Rapid Review

Effective care coordination approaches for individuals with mental health and substance use concerns

What you need to know

- Collaborative care in primary care settings and community-based case management approaches are effective approaches to coordination of care for individuals with mental health and addictions issues.
- Collaborative care is a promising model of service delivery for individuals with complex mental health needs and individuals with both mental health needs and chronic disease, such as heart disease and depression.
- Case management is an effective model of service delivery for individuals with severe mental illness who have complex service needs.
- More intensive models of case management, such as Assertive Community Treatment (ACT) and intensive case management (ICM), improve outcomes compared to standard care and standard case management. Benefits include better engagement of clients in treatment, improved social outcomes, increased housing stability, and reduced hospitalizations and emergency department use, especially where hospital use is frequent or long-term.

What's the problem?

Providing care that is coordinated and integrated ensures that individuals can get the right care from the right providers.[1] Care coordination is the deliberate organization of care between two or more participants (including the individual in care) to ensure the appropriate delivery of care that is person-centered, family-centered, and team-based. For individuals in care, care coordination ensures that their needs and preferences are met, and that they are able to navigate the health care system in an effective way.[2]

Care coordination is particularly important for individuals with severe and long-term mental illness, comorbidity and/or, coexisting physical health care conditions. It is also important for those who are acutely

unwell and requiring timely and integrated responses from a number of service providers to stabilize their health and promote or sustain recovery.[3]

This rapid review examines effective models of care coordination for individuals with mental health and/or addictions concerns, with a specific focus on case management, given its key role in Ontario's mental health and addictions system. In addition, care coordination is the "essence of case management," as it requires case managers to collaborate with other service providers to ensure clients have access to the services and supports they need.[4]

What did we do?

Knowledge brokers with the Evidence Exchange Network (EENet) conducted a search of public academic research in April 2017 using the following databases: Cochrane Reviews, PsycINFO, Cumulative Index to Nursing & Allied Health Literature (CINAHL), and Medline. Studies were included if they examined effective care coordination interventions for adults with mental health and/or substance use concerns, or if they focused on case management for adults with mental health and/or substance use concerns. The search was limited to English language, systematic reviews and meta-analyses from 2007 to 2017. The knowledge brokers also searched the EENet website and, using Google, the wider internet to identify key grey literature publications that may have been missed.

What did we find?

In the evidence there are two examples of effective care coordination interventions for individuals with mental health and addictions issues: collaborative care in primary care settings and community-based case management.

Collaborative care in primary care settings

Collaborative care is a broad term that encompasses a number of primary health care interventions that are patient-centered and designed to increase access to appropriate care.[5] It is also a promising model of care for individuals with complex mental health needs and those with both mental health needs and chronic disease, such as diabetes and heart disease.[6]

Collaborative care refers to a team that includes a primary care physician and at least one other health professional, who provide care based on a structured patient management plan.[6] For individuals with mental health concerns, specialists and other health professionals (for example, nurses, social workers, and psychiatrists) support primary care physicians by providing case management and decision support.[7]

With respect to the management of depression, collaborative care can improve screening and diagnosis, increase provider use of evidence-based interventions, and improve client engagement in treatment.[7]

Collaborative care has been shown to be more effective at reducing depressive symptoms than the usual care delivered by a primary care provider. [6,7,8,9]

For individuals who have two or more conditions at the same time, collaborative care also reduces symptoms of depression and anxiety, and improves quality of life.[6] In these individuals, collaborative care interventions that target both mental health and chronic medical illnesses are more effective than interventions that focus on mental health alone. [10]

Evidence focused on the Canadian health care system outlines four models of collaborative care involving primary care and mental health and/or substance use providers: [11]

I. Collaborative care model (CCM),

II. Consultant-liaison,

III. Replacement/referral, and

IV. Training primary care staff.

More information on these models can be found in an earlier evidence brief developed by EENet knowledge brokers: http://eenet.ca/wp-content/uploads/2016/06/Rapid-Review_PC_MHA.pdf

Community-based case management approaches

Case management is a coordinated and integrated approach to service delivery, intended to provide ongoing supportive care and to help people access the resources and skills they need for living and functioning in the community.[12] It is an intensive, team-based, outreach-oriented method of service delivery.[13] It plays an important role in patient advocacy, by helping individuals to access appropriate services.[14] Within the mental health and substance use system, case management supports individuals to connect to the services they need, usually while he or she is living in the community but also during periods of temporary hospitalization.[13]

The following core components define case management service delivery: [4,15,16,17,18]

- outreach, case finding or client identification, such as those with complex needs or high service users;
- assessment;
- care planning;
- implementation or care coordination, including medication management, self-care support, advocacy and negotiation, navigation, and psychosocial supports (that is, supportive counseling);

- monitoring and evaluation; and
- case closure or discharge (in time-limited interventions).

There are several models of case management:

I. Standard case management (SCM) or brokerage model;

II. Assertive community treatment (ACT);

III. Intensive case management (ICM);

IV. Additional models, including clinical case management, critical time intervention, and strengths-based model.

Based on the same core components, the different models of case management can be distinguished based on the degree of service provision, client participation, and case manager involvement.[12] Compared with broker and clinical case management models, ACT and ICM have smaller caseloads, more outreach, and more frequent contacts with clients. In addition, ACT and ICM offer services and supports are in the community rather than the clinic, and higher levels of direct service provision.[18]

Both ACT and ICM are designed to provide intensive services for those with severe mental illness with complex service needs, who can often be difficult to engage and retain in treatment.[19,20] This can include both high service users and those not using traditional mental health services. Outside Canada, the term "intensive case management" may refer to either ACT or ICM.

The following section provides a description of ACT, ICM and SCM as well as existing evidence on the effectiveness for individuals with mental health and/or addictions concerns.

I. Standard case management or brokerage model

Description

Brokerage models were the earliest form of case management and emphasized assessing consumers' needs, linking them with appropriate services, and evaluating outcomes.[21] These models represent a brief, time-limited, service-focused approach where the case manager focuses on connecting clients with appropriate services that can then provide ongoing support.[12,18] Over time, standard case management has evolved to incorporate some elements of ACT, such as home-based and more frequent outreach.[22]

Effectiveness

Evidence on the effectiveness of this model in practice is limited but shows that standard case management results in short-term effects related to treatment retention, employment, and housing stability for substance-using individuals.[12]

II. Assertive community treatment

Description

The ACT model emphasizes helping the client adjust to community living and helping the client achieve recovery.[16,21] A multi-disciplinary team with varied clinical expertise assumes full responsibility for each client in and out of office hours.[13] This team may include a nurse, psychiatrist, vocational specialist, and substance use or mental health specialist. Team members work together, and with each client, to develop an individualized treatment plan.[23] There is evidence that integrating consumer providers into the ACT team can improve client engagement in treatment and improving relationships with staff and services.[19]

Services provided by ACT teams include crisis intervention, psychosocial interventions such as counselling, coordination of interventions (for example, substance use disorder treatment and vocational rehabilitation services), skills development, and family consultation and support.[13,16] Most services are provided in the community rather than the clinic, and may be brought to the client rather than requiring them to travel long distances. Twenty-four-hour assistance is also offered.[13] This model makes treatment more accessible.[13,23]

In rural areas, ACT programs have been adapted to overcome barriers to access related to low population density, staff shortages, resource availability, and stigma. Rural ACT teams are often smaller in numbers of staff and clients. Reducing the size of the team in a rural area may result in different outcomes than those seen with a fully staffed team. For staff, rural ACT teams reduce isolation and increase peer support, two common problems that affect recruitment and retention of staff in rural areas.[23]

Effectiveness

Strong evidence supports the effectiveness of ACT.[13] Clients who receive ACT have improved outcomes: for example, they are more engaged in treatment, have better quality of life, and are better able to maintain their housing.[13,17,19] ACT also reduces rates of hospitalization and emergency department use, especially in those who use hospital more frequently or for longer periods. ACT also achieves high client and family caregiver satisfaction.[13]

Several studies have stressed that fidelity to the ACT model of service delivery leads to better client outcomes.[20,23] Further, the ACT model is most likely to achieve these outcomes in individuals with serious mental illness who are also experiencing additional challenges in their recovery process.[13] Using ACT for individuals with high levels of autonomy and recovery is expensive and can actually deter individuals from seeking more appropriate (and less-intensive) services.[13]

III. Intensive case management (ICM)

Description

ICM evolved from ACT and standard case management. As such, the ICM approach combines the core components of case management with assertive outreach and direct delivery of services.[20] ICM encompasses

a range of practices that are less intensive and not as standardized as the ACT model.[25] ICM case managers are responsible for individual caseloads (less than 20), whereas ACT uses a multidisciplinary team with shared caseloads.[18]

Effectiveness

When compared to standard care, clients who receive ICM are more likely to stay in service, have improved general functioning, have fewer hospitalizations, and are better able to maintain housing and employment stability. Importantly, clients are more likely to achieve positive outcomes if their ICM program adheres closely to the ACT model of care.[17,20]

Additional case management models

- **Clinical case management** evolved as a response to the perceived inadequacies of the broker model, and includes outreach, direct service provision, and advocacy.[21]
- **Rehabilitation-orientated case management** integrates the functions of the broker model with core psychiatric rehabilitation activities (setting rehabilitation goals, conducting functional assessments, skills-building) to enhance the client's ability to function in their own environment.[21]
- **The strengths-based model** is oriented towards helping people use their own strengths, interests, and resilience to achieve recovery. [16 21]
- **Critical time intervention (CTI)** is an intensive, time-limited case management approach to enhancing continuity of care by bridging the gap between services and strengthening clients' social and professional networks. CTI is designed to be deployed at critical moments in the client's life, for instance, when a person is about to make a transition from a shelter to independent housing.[18]
- **Flexible assertive community treatment (FACT)** adapts services based on the client's level of stability, so that those who are more stable receive individual case management coordinated by the multidisciplinary teams, while less stable clients receive shared case management and assertive outreach.[17]

Case management in specific populations

Individuals experiencing homelessness

Case management has been used to support rapid re-housing, especially for those with complex needs. In addition to providing acute care in crisis situations, case managers help clients develop skills for independently living, access medical and mental health treatment, and connect with people in their social and professional support systems.[18] Case management appears to have a positive impact on housing stability and patterns of service use. Its impact on substance use [18] and mental health-related outcomes [26] for individuals experiencing homelessness remains unclear.

The various models of case management achieve different outcomes:

- ACT is most effective at improving housing stability, including reducing homelessness, and is cost-effective for individuals who are mentally ill or experiencing mental illness and substance use.[18]
- SCM improved housing stability, reduces substance use, and removes employment barriers for substance users,[18] but to a lesser degree than ACT.[27]
- Both ACT and SCM reduce rates of hospitalization related to mental illness.[27]
- ICM is not effective for this population,[18] including for homeless individuals with mental illness.[26]
- CTI has better long-term results than usual care, with similar associated costs, and shows some promise for improving housing and substance use outcomes.[18]

Individuals with substance use concerns

Community-based case management is suitable for individuals who use substances, providing a strategy for chronic disease management to meet the person's unmet needs.[14] In addition, it is an important part of the substance abuse treatment continuum, from assessment to aftercare.[28]

Case management is effective at reducing rates of substance use and healthcare services use, particularly mental health services.[14,28] It is moderately effective at improving a person's connection to, and retention in services, including treatment. To improve functional outcomes in areas such as substance use, risky behaviours, legal status, employment, and housing, it is recommended that case management be combined with behaviour modification strategies.[28] In addition, case management improves clients' likelihood of starting opioid substitution therapy.[29]

More specifically, various models of case management achieve different outcomes:

- For individuals with substance use concerns, ICM significantly improves housing status, substance use, physical and mental health, use of services, quality of life, satisfaction with services, and employment status.[12]
- Strength-based case management appears to show positive effects on service use as well as legal and employment outcomes for persons seeking treatment, but it is unclear if these effects are maintained over time.[12]
- There is limited evidence on the effects of brokerage and clinical case management models in individuals with substance use concerns.[12,30]

Individuals with co-occurring severe mental and substance use disorders

Compared to group counselling, contingency management, and long-term residential treatment, case management is less effective at reducing substance use outcomes. However, it increases client engagement in treatment, decreases hospitalization rates, and improves quality of life.[12] It is not clear which case management model is the most useful for this population.[12]

What are the limitations of this review?

This evidence brief focused only on interventions defined in the research literature as *care coordination,* as well as evidence about *case management* models. Additionally, due to the focus on systematic reviews, this review does not capture emerging practices that do not have a review-level evidence base.

What are the conclusions?

In the mental health and substance use system, case management assumes the role of combining all services required to meet the client's needs, usually while he or she is living in the community but also during temporary hospitalization periods. There are various models of case management, including assertive community treatment, intensive case management, and standard case management. Additional models exist but have been used and studied less frequently. Evidence suggests the more intensive forms of case management (ACT and ICM) engage clients in treatment, improve quality of life, improve social outcomes, increase housing stability, and reduce hospitalization rates and emergency department use, especially in clients who use hospitals more frequently or for longer periods. The settings in which case management is applied (such as high or low resource) can shape how they are put into practice and the outcomes they achieve for clients.

Collaborative care is a promising model of service delivery for individuals with complex mental health needs and individuals with both mental health needs and chronic disease, such as heart disease and depression.

In summary, within the evidence on care coordination, community-based case management and collaborative care within a primary care setting have been found to be effective for individuals with mental health and/or substance use concerns.

References

1. Ontario Ministry of Health and Long-Term Care. *Patients First: Action Plan for Health Care*. Toronto: Queen's Printer for Ontario. February 2015. Available from http://www.health.gov.on.ca/en/ms/ecfa/healthy_change/docs/rep_patientsfirst.pdf

2. Agency for Health Care Research and Quality. Chapter 2. What is Care Coordination? In: *Care Coordination Measures Atlas Update*. Rockville, MD: U.S. Department of Health & Human Service;

2014. Available from https://www.ahrq.gov/professionals/prevention-chronic-care/improve/coordination/atlas2014/chapter2.html

3. Mental Health Coordinating Council. *Care Coordination Literature Review and Discussion Paper*. July 2011. Available from http://www.mhcc.org.au/media/3174/care-coordination-literature_review-2011.pdf

4. Ross S, Curry N, Goodwin N. *Case management: What it is and how it can best be implemented*. King's Fund. November 2011. Available from https://www.kingsfund.org.uk/sites/files/kf/Case-Management-paper-The-Kings-Fund-Paper-November-2011_0.pdf

5. Jeffries V, Slaunwhite A, Wallace N, Menear M, Arndt J, Dotchin J, et al. (No date). *Collaborative Care for Mental Health and Substance Use Issues in Primary Health Care: Overview of Reviews and Narrative Summaries*. Mental Health Commission of Canada; March 25, 2013; [cited 2017 April 21]. Available from http://www.mentalhealthcommission.ca/sites/default/files/PrimaryCare_Overview_Reviews_Narrative_Summaries_ENG_0.pdf

6. Tully PJ, Baumeister H. Collaborative care for comorbid depression and coronary heart disease: a systematic review and meta-analysis of randomized controlled trials. *BMJ Open*. 2015;5:e009128. DOI: 10.1136/bmjopen-2015-009128. Available from http://bmjopen.bmj.com/content/5/12/e009128

7. Thota AB, Sipe TA, Byard GJ, Zometa CS, Hahn RA, McKnight-Eily LR, et al. Collaborative care to improve the management of depression disorders: A community guide systematic review and meta-analysis. *American Journal of Preventative Medicine*. 2012;*42*(5): 525-538. http://doi.org/10.1016/j.amepre.2012.01.019. Available from http://www.sciencedirect.com/science/article/pii/S0749379712000761

8. Panagioti, M, Bower P, Kontopantelis E, Lovell K, Gilbody S, Waheed W, et al. Association between chronic physical conditions and the effectiveness of collaborative care for depression. *JAMA Psychiatry.* 2016;*73*(9): 978-989. DOI: 10.1001/jamapsychiatry.2016.1794. Available from http://jamanetwork.com/journals/jamapsychiatry/fullarticle/2545074

9. Katon W, Guico-Pabia CJ. Improving quality of depression care using organization systems of care: A review of the literature. *Primary Care Companion for CNS Disorders.* 2011;*13*(1). PCC.10r01019blu. DOI: 10.4088/PCC.10r01019blu. Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3121215/

10. Huffman, JC, Niazi, SK, Rundell, JR, Sharpe, M, Katon, WJ. Essential articles on collaborative care models for the treatment of psychiatric disorders in medical settings: A publication by the academy of

psychosomatic medicine research and evidence-based practice committee. *Psychosomatics.* 2014;*55* (2): 109-122. doi: 10.1016/j.psym.2013.09.002. Epub 2013 Dec 25. Available from http://www.sciencedirect.com/science/article/pii/S0033318213001758

11. Lillico H, Yip A. Rapid Review: Models of Collaboration between Primary Care and Mental health and substance use services. Evidence Exchange Network; June 2016. Retrieved from http://eenet.ca/wp-content/uploads/2016/06/Rapid-Review_PC_MHA.pdf
12. Vanderplasschen A, Wolf J, Rapp RC, Broekaert E. Effectiveness of different models of case management for substance-abusing populations. *Journal of Psychoactive Drugs.* 2007;*39*(1): 81-95. doi: 10.1080/02791072.2007.10399867. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1986794/
13. Rosen A, Mueser KT, Teesson M. Assertive community treatment--issues from scientific and clinical literature with implications for practice. *Journal of Rehabilitation Research & Development*. 2007;*44*(6): 813-25. Retrieved from http://www.rehab.research.va.gov/jour/07/44/6/Rosen.html
14. Joo JY, Huber DL. Community-based case management effectiveness in populations that abuse substances. *International Nursing Review.* 2015;*62*(4), 536-546. 10.1111/inr.12201. Epub 2015 Jun 8. DOI: 10.1111/inr.12201. Available from http://onlinelibrary.wiley.com/doi/10.1111/inr.12201/abstract
15. National Case Management Network of Canada. *Canadian standards of practice for case management*. 2009. Retrieved from http://www.ncmn.ca/standards
16. Lukersmith S, Milington M, Salvador-Carulla L. What is case management: A scoping and mapping review. *International Journal of integrated care.* 2016;*16*(4): 1-13. DOI: http://doi.org/10.5334/ijic.2477.
17. Mas-Exposito L, Amador-Campos JA, Gomez-Benito J, Lalucat-Jo J. Depicting current case management models. *Journal of Social Work.* 2014;*14*(2): 133-146. DOI: 10.1177/1468017313477296. Available from http://journals.sagepub.com/doi/abs/10.1177/1468017313477296
18. de Vet R, van Luijtelaar MJ, Brilleslijper SN, Vanderplasschen W, Beijersbergen MD, Wolf JRLM. Effectiveness of case management for homeless persons: A systematic review. *American Journal of Public Health.* 2013;*103*(10): e13-e26. DOI: 10.2105/AJPH.2013.301491. Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3780754/
19. Wright-Berryman JL, McGuire AB, Salyers MP. A Review of Consumer-Provided Services on Assertive Community Treatment and Intensive Case Management Teams: Implications for Future Research and

Practice. *Journal of the American Psychiatric Nurses Association.* 2011;*17*(1): 37-44. DOI: 10.1177/1078390310393283. Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3117264/

20. Dieterich M, Irving CB, Park B, Marshall M. Intensive case management for severe mental illness. *Cochrane Database Systematic Review.* 2010;(10):CD007906. DOI:10.1002/14651858.CD007906.pub2. Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4233116/

21. Happell B, Hoey W, Gaskin CJ. Community mental health nurses, caseloads, and practices: A literature review. *International Journal of Mental Health Nursing.* 2012;*21*: 131-137. DOI: 10.1111/j.1447-0349.2011.00777.x. Epub 2011 Oct 30. Available from http://onlinelibrary.wiley.com/doi/10.1111/j.1447-0349.2011.00777.x/abstract

22. Smith L, Newton R. Systematic Review of Case Management. *Australian and New Zealand Journal of Psychiatry*. 2007;41: 2-9. Available from http://www.tandfonline.com/doi/abs/10.1080/00048670601039831

23. Meyer PS, Morrissey JP. A comparison of assertive community treatment and intensive case management for patients in rural areas. *Psychiatric Services*. 2007;*58*(1): 121-127. Available from http://ps.psychiatryonline.org/doi/full/10.1176/ps.2007.58.1.121

24. Burns T, Catty J, Dash M, Roberts C, Lockwood A, Mashall M. Use of intensive case management to reduce time in hospital in people with severe mental illness: systematic review and meta regression. *BMJ,* 2007;*335*(7615): 336-343. DOI: https://doi.org/10.1136/bmj.39251.599259.55. Available from http://www.bmj.com/content/335/7615/336.long

25. Althaus F, Paroz S, Hugli O, Ghali, WA, Daeppen, JB, Peytremann-Bridevaux I, et al. Effectiveness of interventions targeting frequent users of emergency departments: a systematic review. *Annals of Emergency Medicine.* 2011;*58*(1), 41-52. DOI: 10.1016/j.annemergmed.2011.03.007. Available at http://www.sciencedirect.com/science/article/pii/S0196064411002125

26. Benson EA. Housing Programs for Homeless Individuals with Mental Illness: Effects of Housing and Mental Health. *Psychiatric Services.* 2015;*66*(8): 806-816. DOI: 10.1176/appi.ps.201400294. Epub 2015 Apr 15. Available from http://ps.psychiatryonline.org/doi/full/10.1176/appi.ps.201400294

27. Coldwell CM, Bender WS. The Effectiveness of Assertive Community Treatment for Homeless Populations with Severe Mental Illness. *American Journal of Psychiatry.* 2007;*164*(3): 393-399. Available from http://ajp.psychiatryonline.org/doi/full/10.1176/ajp.2007.164.3.393

28. Rapp RC, Noortgate WVD. The Efficacy of Case Management with persons who have substance abuse problems: A three-level meta-analysis of outcomes. *Journal of Consulting and Clinical Psychology*. 2014;*82*(4): 605-618. DOI: http://dx.doi.org/10.1037/a0036750

29. Roberts J, Annett H, Hickman M. A systematic review of interventions to increase the uptake of opiate substitution therapy in injecting drug users. *Journal of Public Health.* 2011;33(3): 378-84. DOI: 10.1093/pubmed/fdq088. Epub 2010 Nov 3. Available at https://academic.oup.com/jpubhealth/article-lookup/doi/10.1093/pubmed/fdq088

30. Hunt GE, Siegfried N, Morley K, Sitharthan T, Cleary M. Psychosocial interventions for people with both severe mental illness and substance misuse [Cochrane review]. In: Cochrane Database of Systematic Reviews. Issue 10, 2013. DOI: 10.1002/14651858.CD001088.pub3. Available at http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001088.pub3/abstract

Acknowledgements

The author of this rapid review was Alexandra Harrison, Regional Knowledge Exchange Lead. The author would like to thank Rupinder Chera, Regional Knowledge Exchange Lead, for assistance with assessing articles for relevance. The authors would like to acknowledge the CAMH Librarians, for assistance with the database search and for editorial support, Jason Guriel, EENet Supervisor and Rossana Coriandoli, EENet Communications Coordinator.