Essential Components of Integrated Care for Youth with Mental Health and Addiction Needs: Protocol for a Scoping Review

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**Primary Subject Heading:** Mental health

**Secondary Subject Heading:** Health services research

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Essential Components of Integrated Care for Youth with Mental Health and Addiction Needs:

Protocol for a Scoping Review

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Scoping Review Protocol: Integrated Care Youth Mental Health

ABSTRACT

Introduction: Efforts to move toward integrated care have been met with increased interest and enthusiasm in recent years given the potential to improve care and population health while containing costs. However, the nature of integrated care for mental health and addiction concerns among youth is unclear. There is a need to better understand existing approaches to guide future implementation efforts and develop a set of standards for key components of integrated care. The objectives of this scoping review are to: (1) identify the populations, settings, service providers, and interventions that have been included in integrated care for youth with mental health and addiction needs; and (2) identify constructs that have been measured and evaluated (e.g., outcomes, engagement) in the context of youth integrated care. Methods and analysis: Seven electronic databases and several grey literature sources will be searched for material from 2001-2016. Inclusion criteria will be broad with respect to type of work, as we will include all types of research studies as well as non-research studies that provide information relevant to characteristics and constructs measured in the context of integrated care for youth mental health. Titles and abstracts will be independently screened for eligibility by two raters using inclusion criteria. Full text articles will then be accessed and independently screened for inclusion. A formal data extraction method will be employed, enabling synthesis of results in quantitative and qualitative formats. Ethics and dissemination: Results will be widely disseminated to various stakeholders to inform implementation and research efforts. Findings will also launch a Delphi method study leading to the development of an assessment tool for youth mental health services integration. This study does not require ethics approval.

Keywords: integrated care, mental health, addiction, youth, adolescents, children
Strengths and limitations of this study

- This scoping review will provide a comprehensive review of integrated care addressing youth mental health and addiction across a variety of service settings, an unmet need in the literature.

- Information gleaned from this study will enable identification of key components of coordinated service delivery and the development of a paradigm for integrated care for youth with mental health and addiction needs.

- The literature will be synthesized in quantitative and qualitative formats; however, scoping review methodology does not allow for assessing quality of included work.

- Only English language publications will be included in this scoping review.
Essential Components of Integrated Care for Youth with Mental Health and Addiction Needs:

Protocol for a Scoping Review

INTRODUCTION

Mental health disorders are associated with substantial societal burden\(^1\) yet issues with timely access to and availability of high quality mental health services persist, particularly for youth.\(^2\)\(^3\) Integrated care has been identified as a way to improve health services with regard to access, quality, user satisfaction, and efficiency by linking together inputs, delivery, management and organization of these services.\(^4\) Integrated care approaches have been recommended specifically for youth mental health given their potential to connect more youth with evidence-based interventions and improve outcomes.\(^5\) There is evidence supporting the benefits of team-based care in the context of collaborative care models for youth;\(^6\) however, more research specific to youth is needed.\(^7\) Importantly, little is known about what integrated care encompasses and how it has been implemented for youth with mental health and addiction needs. Integrated care delivery has been characterized as challenging due to the need to coordinate multiple systems and, frequently, restructure existing systems.\(^8\)\(^9\) Further complicating integration efforts, implementation of youth mental health care is associated with unique complexities. Youth are unlikely to effectively engage in and benefit from treatment without an informed, developmentally sensitive approach to the unique needs, relevant systems, and barriers to care in this population.\(^8\)\(^10\)-\(^12\) Improving access to and engagement with effective intervention is crucial given evidence that strategies to promote access and enhance treatment engagement are associated with better outcomes for youth\(^13\) and research suggesting that successful treatment response in youth is associated with reduced risk for mental health and substance use problems in the long term.\(^14\)\(^15\)
Although there have been reviews of integrated care for adult populations as well as reviews and a meta-analysis focused on integration of behavioral health services in primary care settings, there has not been a comprehensive systematic review of integrated care addressing youth mental health that includes a variety of service settings. Recent efforts to create youth-friendly, integrated care hubs or one-stop shops for youth with mental health needs outside the context of traditional primary care environments suggest that a full picture of integrated care has not been captured. A better understanding of extant integrated care models and implementation efforts is needed to identify key components of coordinated service delivery and create a paradigm for integrated care for youth with mental health and addiction needs. To this end, we will perform a scoping review to summarize the published and grey literature in this area.

Objectives of the review are as follows: (1) identify the populations, settings, service providers, and interventions included in integrated care for youth with mental health and addiction needs; and (2) identify constructs, such as outcomes and treatment engagement, measured and evaluated in the context of youth integrated care. A scoping review was selected as appropriate to address these relatively broad research questions given that the methodology allows for systematically mapping and identifying the important concepts and literature available in a given research area. In addition to providing a necessary synthesis of current integrated care efforts for youth, these findings will inform the development of indicators for appraising integration of youth mental health services through a Delphi method study.

METHODS AND ANALYSIS

This scoping review will follow accepted methodology as detailed in the literature. The five stage approach will be employed, namely (1) identifying the research questions; (2)
identifying relevant studies; (3) selecting studies; (4) extracting data; and (5) synthesizing and reporting results.

**Stage 1: identifying the research question**

Two broad research questions were developed that reflect the primary objectives of this exploratory scoping review:

1. What populations, settings, service providers, and interventions have been included in integrated care for youth with mental health and addiction needs?
2. What constructs have been specified, measured, or evaluated in the context of youth integrated care?

**Stage 2: identifying relevant studies**

To capture the full breadth of work conducted in recent years across diverse contexts relevant to current integrated care efforts, all research studies and non-research literature, such as policy documents and agency reports, will be included in the review. Literature from 2001 to 2016 will be retained in order to capture the recent developments and current status of integrated care models. Studies from all settings (e.g., primary care, community services, hospitals) will be included. Eligible studies must address mental or behavioural health concerns as a presenting problem in children, adolescents, youth, young adults, or emerging adults. To capture the integrated nature of service delivery, methods and models of care must bring together linked service components (e.g., inputs, delivery, management, organization of services) as a means of improving access, quality, user satisfaction, efficiency, or outcomes and aim to make health systems or health care delivery more complete and comprehensive.

**Search strategy**
A search, developed by an experienced medical research librarian, will be conducted in Medline, EMBASE, PsycINFO, CINAHL, ASSIA (Applied Social Sciences Index and Abstracts), Campbell Collaboration Library and Cochrane Library. It will combine subject heading and text word terms for integration AND mental/behavioural health AND children/adolescents. The search will be originally developed in Medline (Appendix A) and then adapted with equivalent search terms appropriate for each database. English language only will be included, from 2001 to 2016, and the search will exclude comments/notes, editorials and letters. In addition to the database search, the grey literature will be searched following a comprehensive methodological checklist. Essentially, a focused search will be performed on targeted children/adolescent mental health sites for unpublished materials that meet the inclusion criteria. Furthermore, Google Advanced Search will be used to undertake a broader search for grey literature. References of included studies will be checked for additional sources not found in the search and the *International Journal of Integrated Care* will be hand searched.

**Stage 3: study selection**

Inclusion criteria will be applied by two raters who will independently screen each title and abstract to determine eligibility (Level 1). Reviewers will utilize the software program, Covidence, recommended by Cochrane for streamlining and improving the efficiency of systematic reviews. The principal investigator will regularly meet with reviewers throughout the title and abstract review process to discuss challenges that arise and refine the search strategy if necessary. After screening titles and abstracts, the full text of articles deemed potentially eligible will be retrieved. Two raters will then complete Level 2 review, examining full-text articles to determine whether they meet inclusion criteria. At both levels of review, the principal investigator will come to a decision on any disagreements that arise between the judgements of
the two raters. The Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) checklist will be followed and the four-phase PRISMA diagram will display search results and progression of studies screened, assessed for eligibility, and ultimately included in synthesis.31

Stage 4: data extraction

The following information will be obtained in the data extraction stage (Table 1):

1. Descriptive study information, including authors, title and citation, nature of work and whether it was retrieved from the published or grey literature, country and region of origin, and scoping review research question addressed by the document.

2. Characteristics of integrated care models and implementation efforts, including a description of populations included, service settings, types of service providers, and interventions employed or adapted.

3. Constructs and outcomes; any constructs measured or described will be recorded as well as method of measurement, whether it was used as an outcome measure or to evaluate a component of integrated care, and how it indicates the goals of integrated care efforts.
Table 1. Data Extraction for the Scoping Review Research Questions

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<td>• Title</td>
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<td>• Citation</td>
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<td>• Type of publication; published or grey</td>
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<td>• Location: country and region</td>
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<td>• Scoping review research question addressed</td>
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<tr>
<td><strong>Research Question 1: Populations, Settings, Service Providers, and Interventions</strong></td>
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<tr>
<td>• Population characteristics (age, sex, other demographics, inclusion/exclusion criteria)</td>
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<td>• Type of service setting(s)</td>
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<td>• Titles of service providers and description of roles</td>
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<tr>
<td>• Name and description of interventions and any adaptations</td>
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<tr>
<td><strong>Research Question 2: Constructs and Outcomes; Measurement and Evaluation</strong></td>
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<tr>
<td>• Constructs of interest, how they were measured, whether they were used to evaluate a component of integrated care</td>
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<tr>
<td>• Outcomes examined</td>
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<td>• Goals of integrated care</td>
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In keeping with the methodology of scoping reviews, studies will not be evaluated on the basis of quality. Given that the process of selecting studies is intentionally iterative in nature, the data extraction tool will be amended based on knowledge attained during this process and modified if necessary. Similar to the method utilized in the study selection phase, the principal investigator will resolve discrepancies between the reviewers.

**Stage 5: synthesizing and reporting results**

Information gleaned from the data extraction tool will be summarized quantitatively in table format. A map will be created based on number of articles to provide a visual indicator of the current characteristics of integrated care for youth mental health and the constructs being examined and discussed in this area. Additionally, data will be analyzed qualitatively to more thoroughly describe key concepts arising from the extant literature. N-Vivo software will be
used to perform basic thematic analysis. As with other aspects of the scoping review methodology, synthesis procedures are also subject to refinement as the study progresses and additional knowledge is obtained.

DISCUSSION AND DISSEMINATION

There is a need to better understand key components of integrated care for youth with mental health and addiction concerns to inform evidence-based implementation of services and identify areas requiring further development. This scoping review will enable us to characterize the current focus of implementation efforts for youth integrated care in terms of the populations, settings, service providers, and interventions included. In particular, we intend to determine the extent to which integrated care efforts have been co-located and whether the literature can speak to the need for co-location of integrated services. By identifying the constructs that have been discussed, measured, and evaluated in the context of youth integrated care, we strive to formulate a clearer definition of the goals of integrated care for youth with mental health and addiction needs. Ultimately, results will guide the creation of indicators for a Delphi method study, which will produce a consensus statement and checklist that detail essential components of integrated care services addressing youth mental health and addiction.

Dissemination of findings will occur across various contexts to reach scientific, community, government, and consumer groups. The project has been submitted for presentation at the Canadian Psychological Association National Convention in 2017 and will be submitted for presentation at the 2017 Canadian Association for Health Services and Policy Research Conference, with the goals of disseminating findings to other professionals involved in advancing integrated care and soliciting feedback from those with expertise in this area. Findings will also be shared with our community partners who are actively involved in ongoing efforts to provide integrated care services to youth with mental health and addiction concerns. The
Evidence Exchange Network for Mental Health and Addictions is an ideal format to disseminate research findings to a variety of stakeholders across Ontario and Canada including policy makers and system planners, and it is our hope that these findings will inform future efforts to create new integrated care hubs for youth in Canada. In addition, study results will be discussed with our youth engagement team, comprised of youth with lived experience, to share knowledge with these important stakeholders and generate informed ideas for next needed steps. Finally, we will seek to publish results of this scoping review in an open access journal so that the information this study provides will be accessible to all those interested in improving integrated care for youth with mental health and addiction needs.
Acknowledgements

We thank the YouthCan IMPACT Team for their support. KC held the CAMH Chair in Mental Health Nursing Research at the University of Toronto Lawrence S. Bloomberg Faculty of Nursing and the Centre for Addiction and Mental Health during the preparation of this protocol.

Competing interests

The authors declare that they have no competing interests.

Funding

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Contributors

CS, KC, LH, MR, and JH contributed to the concept and design of the study. CS drafted the protocol and all authors (CS, KC, LH, MR, and JH) contributed to the revision and finalization of the manuscript. MR drafted the search strategy and will conduct the literature search. All authors (CS, KC, LH, MR, and JH) read and approved the final protocol. JH is the guarantor of this work.

Data sharing statement

The search strategies are available from the corresponding author by request.
REFERENCES


2013;202(s54):s30-s35. doi: 10.1192/bjp.bp.112.119214


30. Covidence systematic review software, Veritas Health Innovation, Melbourne, Australia.

32. NVivo qualitative data analysis software [program]. 11 version, 2015.

Appendix A: Strategy for Medline-OVID Search

1. Delivery of Health Care, Integrated/
2. (integrate* adj2 (care or treatment* or therapy or team* or services)).kf,ti.
3. (integrate* adj2 (care or treatment* or therapy or team* or services)).ab. /freq=2
4. (shared adj2 (care or treatment* or therapy or team* or services)).ti,kf.
5. (multidisciplinary adj2 (care or treatment* or therapy or team* or services)).ti,kf.
6. (multidisciplinary adj2 (care or treatment* or therapy or team* or services)).ab. /freq=2
7. (shared adj2 (care or treatment* or therapy or team* or services)).ab. /freq=2
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11. (coordinat* adj2 (care or treatment* or therapy or team* or services)).ti,kf.
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13. (co-ordinat* adj2 (care or treatment* or therapy or team* or services)).ti,kf.
14. (co-ordinat* adj2 (care or treatment* or therapy or team* or services)).ab. /freq=2
15. (multiagency adj2 (care or treatment* or therapy or team* or services)).ti,kf.
16. (multiagency adj2 (care or treatment* or therapy or team* or services)).ab. /freq=2
17. (joint working adj2 (care or treatment* or therapy or team* or services)).ti,kf.
18. (joint working adj2 (care or treatment* or therapy or team* or services)).ab. /freq=2
19. one stop shop.tw.
20. system of care,ti,kf.
21. system of care.ab. /freq=2
22. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21
23. Mental Health/
24. mental health,ti,kf.
25. exp Mental Health Services/
26. exp mental disorders/
27. ((behavior* or mental) adj2 (health or disorder* or problem*)).ti,kf.
28. psychiatry/ or adolescent psychiatry/ or child psychiatry/ or psychology, child/ or psychology, developmental/
29. ((obsessive compulsive or panic or post traumatic stress or eating or bipolar or oppositional defiant or conduct) adj2 disorder*).ti,kf,kw.
30. (depress* or anxiety or substance abuse or drug abuse or alcoholism or alcohol abuse or disruptive behavior* or disorder* or attention deficit or autism or asperger*).ti,kf,kw.
31. (agoraphobia or PTSD or trauma or OCD or anorexia or bulimia or psychosis).ti,kf,kw.
32. or/23-31
33. 22 and 32
34. (pediatric* or paediatric* or child* or adolescent? or youth? or teenag* or teen? or boys or girls or young adult? or emerging adult?).ti,kf,ab,jn.
35. 33 and 34
36. limit 33 to ("all child (0 to 18 years)" or "child (6 to 12 years)" or "adolescent (13 to 18 years)" or "young adult (19 to 24 years)")
37. 35 or 36
38. limit 37 to english language
39. limit 38 to yr="2001 -Current"
40. limit 39 to (comment or editorial or letter)
41. 39 not 40
42. remove duplicates from 41
PRISMA-P (preferred reporting items for systematic review and meta-analysis protocols) 2015 checklist: recommended items to address in a systematic review protocol

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<td>Describe the rationale for the review in the context of what is already known</td>
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<td>Objectives</td>
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<td>Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)</td>
<td>5, 6</td>
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<td><strong>Methods</strong></td>
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<td>Eligibility criteria</td>
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<td>Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review</td>
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<td>Information sources</td>
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<td>Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage</td>
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<td>Search strategy</td>
<td>10</td>
<td>Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated</td>
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<td>Data management</td>
<td>11a</td>
<td>Describe the mechanism(s) that will be used to manage records and data throughout the review</td>
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<td>Selection process</td>
<td>11b</td>
<td>State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)</td>
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<td>Data collection process</td>
<td>11c</td>
<td>Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators</td>
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<td>Data items</td>
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<td>List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications</td>
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<td>List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale</td>
<td>8-9</td>
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<td>Risk of bias in individual studies</td>
<td>14</td>
<td>Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis</td>
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<td>Describe criteria under which study data will be quantitatively synthesised</td>
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<td></td>
<td>15b</td>
<td>If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as $I^2$, Kendall’s $\tau$)</td>
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<td></td>
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<td>Describe any proposed additional analyses (such as sensitivity or subgroup)</td>
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<td>analyses, meta-regression</td>
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<td>If quantitative synthesis is not appropriate, describe the type of summary planned</td>
<td>9-10</td>
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<td>Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)</td>
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<td>Confidence in cumulative evidence</td>
<td>17</td>
<td>Describe how the strength of the body of evidence will be assessed (such as GRADE)</td>
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<td>Complete List of Authors:</td>
<td>Settipani, Cara; Centre for Addiction and Mental Health, Margaret and Wallace McCain Centre for Child, Youth and Family Mental Health Cleverley, Kristin; University of Toronto, Faculty of Nursing and Department of Psychiatry; Centre for Addiction and Mental Health, Margaret and Wallace McCain Centre for Child, Youth and Family Mental Health Hawke, Lisa; Centre for Addiction and Mental Health, Margaret and Wallace McCain Centre for Child, Youth and Family Mental Health Rice, Maureen; McMaster University Henderson, Joanna; Centre for Addiction and Mental Health, Margaret and Wallace McCain Centre for Child, Youth and Family Mental Health; University of Toronto Faculty of Medicine, Psychiatry</td>
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<td><strong>Secondary Subject Heading:</strong></td>
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<td>MENTAL HEALTH, Organisation of health services &lt; HEALTH SERVICES ADMINISTRATION &amp; MANAGEMENT, Child &amp; adolescent psychiatry &lt; PSYCHIATRY</td>
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Essential Components of Integrated Care for Youth with Mental Health and Addiction Needs:

Protocol for a Scoping Review

Cara A. Settipani, Kristin Cleverley, Lisa D. Hawke, Maureen Rice, Joanna Henderson

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ABSTRACT

Introduction: Efforts to move toward integrated care have been met with increased interest and enthusiasm in recent years given the potential to improve care and population health while containing costs. However, there is a need to better understand community-based integrated care approaches for youth with mental health and/or addiction concerns to guide future implementation efforts and develop a set of standards for key components. The objectives of this scoping review are to: (1) identify the populations, settings, service providers, interventions, infrastructure, and care coordination methods that have been included in integrated care for youth with mental health and/or addiction needs; and (2) identify constructs that have been measured and evaluated (e.g., outcomes, engagement) in the context of youth integrated care.

Methods and analysis: Seven electronic databases and several grey literature sources will be searched for material from 2001-2016. Inclusion criteria will be broad with respect to type of work, as we will include all types of research studies as well as non-research studies that provide information relevant to characteristics and constructs measured in the context of integrated care for youth mental health. Titles and abstracts will be independently screened for eligibility by two raters using inclusion criteria. Full text articles will then be accessed and independently screened for inclusion. A formal data extraction method will be employed, enabling synthesis of results in quantitative and qualitative formats. Ethics and dissemination: Results will be widely disseminated to various stakeholders to inform implementation and research efforts. Findings will also launch a Delphi method study leading to the development of an assessment tool for youth mental health services integration. This review does not require ethics approval.

Keywords: integrated care, mental health, addiction, youth, adolescents, children
Strengths and limitations of this review

- This scoping review will provide a comprehensive review of integrated care addressing youth mental health and addiction in community settings, an unmet need in the literature.

- Information gleaned from this review will enable identification of key components of integrated care hubs and the development of a paradigm for integrated care for youth with mental health and addiction needs.

- The literature will be synthesized in quantitative and qualitative formats; however, scoping review methodology does not allow for assessing quality of included work.

- Only English language publications will be included in this scoping review.

- The grey literature search for unpublished materials (e.g., policy documents, agency reports) will be representative rather than exhaustive.
Essential Components of Integrated Care for Youth with Mental Health and Addiction Needs: Protocol for a Scoping Review

INTRODUCTION

Mental health disorders are associated with substantial societal burden, yet issues with timely access to and availability of high quality mental health services persist, particularly for youth. Integrated care has been identified as a way to improve health services with regard to access, quality, user satisfaction, and efficiency by linking together inputs, delivery, management and organization of these services. Integrated care approaches have been recommended specifically for youth mental health given their potential to connect more youth with evidence-based interventions and improve outcomes. There is evidence supporting the benefits of team-based care in the context of collaborative care models for youth; however, more research specific to youth is needed. Importantly, little is known about what integrated care encompasses and how it has been implemented for youth with mental health and/or addiction needs. Integrated care delivery has been characterized as challenging due to the need to coordinate multiple systems and, frequently, restructure existing systems. Further complicating integration efforts, implementation of youth mental health care is associated with unique complexities. Youth are unlikely to effectively engage in and benefit from treatment without an informed, developmentally sensitive approach to the unique needs, relevant systems, and barriers to care in this population. Improving access to and engagement with effective intervention is crucial given evidence that strategies to promote access and enhance treatment engagement are associated with better outcomes for youth and research suggesting that successful treatment response in youth is associated with reduced risk for mental health and substance use problems in the long term.
Although there have been reviews of integrated care for adult populations\cite{16,17} as well as reviews and a meta-analysis focused on integration of behavioral health services in primary care settings,\cite{6,18,19} there has not been a comprehensive review of integrated care addressing youth mental health and addiction in community settings. Recent efforts to create youth-friendly, integrated care hubs or one-stop shops for youth with mental health needs in community settings to reduce gaps in the health system and improve timely access to evidence-informed services\cite{20-22} suggest that a full picture of integrated care has not been captured. Despite the rapid adoption of this model worldwide, notably in Canada, the United Kingdom, Australia, and Ireland,\cite{20-22} a clear understanding of the essential components of these integrated care efforts is lacking.

A comprehensive review of extant integrated care models and implementation efforts is needed to identify key components of integrated care hubs and create a paradigm for integrated care for youth with mental health and/or addiction needs. To this end, we will perform a scoping review to summarize the published and grey literature in this area. A scoping review was selected as appropriate because the methodology allows for comprehensively mapping and identifying the important concepts and literature available in a given research area in a structured manner.\cite{23} Given that we anticipate much of the work in this area has occurred in recent years, scoping review methodology will allow for an understanding of what evidence is available, including published and unpublished work. Other notable strengths of scoping reviews that led to the selection of this method include emphasis on the state of research activity and enabling policy makers to make evidence-informed decisions in a rapidly growing area.\cite{24}

Objectives of the review are as follows: (1) identify the populations, settings, service providers, interventions, infrastructure, and care coordination methods included in integrated care for youth with mental health and/or addiction needs; and (2) identify constructs, such as
outcomes and treatment engagement, measured and evaluated in the context of youth integrated care. In addition to providing a necessary synthesis of current integrated care efforts for youth, these findings will inform the development of indicators for appraising integration of youth mental health services through a Delphi method study.

**METHODS AND ANALYSIS**

This scoping review will follow accepted methodology as detailed in the literature.\(^\text{24-27}\) The five stage approach will be employed, namely (1) identifying the research questions; (2) identifying relevant studies; (3) selecting studies; (4) extracting data; and (5) synthesizing and reporting results.

**Stage 1: identifying the research question**

Two broad research questions were developed that reflect the primary objectives of this exploratory scoping review:

1. What populations, settings, service providers, interventions, infrastructure, and care coordination methods have been included in integrated care for youth with mental health and addiction needs?
2. What constructs have been specified, measured, or evaluated in the context of youth integrated care?

**Stage 2: identifying relevant studies**

To capture the full breadth of work conducted in recent years across diverse contexts relevant to current integrated care efforts, all research studies and non-research literature, such as policy documents and agency reports, will be included in the review. Literature from 2001 to 2016 will be retained in order to capture the recent developments and current status of integrated care models. Eligible studies must address mental health, behavioural health, or substance use...
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Scoping Review Protocol: Integrated Care Youth Mental Health

concerns as a presenting problem in children, adolescents, youth, young adults, or emerging adults. Work addressing concurrent disorders (co-occurring addiction and mental health problems) as a presenting problem will be included. A broad range of ages will be included, from three years of age through young adulthood (as defined in the identified literature), to ensure that work relevant to any developmental stage will be identified. Age will be examined in the data extraction phase given that models are likely to vary in meaningful ways as a function of ages served. To capture the integrated nature of service delivery, methods and models of care must bring together linked service components (e.g., inputs, delivery, management, organization of services) as a means of improving access, quality, user satisfaction, efficiency, or outcomes and aim to make health systems or health care delivery more complete and comprehensive. These services must be integrated into the same setting and based in the community for inclusion in the present review.

Search strategy

A search, developed by an experienced medical research librarian, will be conducted in Medline, EMBASE, PsycINFO, CINAHL, ASSIA (Applied Social Sciences Index and Abstracts), Campbell Collaboration Library and Cochrane Library. It will combine subject heading and text word terms for integration AND mental/behavioural health AND children/adolescents. The search will be originally developed in Medline (Appendix A) and then adapted with equivalent search terms appropriate for each database. English language only will be included, from 2001 to 2016, and the search will exclude comments/notes, editorials and letters. In addition to the database search, the grey literature will be searched following a comprehensive methodological checklist. Essentially, a focused search will be performed on targeted children/adolescent mental health sites for unpublished materials that meet the inclusion
criteria. Furthermore, Google Advanced Search will be used to undertake a broader search for grey literature. References of included studies will be checked for additional sources not found in the search and the *International Journal of Integrated Care* will be hand searched.

**Stage 3: study selection**

Inclusion criteria will be applied by two raters who will independently screen each title and abstract to determine eligibility (Level 1). Reviewers will utilize the software program, Covidence,\(^3^0\) recommended by Cochrane for streamlining and improving the efficiency of systematic reviews. The project lead will regularly meet with reviewers throughout the title and abstract review process to discuss challenges that arise and refine the search strategy if necessary. After screening titles and abstracts, the full text of articles deemed potentially eligible will be retrieved. Two raters will then complete Level 2 review, examining full-text articles to determine whether they meet inclusion criteria. At both levels of review, the project lead will come to a decision on any disagreements that arise between the judgements of the two raters. The Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) checklist will be followed and the four-phase PRISMA diagram will display search results and progression of studies screened, assessed for eligibility, and ultimately included in synthesis.\(^3^1\)

**Stage 4: data extraction**

The following information will be obtained in the data extraction stage (Table 1):

1. Descriptive study information, including authors, title and citation, nature of work and whether it was retrieved from the published or grey literature, country and region of origin, and scoping review research question addressed by the document.
Scoping Review Protocol: Integrated Care Youth Mental Health

2. Characteristics of integrated care models and implementation efforts, including a description of populations included, service settings, types of service providers, interventions employed or adapted, infrastructure, and care coordination methods.

3. Constructs and outcomes; any constructs measured or described will be recorded as well as method of measurement, whether it was used as an outcome measure or to evaluate a component of integrated care, and how it indicates the goals of integrated care efforts.

Table 1. Data Extraction for the Scoping Review Research Questions

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<td>Research Question 1: Populations, Settings, Service Providers, and Interventions</td>
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<td>Research Question 2: Constructs and Outcomes; Measurement and Evaluation</td>
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In keeping with the methodology of scoping reviews, studies will not be evaluated on the basis of quality. Given that the process of selecting studies is intentionally iterative in nature, the data extraction tool will be amended based on knowledge attained during this process and
modified as necessary. Similar to the method utilized in the study selection phase, the project lead will resolve discrepancies between the reviewers.

**Stage 5: synthesizing and reporting results**

Information gleaned from the data extraction tool will be summarized quantitatively in table format. A map will be created based on number of articles to provide a visual indicator of the current characteristics of integrated care for youth mental health and the constructs being examined and discussed in this area. Additionally, data will be analyzed qualitatively to more thoroughly describe key concepts arising from the extant literature. N-Vivo software\(^2\) will be used to perform basic thematic analysis.\(^3\) As with other aspects of the scoping review methodology, synthesis procedures are also subject to refinement as the review progresses and additional knowledge is obtained.

**DISCUSSION AND DISSEMINATION**

The recent development of community-based integrated care hubs for youth with mental health and addiction concerns across several countries has the potential to meaningfully address longstanding problems with youth mental health care delivery and access, yet a clearer understanding of key components of these models is needed. This scoping review will enable us to characterize the current focus of implementation efforts for youth integrated care in terms of the populations, settings, service providers, interventions, infrastructure, and care coordination methods included. Identifying the constructs that have been discussed, measured, and evaluated in the context of youth integrated care will inform evidence-based implementation of services and call attention to areas requiring further development. A better understanding of key components will also allow for formulating a clearer definition of the goals of integrated care for youth with mental health and/or addiction needs. Ultimately, results will guide the creation of indicators for a Delphi method study, which will produce a consensus statement and checklist.
that detail essential components of integrated care services addressing youth mental health and addiction.

Dissemination of findings will occur across various contexts to reach scientific, community, government, and consumer groups. The project has been submitted for presentation at the Canadian Psychological Association National Convention in 2017 and the 2017 Canadian Association for Health Services and Policy Research Conference, with the goals of disseminating findings to other professionals involved in advancing integrated care and soliciting feedback from those with expertise in this area. Findings will also be shared with our community partners who are actively involved in ongoing efforts to provide integrated care services to youth with mental health and addiction concerns. The Evidence Exchange Network for Mental Health and Addictions is an ideal format to disseminate research findings to a variety of stakeholders across Ontario and Canada including policy makers and system planners, and it is our hope that these findings will inform future efforts to create new integrated care hubs for youth in Canada. In addition, review results will be discussed with our youth engagement team, comprised of youth with lived experience, to share knowledge with these important stakeholders and generate informed ideas for next needed steps. Finally, we will seek to publish results of this scoping review in an open access journal so that the information this review provides will be accessible to all those interested in improving integrated care for youth with mental health and addiction needs.
Acknowledgements

We thank the YouthCan IMPACT Team for their support. KC held the CAMH Chair in Mental Health Nursing Research at the University of Toronto Lawrence S. Bloomberg Faculty of Nursing and the Centre for Addiction and Mental Health during the preparation of this protocol.

Competing interests

The authors declare that they have no competing interests.

Funding

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Contributors

CS, KC, LH, MR, and JH contributed to the concept and design of the review. CS drafted the protocol and all authors (CS, KC, LH, MR, and JH) contributed to the revision and finalization of the manuscript. MR drafted the search strategy and will conduct the literature search. All authors (CS, KC, LH, MR, and JH) read and approved the final protocol. JH is the guarantor of this work.

Data sharing statement

The search strategies are available from the corresponding author by request.
REFERENCES


30. Covidence systematic review software, Veritas Health Innovation, Melbourne, Australia.


32. NVivo qualitative data analysis software [program]. 11 version, 2015.

Appendix A: Strategy for Medline-OVID Search

1. Delivery of Health Care, Integrated/
2. (integrat* adj2 (care or treatment* or therapy or team* or services)).kf,ti.
3. (integrat* adj2 (care or treatment* or therapy or team* or services)).ab. /freq=2
4. (shared adj2 (care or treatment* or therapy or team* or services)).ti,kf.
5. (multidisciplinary adj2 (care or treatment* or therapy or team* or services)).ti,kf.
6. (multidisciplinary adj2 (care or treatment* or therapy or team* or services)).ab. /freq=2
7. (shared adj2 (care or treatment* or therapy or team* or services)).ab. /freq=2
8. (shared adj2 (care or treatment* or therapy or team* or services)).ti,kf.
9. (multi-disciplinary adj2 (care or treatment* or therapy or team* or services)).ti,kf.
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11. (coordinat* adj2 (care or treatment* or therapy or team* or services)).ab. /freq=2
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16. (multiagency adj2 (care or treatment* or therapy or team* or services)).ab. /freq=2
17. (joint working adj2 (care or treatment* or therapy or team* or services)).ti,kf.
18. (joint working adj2 (care or treatment* or therapy or team* or services)).ab. /freq=2
19. one stop shop.tw.
20. system of care.ti,kf.
21. system of care.ab. /freq=2
22. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21
23. Mental Health/
24. mental health.ti,kf.
25. exp Mental Health Services/
26. exp mental disorders/
27. ((behavio?r* or mental) adj2 (health or disorder* or problem*)).ti,kf.
28. psychiatry/ or adolescent psychiatry/ or child psychiatry/ or psychology, child/ or psychology, developmental/
29. ((obsessive compulsive or panic or post traumatic stress or eating or bipolar or oppositional defiant or conduct) adj2 disorder*).ti,kf,kw.
30. (depress* or anxiety or substance abuse or drug abuse or alcoholism or alcohol abuse or disruptive behavio?r disorder* or attention deficit or autism or asperger*).ti,kf,kw.
31. (agoraphobia or PTSD or trauma or OCD or anorexia or bulimia or psychosis).ti,kf,kw.
32. or/23-31
33. 22 and 32
34. (pediatric* or paediatric* or child* or adolescent? or youth? or teenag* or teen? or boys or girls or young adult? or emerging adult?).ti,kf,ab,jn.
35. 33 and 34
36. limit 33 to ("all child (0 to 18 years)" or "child (6 to 12 years)" or "adolescent (13 to 18 years)" or "young adult (19 to 24 years)")
37. 35 or 36
38. limit 37 to english language
39. limit 38 to yr="2001 -Current"
40. limit 39 to (comment or editorial or letter)
41. 39 not 40
42. remove duplicates from 41
PRISMA-P (preferred reporting items for systematic review and meta-analysis protocols) 2015 checklist: recommended items to address in a systematic review protocol

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<td>Contributions</td>
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<td>Objectives</td>
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<td>Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)</td>
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<td>Eligibility criteria</td>
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<td>Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review</td>
<td>6-7</td>
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<td>Information sources</td>
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<td>Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage</td>
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<td>Search strategy</td>
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<td>Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated</td>
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<td>Describe the mechanism(s) that will be used to manage records and data throughout the review</td>
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<td>Selection process</td>
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<td>State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)</td>
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<td>Data collection process</td>
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<td>Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators</td>
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<td>List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications</td>
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<td>13</td>
<td>List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale</td>
<td>8-9</td>
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<td>Risk of bias in individual studies</td>
<td>14</td>
<td>Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis</td>
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<td>If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I², Kendall’s τ)</td>
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<td>analyses, meta-regression</td>
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