect size of 0.25. GRADE also recommends downgrading the evidence when sample size is smaller than 300 (for binary data) and 400 (for continuous data), although for some topics, these criteria should be relaxed[10].

‖ Indirectness of comparison occurs when a comparison of intervention A versus B is not available but A was compared with C and B was compared with C that allows indirect comparisons of the magnitude of effect of A versus B. Indirectness of population, comparator and/or outcome can also occur when the available evidence regarding a particular population, intervention, comparator, or outcome is not available and is therefore inferred from available evidence. These inferred treatment effect sizes are of lower quality than those gained from head-to-head comparisons of A and B.

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