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# Environmental scan of mental wellness resources available on Canadian post-secondary campuses

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**Abstract**
This environmental scan study aimed to determine the current status of mental wellness resources and toolkits on Canadian post-secondary campuses. This study was completed in the summer of 2016 and consisted of three parts: Web search, campus survey, and semi-structured, individual interviews. The Web search of 135 institutions indicated that the size of the campus population influenced the availability and variety of existing mental wellness resources. In the survey conducted, over 80% of the 39 institutions had various services. Mental health–related toolkits listed in the survey were well-perceived and included de-stressing materials and mental health service information. Four common themes emerged in the interviews conducted: (a) accessibility of services, (b) support networks need to shift, (c) mental wellness resources can accomplish multiple purposes, and (d) necessary components to produce an effective mental wellness toolkit. The findings of this study can guide the future development of a potential national mental wellness toolkit for Canadian college campuses.

**Keywords** Mental health · Post-secondary institution · Mental wellness toolkit

Mental health problems are widespread among post-secondary students (Blanco et al. 2008). This phenomenon has garnered increased attention in recent years and is well documented in the USA (Castillo and Schwartz 2013; Eisenberg et al. 2013; Lipson et al. 2016), Europe (Bernaras Iturrioz et al. 2018; Christensson et al. 2011; Mojs et al. 2012; Quinn et al. 2009), Australia (Farrer et al. 2016; Manalo et al. 2010), and Canada (Heck et al. 2014; Robinson et al. 2016). In Canada, Robinson et al. (2016) found that among 400 college students who participated in their study, anxiety (36.1%) and depression (31.9%) were reported as the top two concerns; approximately 42%

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of the 400 students met the criteria for clinical psychological distress. Concurrently, the Canadian Association of College and University Student Services in 2016 released the results of a National College Health Assessment (NCHA) survey, indicating that among more than 43,000 students, 18.4% and 14.7%, respectively, received diagnoses or treatments for anxiety or depression within the 12 months prior to completing the survey (American College Health Association 2016).

The prevalence of mental health problems indicates that efforts to provide campus mental health services across Canada are crucial to ensure that post-secondary students enjoy campus life and succeed in academic studies. In 2016, a national survey conducted by Jaworska and colleagues revealed that most Canadian post-secondary institutions rendered some form of mental health identification and intervention assistance in the form of various social support and counseling services (Jaworska et al. 2016). However, the accessibility, range, and depth of available campus mental health services were inconsistent across institutions. Additionally, counseling sessions were strained to be offered because of an increased number of the student population on campus and surged needs. Complete standardized diagnostic systems and assessments were not commonly assembled or available across post-secondary campuses, which also made it difficult for the counseling sessions to fulfill better the needs (Jaworska et al. 2016). Jaworska et al. (2016) indicated it was difficult to determine the quality of student treatment provided at individual mental health services due to the limited information available at the sites studied, making feedback and evaluation of services challenging to conduct.

Previous researchers have identified potential barriers to the accessibility and use of mental health services for post-secondary students. For example, Hartrey et al. (2017) reviewed 22 published studies and concluded that mental health problems not only prevented many students from fully participating in every day academic life but also often discouraged students from seeking help through mental health services. These mental health problems included symptoms of mental illness, fear of disclosure, lack of knowledge of mental health supports, lack of understanding of mental illness, and negative beliefs and attitudes toward mental illness within the college community (Hartrey et al. 2017). Robinson et al. (2016) identified that time, level of comfortability, unknown effectiveness, and cost were additional barriers to access to counseling services. Cage et al. (2018) found that self-stigma was a particular barrier to prevent university students in the UK from accessing mental health supports (Cage et al. 2018).

As many mental health problems are not addressed until they become unmanageable (Heck et al. 2014), there needs to have a proactive approach in order to reduce the burden of mental ill-health in student populations. A report released by the Center for Collegiate Mental Health in 2018 indicated that between 2016 and 2017, 161,014 unique college students enrolled in 147 post-secondary institutions in the USA sought mental health treatment at campus counseling centers via 3592 clinicians with over 1,255,052 appointments (Center for Collegiate Mental Health 2018). In the USA, due to limited, relatively non-increased funding for such services, most of the counseling centers struggle to meet this increased demand to provide ongoing treatment (Center for Collegiate Mental Health 2018). Canadian post-secondary institutions have experienced similar concerns. With more students seeking mental health assistance, the time constraints and sustainability of mental health resources require a shift from traditional treatment to include preventive measures (MacKean 2011). Therefore, enhancing further resources, such as a toolkit for mental health management and promotion—one that promotes self-awareness, early detection, and self-management of mental health problems—could contribute to such a shift.

Previous research has shown that toolkits, in general, are useful to address a variety of health conditions, such as weight management, vaccination, pain management, and patient

safety (e.g., Hempel et al. 2019; Yamada et al. 2015). Hempel et al. (2019) conducted a systematic review of 72 toolkits that addressed a variety of quality improvement approaches on clinical topics. They found that 57% of studies reported the positive effect of toolkits on clinical procedure adherence, and 29% of studies reported the positive effect of toolkits on patient outcomes (Hempel et al. 2019). Also, Neuhauser et al. (2007) showed that parenting knowledge and practice could be improved by using the toolkit approach.

However, little is known about mental health toolkits. So far, the Inquiring Mind, a local toolkit that was developed in Calgary, Canada, aims to reduce stigma and to improve resiliency skills as well as to enhance understanding of signs and indicators of good to poor mental health. It is designed as an education-based program and delivered in a 3.5-h workshop format for post-secondary students (Mental Health Commission of Canada 2017). Currently, a pilot test of the effectiveness of the Inquiring Mind for post-secondary students is in progress among seven Canadian universities and colleges (Mental Health Commission of Canada 2018). Despite such effort, limited information has been reported in the literature about available mental wellness resources for post-secondary students, which makes it challenging to determine what a mental wellness toolkit should include.

In the present study, we sought to conduct an environmental scan of mental wellness resources on Canadian post-secondary campuses to gather information about the availability of mental health supports and resources, which could then be used to make an informed decision (Albright 2004) about the potential development of a national mental wellness toolkit. The environmental scan has been used by other health researchers to design mental health programs tailored to the needs of communities (Rowel et al. 2005). In this study, a mental wellness toolkit was defined as a physical or online informational package that served mental health functions such as education, assessment, awareness, wellness planning, and stress relief. A mental wellness toolkit might contain information flashcards with concise mental health advice, a stress ball to squeeze for tension release, and or earplugs for blocking uncomfortable noises, which could be further supplemented with information, resources, or online materials about mental health. The objective of a mental wellness toolkit is to educate students about mental health while promoting self-care and stress management.

A mental wellness toolkit also has the potential to reduce stigma against mental illnesses and to increase mental health awareness, as both stigma and self-examination are barriers to help-seeking (Armstrong and Young 2015). With a substantial return on investment that can be gained through mental illness prevention (Mental Health Commission of Canada 2012) and wellness promotion, a mental wellness toolkit could play a proactive role. It is essential, therefore, to understand the existing state of mental wellness resources available across Canadian campuses and observe what niches are well addressed and which could be improved. An environmental scan can determine which components would be ideal for mental wellness toolkit construction and could pinpoint target populations.

## Methods

### Research activities and data collection

This environmental scan study was completed in the summer of 2016; it consisted of three research activities: (a) a search of Canadian campus websites, (b) a campus survey distributed to all Canadian post-secondary institutions, and (c) semi-structured, individual interviews with

stakeholders. The Research Ethics Board of a major research university in Canada approved study procedures in the campus survey and the interview (Study ID: Pro00065462).

**Web search** An Internet search was conducted to examine campus websites that listed mental wellness services available on campus at a total of 135 publicly-funded post-secondary institutions in Canada that are primarily English-speaking. These institutions were identified by searching the websites of both the Association of Universities and Colleges of Canada (AUCC) and the Colleges and Institutes Canada (CIC). The purpose of the Web search was to gain insight into how a student in need of support could be seeking services and understand how services are presented to students.

**Campus survey** The purpose of the survey was to understand stakeholders' perception about the availability and use of mental wellness toolkits and resources. A two-step procedure was used for the development of the survey questions (Heck et al. 2014). First, information gleaned from the Web search of mental health services offered by the post-secondary institutions served as the background. Second, a grey literature search was conducted through Google Scholar and PubMed using the following terms: "campus mental health services," "campus mental wellness toolkit," and "mental health practice." The literature search mainly focused on the Canadian post-secondary context (Heck et al. 2014). The survey was subsequently constructed and refined for clarity and readability.

The survey contained questions in the following areas: (a) demographic information, (b) existing mental wellness resources and support services offered and accessibility of these services, (c) the availability of a mental wellness toolkit and its constituents, such as educational information, assessment instruments, and wellness plan tools, and (d) use of the mental wellness toolkit and a review of its perceived effectiveness. Examples of survey questions were as follows: "What existing mental wellness resources are you aware of on your campus?" "What components does your mental wellness toolkit contain?" "What formats does your mental wellness toolkit use?" A Likert scale was used to rate perceived effectiveness of toolkit in the following question: "On a scale of 1–5, with 1 being the lowest and 5 being the highest, how effective do you believe that your toolkit is as a resource for managing student mental health?" The survey was curated and distributed using the FluidSurveys™ platform. Because the survey was used as a tool for conducting an environmental scan, not for an outcome measure, the psychometrics of the survey was not necessary to determine/establish.

At least one staff member and one student leader involved with mental health services/initiatives at each of 135 Canadian public post-secondary institutions that used English as the primary language were recruited to take part in the survey. They were identified via information publicized on the website of the institution. An email with a cover letter and the survey link was sent to them for requesting participation. After reading the cover letter and agreeing to participate, they were directed to complete the campus survey via the survey link. In the survey, they were asked to self-identify their role as either a staff member or a student leader. After the survey, participants were asked to take part in an in-depth follow-up interview. If the participant agreed, he or she received the informed consent via email and was asked to complete the consent before resolving any concern or question regarding the interview.

**Interviews with informants** Based on the survey results, an interview guide was developed for use when conducting in-depth semi-structured interviews to develop a full understanding of current campus mental health–related resources and their use. The interview guide, including

questions that focused on problems of and solutions to current mental health issues on campuses, consisted of four parts: (a) the supportive capacity of campus mental health networks, (b) the development and distribution of a campus mental wellness toolkit, (c) outcome evaluation of a campus mental wellness toolkit, and (d) sustainability of a campus mental wellness toolkit. Examples of interview questions were as follows: "What do you think of your campus's current supportive ability?" "What are the available resources for students?" "How did the toolkit begin and how long did it take to develop your campus mental wellness toolkit?" "How does the toolkit fit into or supplement existing campus services?"

Purposive sampling was used to select informants who represented the campus and had an in-depth understanding of the campus mental health state and resources. An effort was made to ensure the diversity and representativeness of the participants based on geographical locations of Canadian provinces. Individual interviews were conducted via telephone or Skype, depending on the distance of the institution from the research university. Each interview was audio-recorded and lasted for approximately 30–45 min.

### Data analysis

Descriptive statistics, such as counts, frequencies, and percentages were carried out using the IBM SPSS Statistics software (Version 24; IBM Corporation, Armonk, NY) to analyze data obtained in the Web search and the campus survey. Verbatim transcriptions of the interviews were analyzed using classical content analysis. The process included creating smaller chunks of interview data and placing a code with each chunk. The codes were placed into similar groupings, counted, and summarized (Hsieh and Shannon 2005). Two of the authors individually completed the analysis, and the individual's findings of emergent themes were reviewed, compared, and contrasted. If there was a divergence between the two authors, another author reviewed the analysis so a consensus could be reached. Data triangulation (Patton 1999) was used to enhance data trustworthiness by comparing findings from the Web search, the campus survey, and the interviews.

## Results

### Web search

Table 1 contains the results of Web search analyses from a total of 135 post-secondary education institutions. These institutions were categorized as small ($n < 5000$), medium ($n = 5000–20000$), and large ($n > 20000$) based upon their campus populations (i.e., the number of students [$n$]). Information about mental wellness resources available from the website of each institution was reviewed to assess the availability/convenience of program information and outreach. In general, larger campus populations had a larger variety and a higher availability of mental wellness resources compared with smaller campuses (see exceptions below). Interestingly, in a few situations, small institutions had more available services than medium institutions, and in rare instances, large institutions had fewer available services than either small or medium campuses. Regardless, all institutions had a similar service distribution, with wellness services being covered most and training programs being covered least.

**Table 1** Results of Web search: services available to students on the websites in a total of 135 post-secondary institutions

| | Campus population | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Small (less than 5000, *n* = 47) | | | Medium (5000–20,000, *n* = 52) | | | Large (more than 20,000, *n* = 36) | | |
| | Yes | No | Maybe | Yes | No | Maybe | Yes | No | Maybe |
| Wellness services | | | | | | | | | |
| Clinical/counseling services (ex. immediate intervention) | 38 (80.9%) | 5 (10.6%) | 4 (8.5%) | 47 (90.4%) | 3 (5.8%) | 2 (3.8%) | 35 (97.2%) | 1 (2.8%) | 0 (0.0%) |
| Disability services | 37 (78.7%) | 9 (19.1%) | 1 (2.1%) | 50 (96.2%) | 1 (1.9%) | 1 (1.9%) | 36 (100.0%) | 0 (0.0%) | 0 (0.0%) |
| Long-term support program (ex. group therapy) | 4 (8.5%) | 43 (91.5%) | 0 (0.0%) | 4 (7.7%) | 47 (90.4%) | 1 (1.9%) | 8 (22.2%) | 26 (72.2%) | 2 (5.6%) |
| Referral to off-campus support | 34 (72.3%) | 13 (27.7%) | 0 (0.0%) | 43 (82.7%) | 9 (17.3%) | 0 (0.0%) | 30 (83.3%) | 6 (16.7%) | 0 (0.0%) |
| Support organizations | | | | | | | | | |
| Aboriginal student support | 29 (61.7%) | 16 (34.0%) | 2 (4.3%) | 46 (88.5%) | 6 (11.5%) | 0 (0.0%) | 33 (91.7%) | 2 (5.6%) | 1 (2.8%) |
| First-year support | 6 (12.8%) | 35 (74.5%) | 6 (12.8%) | 8 (15.4%) | 37 (71.2%) | 7 (13.5%) | 17 (47.2%) | 16 (44.4%) | 3 (8.3%) |
| Gender/sexual minorities support | 23 (48.9%) | 24 (51.1%) | 0 (0.0%) | 25 (48.1%) | 27 (51.9%) | 0 (0.0%) | 27 (75.0%) | 9 (25.0%) | 0 (0.0%) |
| International students support | 26 (53.4%) | 19 (40.4%) | 3 (6.4%) | 38 (73.1%) | 10 (19.2%) | 4 (7.7%) | 34 (94.4%) | 2 (5.6%) | 0 (0.0%) |
| Peer support | 5 (10.6%) | 40 (85.1%) | 2 (4.3%) | 10 (19.2%) | 42 (80.8%) | 0 (0.0%) | 16 (44.4%) | 18 (50.0%) | 2 (5.6%) |
| Sexual assault support | 13 (27.7%) | 31 (70.0%) | 3 (6.4%) | 23 (44.2%) | 23 (44.2%) | 6 (11.5%) | 26 (72.2%) | 9 (25.0%) | 1 (2.8%) |
| Training programs | | | | | | | | | |
| Mental health first aid/literacy | 6 (12.8%) | 38 (80.9%) | 3 (6.4%) | 6 (11.5%) | 45 (86.5%) | 1 (1.9%) | 5 (13.9%) | 30 (83.3%) | 1 (2.8%) |
| Mental health workshops (ex. stress management) | 13 (27.7%) | 33 (70.2%) | 1 (2.1%) | 16 (30.8%) | 8 (15.4%) | 28 (53.8%) | 11 (30.6%) | 22 (61.1%) | 3 (8.3%) |
| Supportive listening | 1 (2.1%) | 44 (93.6%) | 2 (4.3%) | 1 (1.9%) | 45 (86.5%) | 6 (11.5%) | 2 (5.6%) | 29 (80.6%) | 5 (13.9%) |
| Suicide prevention | 2 (4.3%) | 42 (89.4%) | 3 (6.4%) | 4 (7.7%) | 47 (90.4%) | 1 (1.9%) | 5 (13.9%) | 31 (86.1%) | 0 (0.0%) |
| Communication networks | | | | | | | | | |
| Crisis telephone line | 27 (57.4%) | 19 (40.4%) | 1 (2.1%) | 43 (82.7%) | 9 (17.3%) | 0 (0.0%) | 33 (91.7%) | 3 (8.3%) | 0 (0.0%) |
| Online support (ex. chat room) | 9 (19.1%) | 36 (76.6%) | 2 (4.3%) | 19 (36.5%) | 31 (59.6%) | 2 (3.8%) | 10 (27.8%) | 24 (66.7%) | 2 (5.6%) |
| Information resource | | | | | | | | | |
| Mental wellness section in school app | 3 (6.4%) | 42 (89.4%) | 2 (4.3%) | 1 (1.9%) | 44 (84.6%) | 7 (13.5%) | 2 (5.6%) | 30 (88.9%) | 2 (5.6%) |
| Mental wellness toolkit | 0 (0.0%) | 46 (97.9%) | 1 (2.1%) | 0 (0.0%) | 52 (100.0%) | 0 (0.0%) | 0 (0.0%) | 28 (77.8%) | 8 (22.2%) |
| Online information package (ex. toolkit handbook) | 7 (17.9%) | 30 (76.9%) | 2 (5.1%) | 6 (15.4%) | 5 (12.8%) | 1 (2.6%) | 2 (5.1%) | 1 (2.6%) | 3 (7.7%) |
| Online learning (ex. mental health education) | 24 (51.0%) | 23 (48.9%) | 0 (0.0%) | 39 (75.0%) | 13 (25.0%) | 0 (0.0%) | 30 (83.3%) | 6 (16.7%) | 0 (0.0%) |

*n* number of post-secondary institutions

## Campus survey

Of the 135 institutions initially identified, 135 staff members and 96 student leaders were contacted. A total of 39 participants completed the survey, which represented 39 institutions across the following Canadian provinces: Alberta, British Columbia, Manitoba, New Brunswick, Nova Scotia, Ontario, Quebec, Saskatchewan, and Yukon. Table 2 contains the results of survey responses from these 39 participants.

**Campus mental health services** Based upon the total responses, 92.3% ($n$ = 36) of the 39 institutions had clinical/counseling services, disability services, referrals to off-campus services, Aboriginal services, LGBTQ (lesbian, gay, bisexual, trans, queer, questioning) services, and mental health workshops. A majority of the 39 participants reported they were aware that their institution offered first-year support ($n$ = 27, 69.2%), peer support ($n$ = 27, 69.2%), and sexual assault support ($n$ = 25, 64.1%), as well as mental health first aid ($n$ = 26, 66.7%) and supportive listening training to students ($n$ = 22, 56.4%).

Services least offered included long-term support ($n$ = 14, 35.9%), suicide prevention training ($n$ = 14, 35.9%), and in-house communication networks and information resources ($n$ = 7–11, 17.9–28.2%) (see Table 2 for details of these services). A comparison of the survey results with the Web search indicated that there were more mental health services available on campuses than what was publicly broadcast on the university/college websites, especially in the areas of long-term, first-year, and peer support, and regarding training programs and toolkits.

**Campuses with a toolkit offered** Table 3 contains the results of mental wellness toolkit demographics for campuses where a toolkit is offered. Among the 39 participants, only 10 (25.6%) reported that their institution offered a mental wellness toolkit, and 6 (60%) of those 10 reported their institution wished to make modifications to their toolkits. All 10 reported that mental wellness toolkits included educational information and promotional items about mental health problems, while seven reported assessment instruments and six reported wellness plan tools. Six reported that their institution's mental wellness toolkit was perceived as effective or strongly effective while three rated their mental wellness toolkit as neutral.

**Campuses without a toolkit offered** Twenty-three (79.3%) of the remaining 29 participants reported their institution would like to have a mental wellness toolkit if it were available. If a toolkit were offered, three reported their institution would like to use it as an assessment instrument, four reported a desire to use it as a wellness plan tool, and one reported a desire to use it as dissemination formats (e.g., where and how to get the toolkit). When asking the participants to rate the perceived effectiveness of mental wellness toolkit if offered, 2 of 29 participants (6.9%) rated strongly effective, 10 participants (34.5%) rated effective, and 6 participants (20.7%) rated neutral.

**Comments on campus mental health toolkits** All survey participants' opinions about the preferred components of a mental wellness toolkit included campus and community resources, information about mental health, information about stress reduction and coping, stress balls, and earplugs. Table 4 contains information mentioned by respondents regarding mental wellness toolkit characteristics and potential challenges in implementation.

**Table 2** Results of campus survey: services available to students and awareness formats ($N = 39$ survey respondents)

| Service | Availability (%) | | | How is information about the service accessed? (%) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Yes | No | N/A | Online (school website) | Advertisement (posters, pamphlets) | Classroom presentations | Information tables | Orientation week | Word of mouth |
| Wellness services | | | | | | | | | |
| Clinical/counseling services (ex. immediate intervention) | 36 (92.3%) | 3 (7.6%) | 0 (0.0%) | 26 (66.7%) | 18 (46.2%) | 15 (38.5%) | 17 (43.6%) | 23 (59.0%) | 30 (76.9%) |
| Disability services | 36 (92.3%) | 2 (5.1%) | 1 (2.6%) | 25 (64.1%) | 18 (46.2%) | 15 (38.5%) | 14 (35.9%) | 23 (59.0%) | 27 (69.2%) |
| Long-term support program (ex. group therapy) | 14 (35.9%) | 22 (56.4%) | 3 (7.7%) | 11 (28.2%) | 9 (23.1%) | 4 (10.3%) | 5 (12.8%) | 6 (15.4%) | 11 (28.2%) |
| Referral to off-campus support | 35 (89.7%) | 3 (7.7%) | 1 (2.6%) | 20 (51.3%) | 15 (38.5%) | 11 (28.2%) | 7 (17.9%) | 14 (35.9%) | 24 (61.5%) |
| Support organizations | | | | | | | | | |
| Aboriginal student support | 34 (87.2%) | 4 (10.3%) | 1 (2.6%) | 23 (59.0%) | 21 (53.8%) | 10 (25.6%) | 17 (43.6%) | 22 (56.4%) | 26 (66.7%) |
| First-year support | 27 (69.2%) | 11 (28.2%) | 1 (2.6%) | 17 (43.6%) | 17 (43.6%) | 11 (28.2%) | 11 (28.2%) | 21 (53.8%) | 19 (48.7%) |
| Gender/sexual minorities support | 32 (82.1%) | 6 (15.4%) | 1 (2.6%) | 15 (38.5%) | 21 (53.8%) | 6 (15.4%) | 15 (38.5%) | 15 (38.5%) | 23 (59.0%) |
| International students support | 33 (84.6%) | 5 (12.8%) | 1 (2.6%) | 26 (66.7%) | 22 (56.4%) | 12 (30.8%) | 18 (46.2%) | 23 (59.0%) | 25 (64.1%) |
| Peer support | 27 (69.2%) | 10 (25.6%) | 2 (5.1%) | 21 (53.8%) | 19 (48.7%) | 8 (20.5%) | 12 (30.8%) | 16 (41.0%) | 20 (51.3%) |
| Sexual assault support | 25 (64.1%) | 11 (28.2%) | 3 (7.7%) | 14 (35.9%) | 11 (28.2%) | 5 (12.8%) | 8 (20.5%) | 10 (25.6) | 17 (43.6%) |
| Training programs | | | | | | | | | |
| Mental health first aid/literacy | 26 (66.7%) | 12 (30.8%) | 1 (2.6%) | 13 (33.3%) | 12 (30.8%) | 4 (10.3%) | 4 (10.3%) | 3 (7.7%) | 19 (48.7%) |
| Mental health workshops (ex. stress management) | 34 (87.2%) | 3 (7.7%) | 2 (5.1%) | 18 (46.2%) | 22 (56.4%) | 17 (43.6%) | 11 (28.2%) | 14 (35.9%) | 25 (64.1%) |
| Supportive listening | 22 (56.4%) | 14 (35.9%) | 3 (7.7%) | 13 (33.3%) | 9 (23.1%) | 6 (15.4%) | 9 (23.1%) | 9 (23.1%) | 16 (41.0%) |
| Suicide prevention | 14 (35.9%) | 22 (56.4%) | 3 (7.7%) | 2 (5.1%) | 2 (5.1%) | 0 (0.0%) | 0 (0.0%) | 1 (2.6%) | 2 (5.1%) |
| Communication networks | | | | | | | | | |
| Crisis telephone line | 11 (28.2%) | 28 (71.8%) | 0 (0.0%) | 5 (12.8%) | 7 (17.9%) | 7 (17.9%) | 4 (10.3%) | 3 (7.7%) | 8 (20.5%) |
| Online support (ex. chat room) | 4 (10.3%) | 34 (87.2%) | 1 (2.6%) | 2 (5.1%) | 2 (5.1%) | 0 (0.0%) | 0 (0.0%) | 1 (2.6%) | 2 (5.1%) |
| Information resource | | | | | | | | | |
| Mental wellness section in school app | 7 (17.9%) | 30 (76.9%) | 2 (5.1%) | 5 (12.8%) | 4 (10.3%) | 0 (0.0%) | 3 (7.7%) | 2 (5.1%) | 5 (12.8%) |
| Mental wellness toolkit | 12 (30.8%) | 25 (64.1%) | 2 (5.1%) | 6 (15.4%) | 4 (10.3%) | 3 (7.7%) | 7 (17.9%) | 4 (10.3%) | 8 (20.5%) |
| Online information package (ex. toolkit handbook) | 7 (17.9%) | 30 (76.9%) | 2 (5.1%) | 6 (15.4%) | 5 (12.8%) | 1 (2.6%) | 2 (5.1%) | 1 (2.6%) | 3 (7.7%) |
| Online learning (ex. mental health education) | 12 (30.8%) | 25 (64.1%) | 2 (5.1%) | 10 (25.6%) | 7 (17.9%) | 3 (7.7%) | 3 (7.7%) | 3 (7.7%) | 6 (15.4%) |

**Table 3** Toolkit demographics for campuses with a toolkit offered—results of the campus survey

| Is one offered? | | Yes (%) | | No (%) | | |
|---|---|---|---|---|---|---|
| | | 10 (25.6) | | 29 (74.4) | | |
| If already have, would you like to change it? | | 6 (60.0) | | 2 (20.0) | | |
| Educational information | | 10 (100.0) | | 0 (0.0) | | |
| Assessment instruments | | 7 (70.0) | | 3 (30.0) | | |
| Wellness plan tools | | 6 (60.0) | | 4 (40.0) | | |
| Other promotional items | | 10 (100.0) | | 0 (0.0) | | |
| Dissemination formats | | 9 (90.0) | | 1 (10.0) | | |
| On a scale of 1–5, with 1 being least and 5 being most effective, rate how effectively you believe your toolkit to be? (%) | 1 | 2 | 3 | 4 | 5 | N/A |
| | 0 | 0 | 30 | 50 | 10 | 10 |

*N/A* not available

**Table 4** Desired toolkit characteristics and challenges—results of the campus survey

| Desired toolkit characteristics | Potential toolkit challenges |
|---|---|
| 1. Regular evaluation, student involvement, needs assessment, as well as outreach/test plan | 1. Accessibility (inconsistent delivery, unknown) |
| 2. The main target is first years, international, adaptive, and first nations (others included rural, academic challenged, residence, eating/body image, sexual assault survivors, males, incoming grads, socially marginalized groups, 4th year, and students living off-campus) | 2. Components with questionable applicability |
| 3. Items most commonly included were distressed/self-care/coping materials, stress balls, hot drink coupons or packages (coffee/tea/chocolate) service/support information, earplugs and mental health statistics/information/education | 3. Many different groups could benefit from support, i.e., difficult to make a general kit or to make a satisfactory variety |
| 4. Anywhere/anytime applicability for usage, specific things that students could do on the bus or in the dorm | 4. Items being ineffective (e.g., plush toy or stress ball was met with mixed reactions in interviews) |
| 5. Easily accessible resources: located in areas where students would already be present (faculties, study areas, libraries), available after hours, online formatting instead of printed and interactive preferred over passive activities | 5. Need for a user-friendly, engaging product of a reasonable size that does not overwhelm the user |
| 6. Orientation would be a good time to distribute toolkits, otherwise could do so at a central location or with a service/faculty | 6. Diverse involvement in development and vetting (e.g. students, multi-stakeholder) |
| 7. Desire for toolkits to be given as part of a support activity (ex. workshop, focus group, tide over or follow-up to service session), so that it is not a band-aid/one time/free thing but instead worked into a more continuous support system to increase return or having them on a borrowed basis to increase accountability too | 7. Where to distribute? (Central location/mental health service location/residence/mobile unit, suggestions to start as early as orientation/acceptance package) |
| 8. Create a common core toolkit and then have means for additional/specific information to be supplemented | 8. Sustainability, consistency may be difficult due to resource constraints and the need for evaluation/modification to change alongside student needs |
| | 9. Developing beyond single-use or band-aid solution (e.g., give as part of an education/training session, or concurrently with counseling as a follow-up) |
| | 10. Lack of engagement: research and pre-/post-assessment required, as well as outreach to increase awareness |
| | 11. Collaboration, compilation, and cohesion of existing resources can reduce the load instead of making everything in-house, can be used to supplement/destigmatize/encourage early help-seeking/fill in service gaps |

## Interviews with informants

A total of six student leaders (5 females and one male) and six staff members (5 females and one male) from 12 institutions across the Canadian provinces of Alberta, British Columbia, Manitoba, New Brunswick, Ontario, Quebec, Saskatchewan, and Yukon participated in the interview. Four common themes emerged from the interview data.

**Theme 1: Accessibility of services is as important as availability** Participants indicated that campus services appear challenging to access, and treatment quality is variable. A common concern about services was accessibility where waitlists can be months long that is troubling if the focus or primary demand is immediate crisis (i.e., reaction to emotional and psychological distress) intervention. Concerns about hours, locations, and problems (such as on waitlist) in accessing services were raised; students sometimes felt like their concerns were disregarded or invalidated due to the limited capacity of services. Often therapy was discontinued once a prescription was given. One participant stated:

> The counselors that we have on campus are most utilized. Unfortunately, their capacity is very, very small, considering the size of our university, so they are always overrun and busy. Yeah, so it has probably accessed the most out of anything that is offered.

**Theme 2: Support networks need to shift from a reactive model to include prevention** The mental health promotional model needs to (a) put a substitute in place when traditional services are unavailable, (b) find ways to relieve pressure when students are overwhelmed, and (c) include preventive measures or prevention programs to create a centralized management system for mental health services. One participant stated:

> I also really have a problem with initiatives that just focus on we just need to throw more counseling sessions, or we just need to have – if we put more pamphlets out there or more posters out there, that will help students with their mental health.

**Theme 3: A campus mental wellness toolkit is expected to be delivered along with mental health services** A toolkit should serve educational, supportive, and supplementary mental health purposes but still be able to act as a standalone mental health aid. Additionally, a toolkit is expected to effectively help students self-manage mental health issues when the need is high and lighten the load until services can be accessed. However, there was a concern regarding the size of a mental wellness toolkit. One participant stated,

> I think to keep it a reasonable size because obviously there is so much that we could include in a mental health wellness toolkit that I do not want it to be so cumbersome that students do not even want to look at it because it is so overwhelming. I think we would have to determine specifically what issues we want to address in the toolkit and stick to that. We do not want to turn it into a DSM-IV.

There were also concerns about the production of and elements of a mental wellness toolkit that will cater to diverse student populations and regional differences across institutions, and the locations and times of access to mental wellness toolkits. Nevertheless, there was potential

to create a basis for a toolkit with additional components that could be interchanged to provide flexibility to different populations.

**Theme 4: Key components related to campus mental health involved multi-stakeholder involvement, prior needs assessment, and program evaluation** To determine what materials best cater to students and to produce a successful mental wellness toolkit that is effective and useful without being overwhelming, it is crucial to have opinions from all stakeholders, including student involvement and a prior needs assessment. One participant clearly outlined some of the problems that would arise in mental wellness toolkit development:

> I think the biggest challenge would probably be figuring out what students would find useful. So, trying to get a good concept of what they need in a toolkit. So that would require probably a fair amount of research and surveying. And I think the biggest problem would be developing this toolkit that is then distributed and nobody uses.

## Discussion

This study aimed to determine the current status of mental wellness toolkits and resources available across Canadian post-secondary institutions. The Web search results showed that the availability and variety of mental wellness resources generally increase with the size of the campus population. However, the availability of mental wellness toolkits offered is mostly lacking. When comparing the campus survey results with the Web search, the survey responses revealed that there are more mental wellness services available on campus than shown on the school websites. Only one-third of institutions of survey respondents indicate offering mental wellness toolkits. Survey respondents also suggested that the preferred components of the toolkits could include campus and community resources, information about mental health, and methods to reduce stress and healthy coping strategies. The interview results indicated that mental wellness toolkits could accomplish multiple purposes and be delivered with mental health services, and that support networks need to shift from a reactive model to include prevention. Overall, our findings indicate that the development of a potential national mental wellness toolkit across Canadian campuses could be indispensable.

Numerous Canadian mental health agencies have stressed the importance of promoting mental health and well-being in post-secondary institutions to reduce the stigma of mental illness and to inform students of available mental health services (Heck et al. 2014). Our Web search results and the findings of previous studies (Heck et al. 2014; Jaworska et al. 2016), however, show that small institutions are least likely to have mental health promotion programs available, which can impose a barrier to the amelioration of mental health problems in students (e.g., Cage et al. 2018).

Previous research also shows that other barriers exist. For instance, Byrd and McKinney (2012) showed that institutional factors accounted for a notable amount of the variance in poor mental health among college students. Kirsh et al. (2016) also found that several challenges regarding mental health services exist at an institutional level, such as adequacy of services, difficulty to access services, and variable quality of services, which echo our current findings of these challenges. Our findings further show inconsistencies between results of the Web search and the campus survey about service availability and mental wellness toolkits offered, indicating that institutions may fail to publicize mental health services, adding an extra barrier to students who are

seeking mental health resources (Giamos et al. 2017). One way to address this issue is to have the information readily available in an online, comprehensive, consolidated, and convenient platform, and provide a mental wellness toolkit that can assist students in their awareness and use of available mental health services. Another way is to fully communicate mental health services and resources that are available to the students through multiple channels.

To further address institutional barriers, the Canadian Association of College and University Student Services and Canadian Mental Health Association (2013) proposed a conceptual framework using a systematic approach to guide the development of a campus conducive environment for promoting mental health. An example of improving institutional structure is to have "institutional vision, mission, and strategic goals that reflect the importance of student mental health as a foundation of learning and optimal performance" (Canadian Association of College and University Student Services and Canadian Mental Health Association 2013, p. 10). An example of creating a supportive, inclusive campus climate and the environment is to provide "resources for students, staff, and faculty to address systemic barriers to participation (i.e., offices with responsibility for addressing issues such as equity, discrimination and harassment)" (Canadian Association of College and University Student Services and Canadian Mental Health Association 2013, p. 12).

Aside from institutional factors, Kirsh et al. (2016) found that students face challenges in mental health literacy and in self-managing their mental health. For example, a student cannot evaluate whether the severity of the problem indicates a mood or a disorder and might lack the motivation to seek help due to his or her illness. Kirsh et al. (2016) suggested that a supportive community on campus could be facilitated by acknowledging problems with mental wellness through "increased campus awareness, promoting linkages with role models, decreasing pressure and modifying services to better address needs" (p. 333). Although our results of the Web search and the campus survey demonstrate that the majority of institutions provide mental wellness services, mental health first aid, supportive services, and training programs, challenges in service accessibility and service quality exist. Our interview results with staff participants also suggest support networks need to encompass prevention by helping students increase awareness of potential mental health problems they might be experiencing.

Marsh and Wilcoxon (2015) noted that in the USA, students often wait until a response to mental, emotional, and behavioral distress is reached to seek help, even though earlier action would reduce the students' distress and make it easier for mental health service providers to deal with the issues. Also, they found that the cost of service measured by the Mental Health Help-Seeking Questionnaire was the most important determinant of students' help-seeking behavior, thus posing a barrier to students' requests for support services (Marsh and Wilcoxon 2015). Although the cost of service may not be an issue for Canadian college students seeking free counseling on campus, it is still important to have mental wellness toolkits that can be used for prevention and further cost reduction. Some of our study participants suggest that mental wellness toolkits could serve as standalone support for mental health services, that is, the toolkit could potentially assist students in applying mental health service session skills to their lifestyles beyond the duration of a service session. For example, when need is high, a mental wellness toolkit should lighten the load on mental health services, tide students over until services can be accessed, or be used to follow up mental health services. Mental wellness toolkits could help students prevent and self-manage mental health–related issues, navigate the mental health system, and access mental health support services. However, these are the areas requiring further investigation.

The interview participants in the present study expressed various opinions regarding desired mental wellness toolkit characteristics and potential challenges to toolkit formulation. This information will help guide future mental wellness toolkit development. Because students are

the targeted recipients, they should be involved in mental wellness toolkit production, as their perspectives will help to determine the best way to manage financial, labor costs, and successful reception of the toolkits. Ideally, a needs assessment would be done beforehand to gauge the needs of the students in their context and determine what students would find useful in a mental wellness toolkit. An outreach plan to all stakeholders is necessary to determine if the mental health service is accessed. Sustainability of a mental wellness toolkit could involve incorporating it into existing service infrastructure, but for sustainability, the toolkit must be evaluated, modified, and improved regularly using feedback from users as a guide for these activities. It is important for the sake of the toolkit sustainability that the toolkit should be embedded at the institution level, and not only just the support services should take the responsibility but also the whole institution and staff. Furthermore, because there is so much existing information about mental health and so many components that could be included in a mental wellness toolkit, it is vital to make sure the toolkit does not become overwhelming for students. The mental wellness toolkit should be user-friendly, be a skeleton that is easily modified by each institution, and encourage engagement and retention by avoiding text-heavy content and providing practical advice that is easy to apply.

### Limitation

One limitation of the present study could be the accuracy of each institution's profile that was limited by no update on the website and or availability (lack) of complete information on the website during the Web search. Thus, the results of the survey provided valuable insight into stakeholders' perceptions and awareness of services. Although the survey was comprehensive, we did not focus on a thorough assessment of the nature and effectiveness of on-campus wellness services and training programs. Additionally, only 15 of 96 student leaders and 24 of 135 staff members completed the survey. The survey response rate was not high, but the interviews did provide many valuable insights about campus mental health promotion. Lastly, although the participants reported that the toolkits were highly effective, this finding was based on a self-report measure of perception rather than any actual effectiveness testing, as our study did not directly test this.

### Future direction

In the future, we would consider extending our interview to include a larger number and broader range of participants to increase the information obtained and further solidify our conclusions. The participants will include practitioners and service providers to ensure that toolkits are also developed from clinical evidence. We plan to utilize such information to guide our decision-making for the future development of a potential mental wellness toolkit.

In the present study, we did explore the availability of e-resources, such as mobile apps of mental health wellness, which were only offered by a handful of post-secondary institutions. With the advancement of technology, it is presumed that toolkits in an e-resource format might quickly overshadow the traditional toolkits. Our plan, therefore, will also determine whether e-resource toolkits are more effective than traditional ones.

## Conclusion

Traditionally, there has been an emphasis on the crisis (reaction to emotional and psychological distress) intervention and personal factors as the focus of post-secondary mental health

services; however, there are numerous environmental factors that also influence mental wellness in post-secondary students and need to be acknowledged. Most importantly, college students cannot be directly manipulated to improve their health, but social and institutional factors can support help-seeking behaviors. While most post-secondary education institutions offer mental health services, accessibility varies, and there is a lack of evaluation to determine efficacy and areas of improvement. Having a mental wellness toolkit available on campus could promote student mental health. Patterns of mental wellness toolkit use could be determined based on feedback from various campuses after toolkit dissemination.

## Compliance with ethical standards

**Conflict of interest** The authors declare that they have no conflicts of interest.

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