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Demographic and Clinical Presentations of Youth using Enhanced Mental Health Services in Six Indigenous Communities from the ACCESS Open Minds Network

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Abstract

Objective: In many Indigenous communities, youth mental health services are inadequate. Six Indigenous communities participating in the ACCESS Open Minds (AOM) network implemented strategies to transform their youth mental health services. This report documents the demographic and clinical presentations of youth accessing AOM services at these Indigenous sites.

Methods: Four First Nations and two Inuit communities contributed to this study. Youth presenting for mental health services responded to a customized sociodemographic questionnaire and presenting concerns checklist, and scales assessing distress, self-rated health and mental health, and suicidal thoughts and behaviors.

Results: Combined data from the First Nations sites indicated that youth across the range of 11–29 years accessed services. More girls/women than boys/men accessed services; 17% identified as LBGTQ+. Most (83%) youth indicated having access to at least one reliable adult and getting along well with the people living with them. Twenty-five percent of youth reported

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difficulty meeting basic expenses. Kessler (K10) distress scores indicated that half likely had a moderate mental health problem and a fourth had severe problems. Fifty-five percent of youth rated their mental health as fair or poor, while 50% reported suicidal thoughts in the last month. Anxiety, stress, depression and sleep issues were the most common presenting problems. Fifty-one percent of youth either accessed services themselves or were referred by family members. AOM was the first mental health service accessed that year for 68% of youth.

Conclusions: This report is the first to present a demographic and clinical portrait of youth presenting at mental health services in multiple Indigenous settings in Canada. It illustrates the acceptability and feasibility of transforming youth mental health services using core principles tailored to meet communities' unique needs, resources, and cultures, and evaluating these using a common protocol. Data obtained can be valuable in evaluating services and guiding future service design.

Trial registration name and number at Clinicaltrials.gov: ACCESS Open Minds/ACCESS Esprits ouverts, ISRCTN23349893

Keywords
demographics, Indigenous, mental health service, psychological distress, youth

Introduction

The majority of mental health problems have their beginnings in adolescence and early adulthood.[1] If left untreated, these may progress to longer term mental illnesses, limiting young people's future potential.[2–4] Early detection and treatment can lead to improved outcomes for youth.[5–7] However, in Canada, only a small proportion of youth in need receive services for mental health problems owing to many challenges including limited access to appropriate psychological, biological and social treatments, long wait-times, stigma and the poor engagement of youth in services not explicitly designed to be youth friendly.[8–10]

In Canadian mental healthcare, the varying nature and availability of services across populations (e.g., urban, rural/remote, Indigenous) presents context-specific strengths and challenges.[11] Because a high proportion (about 44% in 2016) of the population of many Indigenous communities is under 25 years old, the health and well-being of youth is crucial to the future of these communities.[12,13] In some (but not all) of these communities, youth face challenges stemming from high rates of poverty and unemployment exacerbating systemic and underlying issues such as the intergenerational traumatic effects of the residential school system.[14–16] In many Indigenous communities, mental health services for youth are inadequate owing to multiple factors including a lack of trained staff, a lack of programs addressing community needs in a culturally appropriate and safe manner, and difficulties in securing sustained funding.[17] There is little published documentation about young people who seek mental health services in Indigenous contexts and how they access care.

ACCESS Open Minds (AOM) is a research network designed to implement and systematically evaluate a transformation of mental health services for youth aged 11–25 at 14 sites across Canada, including six Indigenous communities.[18,19] AOM's service transformation addresses five main objectives: early identification of youth in need, rapid access to initial assessment, provision of appropriate services, engagement of youth and families, and elimination of transitions in service based on age. The six Indigenous sites contributing to this paper are four First Nations communities and two Inuit communities. Supported by the AOM Network, the sites implemented transformative approaches to youth mental health and wellness based on the five core AOM objectives and tailored to meet their communities' unique needs, resources and cultures (see, e.g., Hutt-MacLeod et al.,[20] Etter et al.[21] and Liebenberg et al.[22]).

At all Indigenous sites, a focus on wellness from a holistic perspective underpinned the transformation of youth-focused services to meet the five AOM objectives. Such a focus was guided by the community and informed by key Indigenous knowledge systems. As stated in the First Nations Mental Wellness Continuum Framework (2015): "Mental wellness is supported by culture, language, Elders, families and creation and is necessary for healthy individual, community and family life."[23] Mental wellness is defined in the Inuit-specific Mental Wellness Framework (2001) as "self-esteem and personal dignity flowing from the presence of harmonious physical, emotional, spiritual wellness and cultural identity."[24] Envisioning the restoration of health and wellness for youth, communities embarked on looking within themselves regarding the status of youth mental health. Grounded in the culture of the community, youth at participating Indigenous sites partnered with site teams in designing and implementing enhanced mental health services programs in their communities. This included building upon their unique Indigenous culture and healing programs, guided by Elders/Traditional healers and ceremonies, to enhance the health and well-being of youth. All six sites strongly emphasized resilience and culturally appropriate services, including Traditional healing and Indigenous identity-affirming practices, in addition to

Table 1. Site populations, number of youth referred to services and number of youth participating in research.

Combined from six sites	
Total population[a]	13,607
Total youth population[a] (n, % of total population)	3,869 (28%)
Number of youth referred to AOM services[b]	835
% of total youth population referred to services	22%
Number of youth participating in research[c]	257
Eskasoni	
Total population	3,422
Total youth population (n, % of total population)	1,025 (30%)
Number of youth referred to AOM services over total data collection period (n, data collection period)	539 (2016-06 to 2019-09)
% of total youth population referred to services over total data collection period	53%
Average number of youth referred to services per month	14
Number of youth participating in research	118
Elsipogtog	
Total population	3,313
Total youth population (n, % of total population)	839 (25%)
Number of youth referred to AOM services over total data collection period (n, data collection period)	87 (2017-10 to 2019-09)
% of total youth population referred to services over total data collection period	10%
Average number of youth referred to services per month	4
Number of youth participating in research	61
Mistissini	
Total population	3,523
Total youth population (n, % of total population)	1,015 (29%)
Number of youth referred to AOM services	N/A
Number of youth participating in research	38
Sturgeon Lake	
Total population	1,174
Total youth population (n, % of total population)	350 (30%)
Number of youth referred to AOM services over total data collection period (n, data collection period)	119 (2016-04 to 2019-09)
% of total youth population referred to services over total data collection period	34%
Average number of youth referred to services per month	3
Number of youth participating in research	40
Puvirnituq	
Total population	1,779
Total youth population (n, % of total pop.)	535 (30%)
Number of youth participating in AOM services over total data collection period (n, data collection period)	75 (2018-04 to 2019-09)
% of total youth population participating in services over total data collection period	14%
Ulukhaktok	
Total population	396
Total youth population (n, % of total population)	105 (27%)
Number of youth participating in AOM services over total data collection period (n, data collection period)	15 (2018-02 to 2019-09)
% of total youth population participating in services over total data collection period	14%

[a]Total population and total youth population. Total population was taken from the Census Profile, 2016 Census, Statistics Canada, or from Aboriginal Affairs and Northern Development Canada, retrieved May 20, 2016. Total youth population was based on the estimated number of youth aged 10 to 24 from the same 2016 Census.

[b]Number of youth referred to ACCESS Open Minds (AOM) services. This is the number of youth referred (both self-referred and referred by others) to AOM services during the data collection period indicated. The data collection period for each site extends from the date the site began collecting data (shown) until September 30, 2019.

[c]Number of youth participating in research. This is the number of youth consenting to participate in research data collection at the four First Nations sites, during the data collection period indicated.

N/A=not available.

Western treatment approaches (see Supplemental Text on cultural safety, humility and competency).

This report aims to document the demographic and clinical presentations of youth accessing AOM services at these six Indigenous sites. The approach to data collection and the resulting dataset presented are novel in that youth were assessed using a uniform protocol across sites, with communities coming together to share their data and experiences. The paper illustrates the acceptability, feasibility, and potential value of transforming services using core principles adapted to local contexts and evaluating these using a common protocol.

Methods

Sites participating in AOM implemented a core evaluation protocol for the collection of demographic and clinical data

on youth service users and their outcomes, and data on service contexts and processes (see Iyer et al.[19] for the full evaluation protocol). The two Inuit sites, Ulukhaktok and Puvirnituq, did not follow this evaluation protocol because of cultural considerations, local constraints, and preferences. As a result, the data presented in this paper primarily pertain to the four First Nations sites. Except for Table 1, all data shown are aggregate data from the four First Nations sites. In addition, in specific instances, we show separate data from the three First Nations sites (Eskasoni, Elsipogtog, Mistissini) who agreed to be identified as individual sites in the presentation of data, to give an indication of inter-site variability.

Settings/Sites

The participating sites include four First Nations communities—(1) Eskasoni First Nation, a Mi'kmaq community in Unama'ki (Cape Breton, Nova Scotia), (2) Elsipogtog First Nation, a Mi'kmaq community in Sikniktuk (eastern New Brunswick), (3) the Cree Nation of Mistissini within Eeyou Istchee, the territory mostly covered by the James Bay and Northern Quebec Agreement, (4) Sturgeon Lake First Nation, a Nēhiyawēwin (Plains Cree) community in north central Saskatchewan and one of the Treaty 6 First Nations —and two Inuit communities—(1) Puvirnituq located in Nunavik (northern Quebec) and (2) Ulukhaktok in the Inuvialuit Settlement Region of the Northwest Territories.

Study participants were youth who accessed services for mental health concerns at these six AOM sites and gave written informed consent to participate in research, that is, that information they provided using the assessment tools in the AOM protocol can be used for the larger study.[19] Respecting local processes/regulations, consent was sought from a parent/legal representative if needed along with assent from the young person.[19]

Youth Mental Health Service Transformation

Details about the AOM youth mental health services transformation model and its implementation have been published previously.[18,20,21] Supplemental Table S1 contains a listing of core service elements implemented by the six Indigenous sites to effect service transformation. All sites commenced the process of transformation with a community mapping exercise to identify and coordinate existing youth mental health services and other youth-focused resources. At the First Nations sites, rapid response to help-seeking was facilitated by an "ACCESS Clinician", a mental health professional hired to conduct initial evaluations and link youth with services of choice—Traditional and/or Western approaches to health. Additional requisite staff such as psychologists and outreach workers were also hired. Instead of ACCESS Clinicians, the Inuit sites chose to engage community youth workers, that is, lay health workers trained to identify individuals with mental health problems and support them in seeking additional professional help inside or outside of the community.[21,24] Doing so was a preference of the communities as they felt that such workers were more likely to remain in the communities over the longer term than professionals coming in from outside.

Each site created a youth-friendly physical space where youth could walk in to access services in a welcoming, stigma-free environment. Site teams engaged in a variety of community outreach activities, and at some sites, social media played an important role in encouraging youth to access services. Youth could access services themselves or be referred by community members such as their families, peers, and teachers. There was active youth participation in the design and ongoing delivery and evaluation of services at all sites. Traditional Indigenous healing and cultural activities, such as outings on the land, survival skills, and other land-based activities, access to Traditional ceremonies, activities and crafts, and connections with Elders and Traditional healers, prominently featured in youth mental health programming offered at the sites. Thus, First Nations sites offered youth-focused Indigenous methods of improving well-being, "Western" mental health services or a combination of both (see Institute for Integrative Science & Health. Two-Eyed Seeing[25] for a discussion of the concept of Two-Eyed Seeing). Most services, except for highly specialized services, were provided within the community.

Ethical Considerations

The study was approved by the Research Ethics Board of the Douglas Mental Health University Institute (approval number IUSMD-15-21) and all pertinent local institutional and community bodies, including adherence to site-specific data agreements. The study followed appropriate regulations regarding informed consent, institutional approval for access to pertinent non-identifiable health administrative records, data privacy, confidentiality, storage, and security. AOM follows Ownership, Control, Access, and Possession (OCAP™) principles (2014) and perspectives outlined in the Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans: Chapter 9, entitled "Research Involving the First Nations, Inuit and Métis Peoples of Canada (2014/2018)."[26–28] AOM's Indigenous Council and all six sites conceived of, contributed to, and approved this paper.

Evaluation Protocol

Data presented in this paper were collected when youth first presented for services. The protocol includes a customized sociodemographic questionnaire filled by youth and supplemented if needed by a trained clinician or evaluator; a custom checklist of presenting concerns (11 categories with 69 suboptions) completed by both youth and clinicians;

and several youth self-reported and clinician-reported scales.[19]

Youth self-report scales included the 10 item Kessler Psychological Distress scale (K10), providing a global measure of distress based on questions about anxiety and depressive symptoms in the most recent four-week period.[29] The lowest possible score on the K-10 is 0 (no symptoms at all) and the highest is 40 (all 10 symptoms all of the time). Using data from the Aboriginal Peoples Survey 2012, the K10 was demonstrated to show good psychometric properties for First Nations people living off reserve, Métis, and Inuit populations.[30] This same study found mean scores of 14, 15, and 19 for First Nations respondents with diagnosed anxiety disorders, with diagnosed mood disorders and who had considered suicide in the past 12 months, respectively. Our paper therefore presents scores above and below a cut-off of 14, in addition to the total range of K-10 scores.

Youth also rated their general mental health and health on two items with five-point Likert-type scales ranging from *poor* to *excellent*.[31] These single items constitute the Self-rated Mental Health (SRMH) and Self-rated Health (SRH) measures, respectively, and have been used as part of the Aboriginal Peoples Surveys and shown to have validity, with the caveat that validation did not include all distinct Indigenous groups in Canada.[32–34]

AOM clinicians assessed suicidal thoughts and behaviors using the Columbia Suicide Severity Rating Scale Screener (C-SSRS), a six-item clinician-administered suicide assessment tool with demonstrated strong psychometric properties.[35] The items are rated on a dichotomous scale of yes/no, where the respondent indicates how much each statement is true for them in the past month. When youth endorsed suicidal thoughts and behaviors, site staff followed appropriate procedures such as additional assessment, triaging based on level of risk, and connecting youth to needed levels of care, in accordance with safety, ethical and legal obligations.

To capture pathways to care among youth receiving AOM services, we collected information about the source of referral (e.g., self-referred, family, friend, doctor/nurse), mental health help seeking in the 12 months prior to receiving services at AOM, and how youth found out about AOM services.

Data were entered into a secure electronic data management system, and were collected from the launch of the AOM service, which varied across sites, until September 2019 (data collection and analysis is ongoing).

Results

Demographics

Table 1 shows the populations of the six communities and the numbers of youth referred to their AOM services. All six sites are small rural or remote communities with youth aged 10–24 making up a large proportion of the total population. Variations in the duration of data collection (determined by when AOM services were launched; see Table 1) and the population sizes of the six sites contributed to significant variance between sites in the numbers of youths accessing services. For the two sites with the longest data collection periods of over three years, Eskasoni (39 months) and Sturgeon Lake (41 months), 53 and 34%, respectively, of the community's total youth population accessed mental health services over the data collection period. Except for referral numbers shown in Table 1, all subsequent data presented in this paper pertain only to those youth who consented to research ($n = 257$; individual ns shown in Table 1). Data for the two Inuit sites are not shown owing to the small number of consenting youth (eight in Puvirnituq, five in Ulukhaktok) who participated in research. At these two sites, only a few youth were approached for data collection as a proof of principle of the feasibility of data collection on service usage.

AOM services were designed to serve youth from ages 11 to 25, and 96% of youth fell within this age range. A small number ($n = 10$) of youth in the age range 26–29 were also included owing to individual site considerations, particularly in Mistissini, where youth services (Uschiniichisuu) have always served 10–29-year-olds. Figure 1(a) shows the age groupings of youth accessing services, expressed as combined data for the four First Nations sites and also for three of these four sites separately. Overall, 35, 37 and 28% of youth accessing services were in the 11–15, 16–20, and 21–29 year age categories, respectively. Mistissini had a smaller proportion of 16- to 20-year-olds and a larger proportion of 21- to 29-year-olds accessing services compared with the combined sample.

As has been reported for other mental health services, more females sought care than did males (63% cis-women vs. 30% cis-men for combined data; Figure 1b). A substantial proportion (29% for combined data) did not report their sexual orientation as heterosexual (Figure 1c). This 29% includes those who identified as bisexual/lesbian/gay or other (including queer/questioning/asexual/other) plus those who were not sure or preferred not to answer.

Most youth were engaged in education, training or employment, and a small number were caregivers, typically for a young child (Table 2). However, 25% of young people above the age of 15 were not engaged in employment, education or training (NEET). Most lived with their parents and/or other relatives while only 2% lived alone. A large majority of youth indicated that there was a reliable adult around when they were in need, and 83% indicated that they got along very well/well with the people living with them. While 28% of youth indicated that they had at some point lived in foster care or a group home, only 1% were currently living with a guardian or foster parent. Approximately 25% of the youth reported difficulty meeting basic expenses such as food, shelter, and clothing.

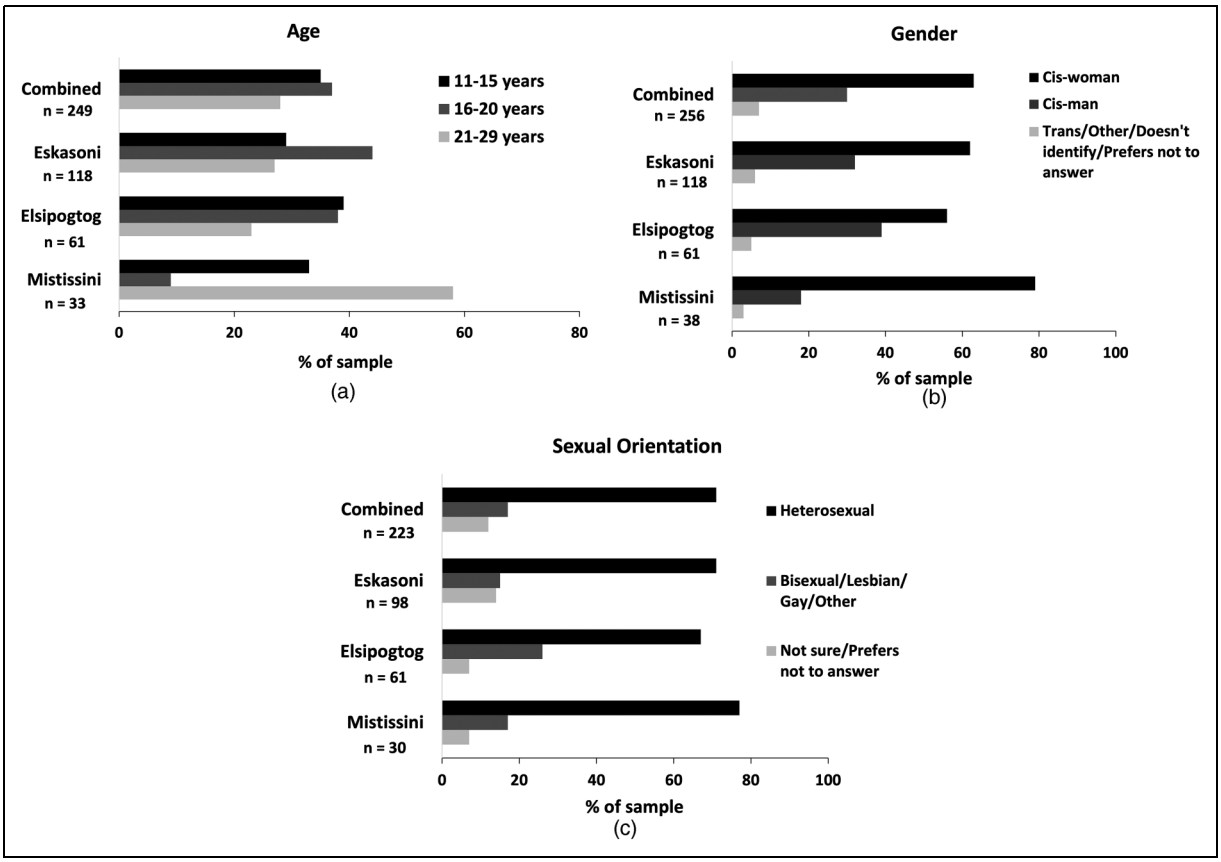

Figure 1. Age, gender and sexual orientation. Combined data for age range (a), gender (b) and sexual orientation (c) of youth accessing AOM mental health services at four First Nations sites are shown, followed by separate data for three of those four First Nation sites. For (b), "Trans/Other" includes youth who identified as trans-woman, trans-man or gender-fluid. For (c), "Other" includes youth who identified as queer, questioning, asexual or other.

Clinical Presentations

At the time of entering AOM services, the mean score on the Kessler K10 for youth at all four First Nations sites combined was 17.7 (SD = 8.7). Mean scores were fairly similar at Eskasoni (19.7, SD = 8.6), Elsipogtog (16.7, SD = 8.56) and Mistissini (14.0, SD=8.2). Figure 2(a) shows the quartiles for scores at baseline presentation on the Kessler K10. For combined data, the lower quartile was 11, the median score was 18, and the upper quartile was 24, indicating that three-quarters of youth reported K10 scores of 11 or higher, half reported scores of 18 or higher, and one-quarter reported scores of 24 or higher. In Figure 2(b), we show the proportion of youth at the sites with K10 scores less than or equal to 14, vs. the proportion with scores greater than 14. For combined site data, 61% of youth accessing AOM services had K10 scores greater than 14 at baseline, a cut-off indicating the likelihood of the presence of diagnosable mental health problems. Cis-women trended toward reporting greater distress than cis-men ($t(204) = 1.97$, $p = 0.051$) and the level of reported distress increased slightly with age ($r_s = 0.16$, $p = 0.02$).

On the SRMH (Figure 3), 55% of youth (combined data) rated their mental health as fair or poor. This number corresponds well with 61% of youth reporting Kessler K10 scores >14. Scores on the K10 and the SRMH scales were strongly correlated (Spearman's $r = 0.59$, $p < 0.0001$), suggesting that youths' assessment of their psychological distress was related to their perception of their mental health. Similarly to K10 scores, cis-women reported worse mental health compared with cis-men ($t(207) = 2.10$, $p = 0.04$. However, SRMH scores did not correlate with age.

Unlike on the SRMH, the majority (74%) of youth using AOM services rated their overall health as good/very good/excellent on the SRH (combined site data, $n = 236$). Nonetheless, the correlation between SRH and SRMH was significant (Spearman's $r = 0.38$, $p < 0.0001$), suggesting that youths' perceptions of mental health and overall health may be related. Cis-men reported better overall health compared with cis-women (unequal variances; $t(176.74) = 2.30$, $p = 0.02$). Overall health negatively correlated with age,

Table 2. Education, employment and living conditions of youth accessing ACCESS Open Minds Mental Health Services at four First Nations sites.

	%	n
Currently engaged in[a] ($n = 232$)		
Education	64%	149
Paid employment	21%	49
Job training or seeking	9%	21
Taking care of my basic needs	33%	77
Care giving for child or dependent adult	5%	12
Volunteering or other	9%	20
Not engaged in education, training or employment	21%	48
Relationship status ($n = 229$)		
Single	67.2%	154
In relationship(s) or married/common-law	30.6%	70
Prefers not to answer/other	2.1%	5
Currently living with[a] ($n = 231$)		
One or both parents/step-parents	71%	163
Siblings/grandparents/other adults related to me	64%	147
Boyfriend/girlfriend/partner/spouse	16%	36
My own child/children	8%	18
Friends/roommates/other	17%	39
Have you ever lived in foster care or a group home? ($n = 226$)		
No	63%	143
Yes	28%	63
Prefers not to answer	9%	20
There is a reliable adult who is around when I am in need ($n = 220$)		
Yes	87%	192
No	13%	28
I get along with the people with whom I live ($n = 219$)		
Very well	27.9%	61
Well	55.3%	121
Not well/not at all	14.6%	32
Not applicable (I live alone)	2.3%	5
With your current household income, do you have any difficulty meeting basic expenses such as food, shelter and clothing? ($n = 157$)		
Yes	25%	40
No	75%	117

Note: Data shown are from the four First Nations sites combined.
[a]Individuals could choose more than one category.

where reporting poorer overall health increased slightly with age ($r_s = -0.14$, $p = 0.03$).

On the C-SSRS, 48.7% ($n = 93$) of youth reported having suicidal thoughts in the month prior to receiving AOM services, and 25.1% ($n = 48$) of youth had at some point engaged in suicidal behaviors. Of these 48 youth, 23 reported suicidal behaviors in the last three months. Among the youth who reported suicidal thoughts in the past month ($n = 93$), 55.9% ($n = 52$) had considered a method, 36.6% ($n = 34$) had some intent to act on their thoughts, and 18.3% ($n = 17$) reported having a specific plan.

The nature of youths' presenting problems was examined from the perspectives of youth and clinicians. Figure 4 shows the top 12 most frequent presenting problems (see also Supplemental Figure S1). Anxiety, stress and depression were the most common problems identified. Agreement between youth and clinicians on

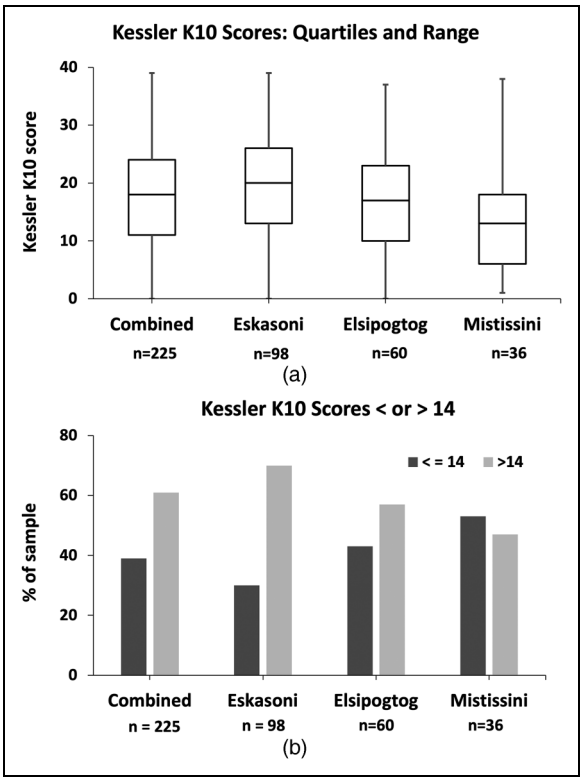

Figure 2. Kessler K10 scores. Quartiles and range (a) of Kessler K10 scores at initial intake are shown for youth accessing AOM mental health services at four First Nations sites combined, followed by separate data for three of those four First Nation sites. (b) The proportion of youth in the combined sample and in three of the four First Nations sites with K10 scores ≤ 14 versus >14.

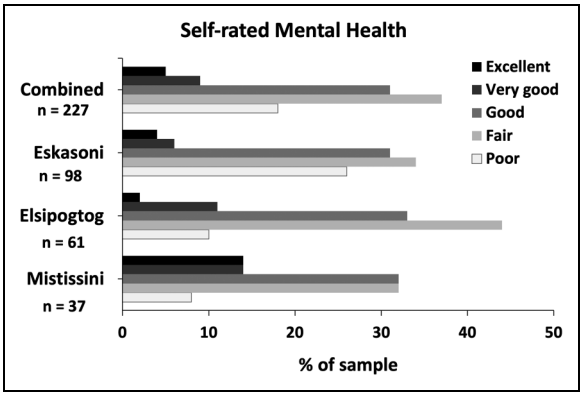

Figure 3. Self-rated mental health. Proportions of youth endorsing excellent, very good, good, fair, or poor mental health at initial intake on the Self-rated Mental Health item are shown for youth accessing AOM mental health services at four First Nations sites combined, followed by separate data for three of those four First Nation sites.

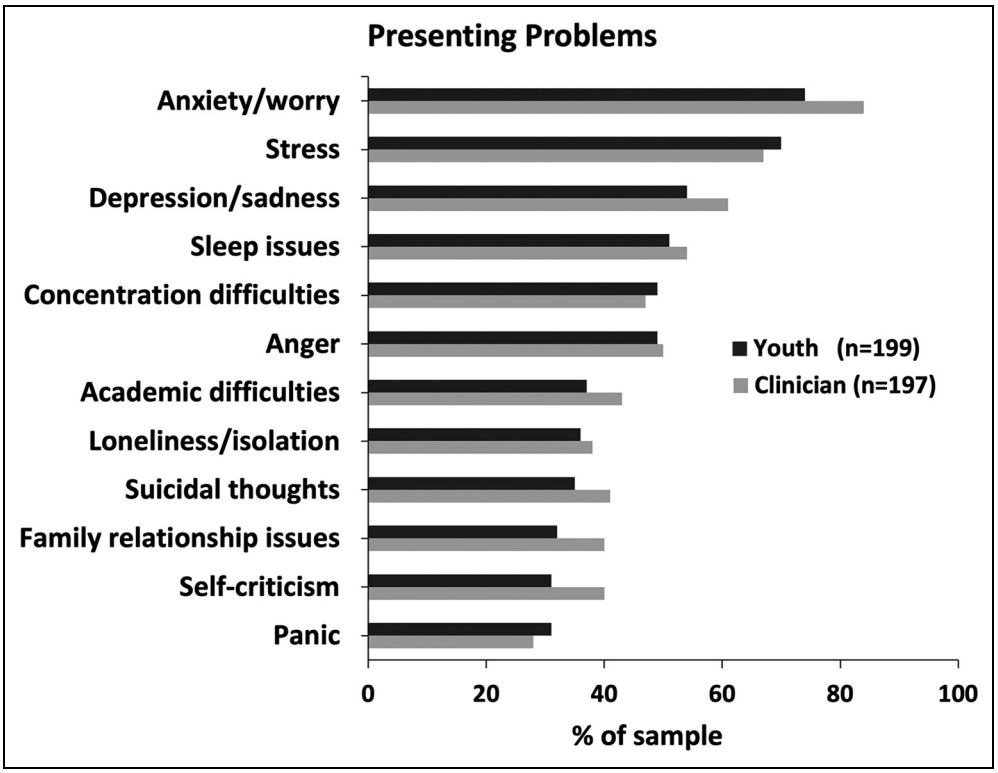

Figure 4. Presenting problems. Youths' top 12 most frequent presenting problems identified by either the youth themselves or the intake clinician are shown for youth accessing AOM mental health services; data shown are from the four First Nations sites combined and are expressed as the % of the sample endorsing each presenting problem.

the frequency and nature of such presenting problems ranged between 75% (loneliness/isolation) and 87% (sleep issues) with a mean percentage agreement of 80%. Youth reported a mean of 11.2 (SD = 7.2) presenting problems per youth, while clinicians identified 12.6 (SD = 6.6) presenting problems per youth.

Pathways to Care

Over half of youth accessed AOM services themselves or were referred by family members (28% self-referred, 23% referred by family). In other cases, youth were referred to the AOM service by a doctor, nurse or therapist, school counsellor or teacher, community organization, social worker or other (Supplemental Figure S2a). AOM was the first mental health service that 68% of youth had accessed that year, indicating that AOM services were relatively well known and accessed via a direct pathway. Youth found out about AOM services from varied sources including hearing about the services from a friend or family member; other helping professionals such as doctors, nurses, psychologists, social workers, school counsellors; community organizations; word of mouth (from those who already received services) and social media (Supplemental Figure S2b).

Discussion

To our knowledge, the current report is the first to present a demographic and clinical portrait of youth presenting at youth mental health services in multiple Indigenous settings in Canada. The six Indigenous communities effected a transformation/enhancement of their youth mental health services based on the general objectives of AOM, which they tailored to the needs and preferences of their communities. Youth at the sites participated in providing direction for the delivery of services which encompassed both Traditional and Western ways of achieving wellness. Youth engagement also took the form of (co-)designing youth spaces and programs to access mental health services in ways that they found meaningful. Key to the project was the implementation of a uniform protocol allowing sites to share and compare demographic, clinical and other data.

Acceptability of Well-Designed Youth Mental Health Services in Indigenous Contexts

The data on referral to services confirm that there is a need for youth mental health services delivered by culturally competent professionals in these communities and that youth will use such services if they are available, accessible and acceptable. In fact, in 50% of the cases, youth and families directly

accessed AOM services without waiting to be referred, highlighting the importance of open referral systems and well-publicized, youth-friendly services. In the case of Eskasoni, we were able to compare the number of referrals in the period between 2013 and 2015 before the implementation of AOM (pre-implementation $N = 168$) with the number during a similar length of time post-implementation (2016–2019; $N = 539$). Thus, the number of youth accessing services increased from 4.6 per month to 13.7 per month at this site.

In the two communities where data were collected for 3 or 3.5 years, referrals represented 53% (Eskasoni) and 34% (Sturgeon Lake) of the total youth population, while, across sites, 1–14 youth accessed serviced themselves or were referred per month. These numbers pertain to youth who self-referred or were referred specifically for an assessment for mental health and/or substance use problems. At all sites, many more youth (not included in the preceding *n*s) accessed other programming such as arts groups, drumming circle, Mental Health First Aid training for youth peer support workers, etc. Communities saw these activities as promoting mental health, resilience and wellness, and supporting early identification and stigma reduction.

Data from the First Nations sites indicate that services were used by all three age groups, that is, young adolescents (age 11–15), older teenagers (age 16–20) and young adults (age 21–29). As reported for other populations, more girls and women sought care than did boys and men. Young females also endorsed higher levels of distress and poorer mental health. These trends may reflect sex differences in the distribution of mood and anxiety disorders for this age group,[36,37] but may also be indicative of lower willingness to endorse problems and seek help among young men. Population data for Western countries indicate that young men experience higher rates of some serious mental health issues (e.g., substance abuse, conduct disorder, psychosis) than do young women, but are less likely to seek help for mental health problems.[38] Our data also underline the need for targeted interventions that engage boys and young men in need of mental health support.

Youth at Risk of Marginalization Connected in Significant Numbers

Youth at the four First Nations sites who identified as having some LGBTQ2I+ affiliation represented 17% of youth accessing AOM services. This indicates that these youth are an important subconstituency whose needs must be considered in designing youth mental health services, systems and policies.

A much higher proportion (25%) of help-seeking youth aged 15–29 were NEET than in the general Canadian youth population (12.2%).[39] This supports the growing concern about the increased vulnerability to mental ill-health among NEET youth.[40,41] It also points to the need for AOM-like services to integrate employment and education support interventions.

A quarter of youth reported finding it difficult to meet basic expenses. This represents a significant vulnerability in some communities, given that economic and nutritional status are recognized determinants of physical and mental health.[42–45]

In Canada, 52.2% of children in foster care are Indigenous, but only 7.7% of the total child population are Indigenous.[46] While youth with prior contact with child protection services may be at higher risk of experiencing mental health problems and suicidal ideation,[47,48] they are also less likely to seek and remain engaged in services.[49,50] In our sample, over a quarter reported having previously lived in foster care or a group home.

Overall, our findings suggest that AOM sites may have succeeded in creating safe spaces for youths who may be particularly vulnerable and at risk of marginalization by sexuality, poverty or adverse childhood experiences. At the same time, most youth also had significant strengths in terms of their social networks. The vast majority were living with family and 83% reported having positive relations with those with whom they lived. Our data is unfortunately limited in its ability to comment on additional community strengths and connections that youth had access to.

AOM Sites, a Point of Service Access for Youth with High Distress and Need for Care

Prior research has shown a strong association between high Kessler scores and the presence of DSM-IV diagnosed disorders.[51–54] Using Australian National Survey data, K10 scores of 10–14, 15–19 and 20+ (on a 0–40 scoring scale) have been interpreted to indicate individuals being likely to have mild, moderate or severe mental disorders, respectively.[55] These cut-offs are in relatively good concurrence with a recent Statistics Canada report indicating K10 cut-off scores of 14 and 15 for First Nations people with diagnosed anxiety and mood disorders, respectively.[30] In our study, youth accessing AOM services at the First Nations sites reported lower quartile, median and upper quartile K10 scores of 11, 18 and 24, respectively. This indicates that three-quarters of the presenting youths may have had at least a mild mental health problem; that half likely had a moderate mental health problem; and that a quarter may have had severe mental health problems. Thus, AOM services appear to be appropriately targeting and engaging youth with psychological distress and a full spectrum of youth with mild, moderate and severe mental health problems. AOM sites also seem to be a point of access for many youth with moderate/high levels of psychological distress (>50%) and need for care, as also evidenced by ~50% reporting recent suicidal thoughts. Young people self-reported their reason for seeking help as problems with how they felt, with mood, anxiety and stress symptoms being the top presenting problems. This aligns with the

high prevalence of common mental disorders (anxiety, mood and behavior disorders) in community epidemiological and help-seeking youth populations.[37,56,57]

Fifty-five percent of youth accessing services at AOM First Nations sites rated their mental health as fair or poor on the SRMH. Data from the 2018 First Nations National Health Survey indicated that only 11.6% of First Nations youth aged 12–17 rated their mental health as fair or poor on the SRMH.[58] The Survey also indicated that 50.9% of First Nations young people aged 18–29 rated their mental health as excellent or very good compared with only 14% of youth accessing services at AOM First Nations sites. These comparisons indicate that AOM outreach strategies are appropriately engaging youth who perceive their mental health as suboptimal. This is congruent with prior findings that individuals who rate their mental health as poor on the SRMH are more likely to use mental health services.[59,60] Individuals with mental health problems were also significantly more likely to endorse poor/fair mental health in the 2002 Canadian Community Health Survey: Mental Health and Well-being, which however did not include Indigenous communities/reserves.[31] Caution, however, should be exercised in using the SRMH as a measure of mental morbidity given findings that over half of individuals with mental morbidity rate their mental health as good on the SRMH.[31] The SRMH may only modestly correlate with more formal measures of mental health, such as DSM criteria or symptom scales.[59,60] Self-perceptions of mental wellness may be influenced by numerous factors such as age, cultural perspectives, notions of mental health, physical health, stigma and media influences.[59–61] Notwithstanding the lack of perfect correspondence between self-reports of mental health and the presence of mental health problems, these measures serve the important function of bringing youth perspectives into assessment.[62,63]

Limitations

The generalizability of our findings to all youth accessing services at the participating First Nations sites may be questioned, given that data were only collected from youth who consented to research and the assessment protocol. Furthermore, the sample sizes varied across data items as youth chose not to answer some items and staff sometimes did not collect all data items as per the protocol. Our choice of assessment tools also limits our ability to comment on the prevalence of specific mental health and substance use problems that meet diagnostic criteria. It is important to note that treatment decision-making was informed by not only these scales, but also in-depth interviews conducted by trained staff. At all sites, by design, the "ACCESS Clinician" who was responsible for intakes was not a physician or psychiatrist. The use of validated scales and screeners (in lieu of arriving at diagnoses) allowed initial evaluations to be performed by a wide range of trained health professionals, thus facilitating rapid access to services. There is emerging recognition that mental health problems during adolescent and youth are relatively diffuse and pluripotent.[64] During consultation on the design of AOM services, youth and other stakeholders also expressed concerns with potential harm and stigma associated with early labelling of youth's presenting concerns in terms of specific diagnoses, particularly in community settings. These various considerations guided our decision to rely instead on self- and clinician-rated measures of distress, SRMH, functioning and overall severity.

Although most scales used in this study (K10, SRMH, SRH) have been used as part of the Aboriginal Peoples Surveys and shown to have validity with some Indigenous groups in Canada, [32–34] one of our First Nations sites reported that some of the tools used to measure mental health in the current study were less than optimal for youth in their community. It was felt that the language used in the tools was difficult to understand given that the constructs were from a Western worldview and not necessarily congruent with a Traditional worldview. Proceeding from the view that while youth are frequently faced with many challenges, they are also very resilient and that First Nations beliefs are strength-based, this site conducted a focus group with youth to tailor tools to include the integration of culture, and Elders and youth co-created new tools which addressed cultural aspects of wellness. However, after discussion among AOM Network members, this site decided to use already validated scales such as K10 and SRMH for this study in order to allow sharing and aggregation of data among several communities, and with the larger AOM network of both non-Indigenous and Indigenous sites. Nonetheless, this emphasizes the need for the development and validation of tools that address youth mental health using language and concepts that are contextually and culturally appropriate.

Site staff often commented on young people not endorsing difficulty meeting basic needs, even when objectively this may have been the case. Deprivation and poor SRMH may have been under-reported by youths who may have had high thresholds for endorsing these problems because of their generally high prevalence in some communities. In Eskasoni, for instance, only 22% of young people reported having difficulty meeting basic needs despite the community having a 73% child poverty rate.[65] Thus, more work is needed to understand how young people interpret and choose to respond to specific items. It may also be useful to re-assess certain items once youth are more comfortable with self-disclosure. Overall, more efforts are needed to ensure that measures and the interpretation of data from measures are situated in deeper, culturally salient understandings of wellness and mental ill-health.

Conclusion

These are the first data that describe the young people presenting to AOM mental health services in Indigenous contexts across Canada. By showing that these services are being accessed by their intended target population, our report highlights the promise of transforming youth mental health services to make them more accessible and youth-friendly. Further analyses are planned to determine whether youth accessing AOM services experience improvements in their mental health, functioning and overall well-being. Such information is timely as there is growing interest in and support for improving youth mental health outcomes in Canada.[66,67] AOM is a valuable proof of concept showing that it is possible to build and deliver evidence-informed, culturally sensitive youth mental health services in Indigenous contexts based on a common model that is also implementable in non-Indigenous and other Indigenous contexts in Canada.[18,19] While there is scope for improvement, the AOM experience highlights the possibility of implementing a shared, high-quality data system across diverse youth mental health contexts in Canada, and its potential for informing service design and improvement in real time.

Authors' Note

Data from this study are only accessible to study investigators. Data use and access follow OCAP principles and signed data sharing agreements between the AOM central office at the Douglas Mental Health University Institute and individual participating sites. Please contact corresponding author for any request related to accessing data from this project.

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References

1. Kessler RC, Berglund P, Demler O, et al. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. Arch Gen Psychiatry. 2005;62(6):593-602.
2. Copeland WE, Wolke D, Shanahan L, Costello EJ. Adult functional outcomes of common childhood psychiatric problems: a prospective, longitudinal study. JAMA Psychiatry. 2015;72(9):892-9.
3. Morningstar ME, Trainor AA, Murray A. Examining outcomes associated with adult life engagement for young adults with high incidence disabilities. J Vocational Rehabil. 2015;43(3):195-208.
4. Wagner M, Newman L. Longitudinal transition outcomes of youth with emotional disturbances. Psychiatr Rehabil J. 2012;35(3):199-208.
5. Hetrick SE, Bailey AP, Smith K E, et al. (2017). Integrated (one-stop shop) youth health care: best available evidence and future directions. Med J Aust. 2017;207(S10):S5-S18.
6. Malla A, McGorry P. Early intervention in psychosis in young people: a population and public health perspective. Am J Public Health. 2019;109(S3):S181-4.
7. McGorry PD, Mei C. Early intervention in youth mental health: progress and future directions. Evid Based Ment Health. 2018;21(4):182-4.
8. Kowalewski K, McLennan JD, McGrath PJ. A preliminary investigation of wait times for child and adolescent mental health services in Canada. J Can Acad Child Adolesc Psychiatry. 2011;20(2):112-19.
9. Moroz N, Moroz I, Slovinec D'Angelo M. Mental health services in Canada: barriers and cost-effective solutions to increase access. Healthc Manage Forum. 2020;33(6):282-7.
10. Watson P, Mehra K, Hawke LD, Henderson J. Service provision for depressed children and youth: a survey of the scope and nature of services in Ontario. BMC Health Serv Res. 2019;19(1):947.

11. Iyer SN, Boksa P, Joober R. How youth mental healthcare is being transformed in diverse settings across Canada: reflections on the experience of the ACCESS Open Minds network. Early Interv Psychiatry. 2019a;13(Suppl 1):8-11.
12. Statistics Canada 2018. https://www150.statcan.gc.ca/n1/en/pub/89-659-x/89-659-x2018001-eng.pdf?st=iY3fCcBh
13. Government of Canada, Crown–Indigenous Relations and Northern Affairs Canada. Indigenous peoples and communities. 2017. https://www.rcaanc-cirnac.gc.ca/eng/1100100013785/1529102490303
14. Sawchuk J. Social conditions of indigenous peoples in Canada. The Canadian Encyclopedia; 2011. Available from: https://www.thecanadianencyclopedia.ca/en/article/native-people-social-conditions
15. Baskin C. Structural determinants as the cause of homelessness for aboriginal youth. Crit Soc Work 2007;8(1). Available from: https://ojs.uwindsor.ca/index.php/csw/article/view/5740
16. Elias B, Mignone J, Hall M, et al. Trauma and suicide behaviour histories among a Canadian indigenous population: an empirical exploration of the potential role of Canada's residential school system. Soc Sci Med. 2012;74(10):1560-9.
17. Levin R, Herbert M. The experience of urban aboriginals with health care services in Canada: implications for social work practice. Soc Work Health Care. 2004;39(1-2):165-79.
18. Malla A, Iyer S, Shah J, et al. Canadian response to need for transformation of youth mental health services: ACCESS Open Minds (Esprits ouverts). Early Interv Psychiatry. 2019;13(3):697-706.
19. Iyer SN, Shah J, Boksa P, et al. A minimum evaluation protocol and stepped-wedge cluster randomized trial of ACCESS Open Minds, a large Canadian youth mental health services transformation project. BMC Psychiatry. 2019;19(1):273.
20. Hutt-MacLeod D, Rudderham H, Sylliboy A, et al. Eskasoni first nation's transformation of youth mental healthcare: partnership between a Mi'kmaq community and the ACCESS Open Minds research project in implementing innovative practice and service evaluation. Early Interv Psychiatry 2019;13(Suppl 1):42-7.
21. Etter M, Goose A, Nossal M, et al. Improving youth mental wellness services in an Indigenous context in Ulukhaktok, Northwest Territories: ACCESS Open Minds project. Early Interv Psychiatry. 2019;13(Suppl 1):35-41.
22. Liebenberg L, Wall D, Wood M, Hutt-MacLeod D. Spaces and places: understanding sense of belonging and cultural engagement among Indigenous youth. Int J Qual Meth. 2019;18. Available from: https://journals.sagepub.com/doi/10.1177/1609406919840547
23. Health Canada. First Nations Mental Wellness Continuum Framework. Available from: https://thunderbirdpf.org/wp-content/uploads/2015/01/24-14-1273-FN-Mental-Wellness-Framework-EN05_low.pdf
24. Inuit Tapirisat of Canada. Inuit-Specific Mental Wellness Framework. Available in Appendix B at https://www.itk.ca/wp-content/uploads/2009/12/Alianait-Inuit-Mental-Wellness-Action-Plan-2009.pdf
25. Institute for Integrative Science & Health. Two-Eyed Seeing. http://www.integrativescience.ca/Principles/TwoEyedSeeing/
26. The First Nations Information Governance Centre. Ownership, Control, Access and Possession (OCAP™): The Path to First Nations Information Governance. May 2014. Available from: https://fnigc.ca/sites/default/files/docs/ocap_path_to_fn_information_governance_en_final.pdf
27. Government of Canada. Panel of Research Ethics. TCPS2 (2018)—Chapter 9: Research Involving the First Nations, Inuit and Metis People of Canada. Available from: https://ethics.gc.ca/eng/tcps2-eptc2_2018_chapter9-chapitre9.html
28. Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada. Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans; 2014. Available from: https://www.cmcc.ca/Tri-Council%20Policy%20Statement.pdf
29. Kessler RC, Andrews G, Colpe LJ, et al. Short screening scales to monitor population prevalences and trends in non-specific psychological distress. Psychol Med. 2002;32(6):959-76.
30. Bougie E, Arim RG, Kohen DE, Findlay LC. Validation of the 10-item Kessler Psychological Distress Scale (K10) in the 2012 Aboriginal Peoples Survey. Health Rep. 2016;27(1):3-10.
31. Mawani FN Gilmour, H. Validation of self-rated mental health. Health Rep. 2010;21(3):61-75.
32. Bombak AE, Bruce SG. Self-rated health and ethnicity: focus on Indigenous populations. Int J Circumpolar Health. 2012;71:18538.
33. Cloutier EC Langlet, E. Aboriginal Peoples Survey, 2012: concepts and methods guide. Statistics Canada-Statistique Canada. Available from: https://www150.statcan.gc.ca/n1/pub/89-653-x/89-653-x2013002-eng.htm
34. Levesque A, Quesnel-Vallée A. Gender variations in the relationship between social capital and mental health outcomes among the Indigenous populations of Canada. Int J Equity Health. 2019;18(1):124.
35. Posner K, Brown GK, Stanley B, et al. The Columbia-suicide severity rating scale: initial validity and internal consistency findings from three multisite studies with adolescents and adults. Am J Psychiatry. 2011;168(12):1266-77.
36. Altemus M, Sarvaiya N, Epperson CN. Sex differences in anxiety and depression clinical perspectives. Front Neuroendocrinol. 2014;35(3):320-30.
37. Pearson C, Janz T, Ali J. Mental and substance use disorders in Canada. Statistics Canada 2013. Available from: https://www150.statcan.gc.ca/n1/en/pub/82-624-x/2013001/article/11855-eng.pdf?st=yQjCOtdF
38. Rice SM, Purcell R, McGorry PD. Adolescent and young adult male mental health: transforming system failures into proactive models of engagement. J Adolesc Health. 2018;62(3S):S9-S17.
39. Brunet S. The transition from school to work: The NEET (Not in Employment, Education or Training) indicator for 20- to 24-year-olds in Canada. Education Indicators in Canada: Fact Sheet 2019. Available from: ERIC Institute of Education Science. https://eric.ed.gov/?q=Brunet+2019&id=ED600859

40. Gariépy G, Iyer S. The mental health of young Canadians who are not working or in school. Can J Psychiatry. 2019;64(5): 338-44.
41. Henderson JL, Hawke LD, Chaim G. Not in employment, education or training: mental health, substance use, and disengagement in a multi-sectoral sample of service-seeking Canadian youth. Children Youth Services Rev. 2017;75(C):138-45.
42. Bethune R, Absher N, Obiagwu M, et al. Social determinants of self-reported health for Canada's Indigenous peoples: a public health approach. Public Health. 2019;176:172-80.
43. Burns JK. Poverty, inequality and a political economy of mental health. Epidemiol Psychiatr Sci. 2015;24(2):107-13.
44. Kim PJ. Social determinants of health inequities in Indigenous Canadians through a life course approach to colonialism and the residential school system. Health Equity. 2019;3(1):378-81.
45. Costello EJ, Erkanli A, Copeland W, Angold A. Association of family income supplements in adolescence with development of psychiatric and substance use disorders in adulthood among an American Indian population. JAMA. 2010;303-(19):1954-60.
46. Indigenous Services Canada. An Act respecting First Nations, Inuit and Métis children, youth and families. 2019. https:// www.canada.ca/en/indigenous-services-canada/news/2019/02/ an-act-respecting-first-nations-inuit-and-metis-children-youth-and-families.html
47. Katz LY, Au W, Singal D, et al. Suicide and suicide attempts in children and adolescents in the child welfare system. CMAJ. 2011;183(17):1977-81.
48. Evans R, White J, Turley R, et al. Comparison of suicidal ideation, suicide attempt and suicide in children and young people in care and non-care populations: Systematic review and meta-analysis of prevalence. Children Youth Services Rev. 2017;82:122-9.
49. Baiden P, Fallon B. Examining the association between suicidal behaviors and referral for mental health services among children involved in the child welfare system in Ontario, Canada. Child Abuse Negl. 2018;79:115-24.
50. Horwitz SM, Hurlburt MS, Goldhaber-Fiebert J, et al. Mental health services use by children investigated by child welfare agencies. Pediatrics. 2012;130(5):861-9.
51. Spies G, Stein DJ, Roos A, et al. Validity of the Kessler 10 (K-10) in detecting DSM-IV defined mood and anxiety disorders among pregnant women. Arch Womens Mental Health. 2009;12(2):69-74.
52. Browne MA Oakley, Wells JE, Scott KM, et al. The Kessler Psychological Distress Scale in Te Rau Hinengaro: the New Zealand Mental Health Survey. Aust NZ J Psychiatry. 2010;44-(4):314-22.
53. Sakurai K, Nishi A, Kondo K, et al. Screening performance of K6/ K10 and other screening instruments for mood and anxiety disorders in Japan. Psychiatr Clin Neurosciences. 2011;65(5):434-41.
54. Sampasa-Kanyinga H, Zamorski MA, Colman I. The psychometric properties of the 10-item Kessler Psychological Distress Scale (K10) in Canadian military personnel. PLoS One. 2018;13(4):e0196562.
55. Andrews G, Slade T. Interpreting scores on the Kessler Psychological Distress Scale (K10). Aust NZ J Public Health. 2001;25(6):494-7.
56. Merikangas KR, He JP, Burstein M, et al. Lifetime prevalence of mental disorders in US adolescents: Results from the National Comorbidity Survey Replication–Adolescent Supplement (NCS-A). J Am Acad Child Adolesc Psychiatry. 2010;49(10):980-9.
57. Rickwood DJ, Telford NR, Parker AG, et al. Headspace — Australia's innovation in youth mental health: Who are the clients and why are they presenting? Med J Aust. 2014;200-(2):108-11.
58. First Nations Information Governance Centre. National Report of the First Nations Regional Health Survey, Phase 3: Volume 2. 2018. Available from:https://fnigc.ca/wp-content/uploads/ 2020/09/53b9881f96fc02e9352f7cc8b0914d7a_FNIGC_RHS-Phase-3-Volume-Two_EN_FINAL_Screen.pdf
59. Ahmad F, Jhajj AK, Stewart DE, et al. Single item measures of self-rated mental health: a scoping review. BMC Health Serv Res. 2014;14:398.
60. McAlpine DD, McCreedy E, Alang S. The meaning and predictive value of self-rated mental health among persons with a mental health problem. J Health Soc Behav. 2018;59(2): 200-14.
61. Zuvekas SH, Fleishman JA. Self-rated mental health and racial/ ethnic disparities in mental health service use. Med Care. 2008;46(9):915-23.
62. Kwan B, Rickwood DJ. A systematic review of mental health outcome measures for young people aged 12 to 25 years. BMC Psychiatry. 2015;15:279.
63. Barbic SP, Leon A, Manion I, et al. Understanding the mental health and recovery needs of Canadian youth with mental health disorders: a Strategy for Patient-Oriented Research (SPOR) collaboration protocol. Int J Ment Health Syst. 2019;13:6.
64. Hartmann JA, McGorry PD, Destree L, et al. Pluripotential risk and clinical staging: Theoretical considerations and preliminary data from a transdiagnostic risk identification approach. Front Psychiatry. 2021;11:553578.
65. Frank L., Fisher L. 2019 Report card on child and family poverty in Nova Scotia, from the Canadian Centre for Policy Alternatives, Nova Scotia. Available from: https://www. policyalternatives.ca/sites/default/files/uploads/publications/ Nova%20Scotia%20Office/2020/01/2019%20report%20card %20on%20child%20and%20family%20poverty.pdf
66. Malla A, Shah J, Iyer S, Boksa P, Joober R, et al. Youth mental health should be a top priority for health care in Canada. Can J Psychiatry. 2018;63(4):216-22.
67. Halsall T, Manion I, Iyer SN, et al. Trends in mental health system transformation: Integrating youth services within the Canadian context. Healthc Manage Forum. 2019;32(2):51-5.