Evidence Summary Title:
The effectiveness of mental health case management: Evidence and implications for public health

Review Quality Rating: 6 (moderate)

Review content summary
This meta-analysis of 44 controlled studies aimed to determine the effectiveness of case management as compared with usual care (generally, outpatient visits to a mental health centre), as well as assertive community treatment (ACT) as compared with other clinical case management models (including a strengths model, rehabilitation model, generalist model, and non-classified models). Participants studied were: adults with serious mental illness including psychosis, affective disorders, personality disorders or anxiety disorders. To be included, studies were: on the treatment of adults with serious mental illness; comparing outcomes of a group receiving case management or ACT with those of a group receiving standard community care and the dependent variables measuring client outcome. Interventions described in this review included: list interventions. Outcomes measured include: symptoms; number of admissions; hospital days used; proportion of group hospitalized; contacts with mental health services; contacts with other services; dropout rates from mental health services; social functioning; client satisfaction; family satisfaction; family burden of care; and total cost of care. Authors report that both types of case management, ACT and clinical case management were moderately beneficial in the effectiveness of mental health services. However, ACT was slightly more effective in reducing hospitalization compared to clinical case management.

Comments on this review's methodology
This is a methodologically moderate meta-analysis. A focused clinical question was clearly identified. Appropriate inclusion criteria were used to guide the search. A comprehensive search was not employed using only searching health and psychological databases and reviewing reference lists of primary studies. The search was limited by language (English). Primary studies were not adequately assessed for methodological quality using only research design and follow-up/attrition rates. The methods were described in sufficient detail so as to allow replication although two reviewers were not involved in quality appraisal. Any discrepancies in appraisal results were not indicated in the review. The results of this review were not transparent. Results were clearly presented in narrative form so as to allow for comparisons across studies. Heterogeneity was assessed. Appropriate analytical methods (fixed effects, random effects) were employed to enable the synthesis of study results.

Why this issue is of interest to public health
According to the Health Canada, 20% of Canadians will experience a mental illness in their lifetime. It was estimated in 1993 that the total cost of mental illnesses in Canada was at least $7.3 billion. Mental illness is costly especially since 86% of hospitalizations are occurring in general hospitals. Furthermore, 2% of all deaths in Canada are the result of suicide due to a mental illness; 24% of these deaths occurring in 15-24 year olds. Mental illnesses are serious debilitating chronic conditions that affect all individuals in some form, no matter their age, educational level, income levels, or cultural background. In spite of this, case management programs can assist individuals to receive care and support in the community. Case management or outreach teams can help individuals with mental illness achieve the highest level of functioning possible while helping them to maintain their independence, as well as being a cost-effective alternative to hospitalization.

Evidence and implications
Evidence points are in order of the strength of evidence

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<th>What's the evidence?</th>
<th>Implications for practice and policy:</th>
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<td>1. Case management vs. usual care (19 studies)</td>
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<tr>
<td>1.1. Participants receiving case management interventions had</td>
<td>1.1. In general, public health decision makers aiming to</td>
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significantly greater improvement in their symptoms as compared with those receiving usual care (p < 0.001; weighted mean (wm)r = 0.16, 95% CI 0.11 to 0.21 for 11 studies) (13 studies)

1.2. Participants receiving case management interventions were admitted to hospital significantly more frequently as compared with those receiving usual care (p = 0.999; wmr = –0.10, 95% CI –0.16 to –0.05) however there were not enough studies included in the analysis to be confident in the results. (10 studies)

1.3. Participants receiving case management interventions used significantly fewer hospital days as compared with those receiving usual care (p < 0.001; wmr = 0.24 95% CI 0.21 to 0.28 for 17 studies) (21 studies)

1.4. A significantly smaller proportion of those who received case management interventions were hospitalized as compared with those who received usual care (p <0.001 for 17 studies; wmr=0.10, 95% CI 0.06 to 0.14) (19 studies)

1.5. Participants receiving case management interventions had significantly more contacts with mental health services as compared with those receiving usual care (p <0.001; wmr = 0.24, 95% CI 0.19 to 0.28) (10 studies)

1.6. Participants receiving case management interventions had significantly more contacts with other services as compared with those receiving usual care (p< 0.001; wmr=0.33, 95% CI 0.22 to 0.43) (3 studies)

1.7. Participants receiving case management interventions had significantly lower dropout rates from mental health services as compared with those receiving usual care (p<0.001; wmr=0.33, 95% CI 0.25 to 0.41 for 5 studies) (6 studies)

1.8. Participants receiving case management interventions had significantly greater improvement in social functioning as compared with those receiving usual care (p=.007; wmr=0.15, 95% CI 0.11 to 0.19 for 20 studies) (28 studies)

1.9. Participants receiving case management interventions were significantly more satisfied with their care as compared with those receiving usual care (12 studies) (p=.028, wmr=0.23 95% CI 0.17 to 0.29 for 8 studies)

1.10. Families of participants who received case management interventions were significantly more satisfied with their care as compared with those whose family member received usual care (p < .001; wmr=0.42, 95% CI 0.29 to 0.53) (4 studies)

1.11. Families of participants who received case management interventions reported significantly less burden of care as compared with those whose family member received usual care (p=.007, wmr=0.43, 95% CI 0.23 to 0.60 for 2 studies) (4 studies)

1.12. Participants who received case management interventions resulted in significantly lower costs of care as compared with those who received usual care (p=0.43, wmr=0.13, 95% CI 0.07 to 0.19) (5 studies)

2. ACT vs. Clinical Case Management

2.1. Participants who received ACT interventions were hospitalized for significantly fewer days than those who received clinical case management (p=0.001)

2.2. A significantly smaller proportion of participants who received ACT were hospitalized than those who received clinical case management (p<0.001)

2.3. Participants who received clinical case management had significantly greater contacts with mental health services than those who received ACT(p<0.001)

2.4. There was no statistically significant difference between participants in ACT or those receiving clinical case management in

2.4.1. Improving clinical symptoms

2.4.2. Client satisfaction with services

2. ACT vs. Clinical Case Management

2.1. Public health decision makers developing programs to improve health-related outcomes for adults with mental illness should consider resource requirements when deciding between ACT and clinical case management as they are equally as effective in

2.1.1. Improving clinical symptoms

2.1.2. Client satisfaction with services

2.1.3. Family satisfaction with services

2.1.4. Social functioning

2.1.5. Number of hospital admissions

2.2. Public health decision makers developing programs to improve health-related outcomes for adults with mental illness may decide to include ACT interventions rather than clinical case management interventions as
2.4.3. Family satisfaction with services
2.4.4. Social functioning
2.4.5. Number of hospital admissions

2.2.1. ACT reduced the number of hospital days and the proportion of clients hospitalized
2.2.2. Clinical case management increased the number of hospital admissions and the proportion of clients hospitalized
2.2.3. ACT was significantly more effective than clinical case management in reducing the duration of hospital stays

3. Cost Benefit or Cost-effectiveness Information
3.1. Total cost of care was included as an outcome measure in this review. However, too few studies evaluated costs to allow comparison. Therefore no results of costs were reported.

3. Cost Benefit or Cost-effectiveness Information
3.1. Future research should assess cost benefit or cost-effectiveness of the interventions

General Implications

- Decision makers need to consider the available resources, resource requirements associated with each of ACT and clinical case management, and the outcomes of interest when determining between these two case management approaches for adults with mental illness
  - These two approaches are equally effective in reducing symptoms of illness, improving social functioning, increasing client and family satisfaction with services and reducing client drop-out from services.
  - ACT reduced the number of admissions and proportion of clients hospitalized, whereas clinical case management increased both.
  - ACT was significantly more effective in reducing hospital days used than was clinical case management.

Legend: CI – Confidence Interval; OR – Odds Ratio; RR – Relative Risk
**For definitions please see the healthevidence.org glossary http://www.healthevidence.org/glossary.aspx

References used to outline issue

Other quality reviews on this topic

Related links
- Canadian Alliance for Mental Illness and Mental Health (CAMIMIH) http://www.camimh.ca
- Canadian Mental Health Association http://www.cmha.ca
- Canadian Psychiatric Association http://www.cpa-apc.org/
- Centre for Addiction and Mental Health http://www.camh.net/
- National Network for Mental Health http://www.nnmh.ca/
- PHAC – Mental Illnesses http://www.phac-aspc.gc.ca/ccdpc-cpcmc/topics/mental_e.html
- Schizophrenia Society of Canada http://www.schizophrenia.ca/
- The Mood Disorder Society of Canada http://www.mooddisorderscanada.ca/

Suggested citation