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MITIGATING HARMS OF COVID-19 PUBLIC HEALTH MEASURES

Situational Assessment Report

July 2020

simcoe muskoka DISTRICT HEALTH UNIT

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EXECUTIVE SUMMARY

The COVID-19 global pandemic has necessitated unprecedented public health measures in order to contain transmission and reduce morbidity and mortality from COVID-19. Within communities, we have seen the implementation of broad physical distancing and restrictive measures, including the closure of non-essential businesses, schools, childcare, and community spaces, as well as asking people to stay home, limit their physical contacts, and seek only essential health and social services. However, there are growing concerns of potential unintended harms associated with these substantial measures. While they have been important for protecting the population's health during the pandemic, they may also have created significant harm.

Given the scale of these societal changes, a situational assessment was conducted to understand the scope of the potential harms of the COVID-19 community-based public health measures. The objectives of this assessment are to:

1. Determine if COVID-19 community-based public health measures are negatively influencing the health and well-being of the general population and sub-populations.
2. Identify mitigation strategies to reduce these negative impacts.
3. Prioritize mitigation strategies for potential implementation for the duration of the COVID-19 pandemic.

The situational assessment involved conducting several components in order to inform the overall findings: literature reviews, epidemiological data collection, and an environmental scan. Simcoe Muskoka District Health Unit (SMDHU) conducted a literature review that used rapid review methodology to examine the psychological and social harms of public health measures on the general population, and a narrative review that investigated possible mitigation strategies to address the identified harms. SMDHU also requested support with further literature reviews from other public health organizations. In response, Public Health Ontario (PHO) conducted two rapid reviews, one investigating how the public health measures affected young children and families, and the second investigating substance use-related harms during periods of disruption. Timiskaming Health Unit conducted a rapid review examining the harms of the physical distancing measures on people with low income, and a narrative review that investigated possible mitigation strategies to address those harms.

Epidemiological data was collected by SMDHU on indicators relevant to potential harms. When local data was unavailable, results were reported at the provincial or federal level. Finally, the environmental scan was completed in two parts: an internal survey of SMDHU management, and key informant interviews in the local community. Both parts sought to identify negative effects from the COVID-19 community-based public health measures, and ideas on related mitigation strategies.

The findings of the literature reviews, epidemiological data, and environmental scan were examined to identify common themes. Harms related to mental health, substance use, child

well-being and development, domestic conflict, and access to services were found, along with the identification of certain sub-populations at risk.

The most commonly recurring theme was potential harms to mental health; various components of the situational assessment highlighted this finding for the general population, children, young adults, and people with low income. Substance use and substance use-related harms have also shown indications of rising. Further, public health measures have disrupted daily routines of families, increased household stress, and led to school closures; these measures are associated with a range of negative impacts on child well-being and development. In addition, the public health measures appear to be putting people at higher risk of domestic violence. It was also noted that many social and preventive care services have significantly reduced their hours of operation, making them less available. Finally, there were indications of specific harms amongst local Indigenous populations, both urban and First Nations communities, in particular regarding increased feelings of social isolation from family and friends. In general, it is apparent that the public health measures in place do not affect all sub-populations equally, and are likely exacerbating existing health inequities.

This situational assessment is somewhat limited in that the expedited time frame for this work in the context of a pandemic did not permit an examination of all possible sub-populations at risk, and it is difficult to determine the extent to which some of the observed harms are associated with the public health measures or with the pandemic itself.

There are many strategies suggested by experts and environmental scan participants to mitigate the identified harms, including those that are relevant at the local, provincial, and federal level. Some strategies address specific harms, and others address basic needs (social determinants of health) as a common foundation. The role for cross-sector collaboration was prominent. In implementing mitigation strategies, an important consideration is maximizing their accessibility and minimizing potential barriers for individuals and families. Local public health and community organizations can seek to implement certain mitigation strategies directly, and resume routine health-promoting services when capacity permits. They can also advocate for provincial and federal-level strategies, in an effort to address the needs of local communities.

Based on the identified harms and the mitigation strategies detailed in this situational assessment report, the following considerations are provided for SMDHU:

1. **Pursue ongoing surveillance and study of the effects of COVID-19 public health measures on health and health equity, and evaluation of the mitigation strategies.**
2. **Continue efforts to resume priority public health activities as possible, with consideration of identified harms, without significantly impacting the COVID-19 pandemic response.**
3. **Weigh the selection of public health measures for use based on their balance of effectiveness, harms, and health equity implications.**

4. **Consider modifications to existing SMDHU programs, services, organizational procedures and public policy advocacy to address the challenges brought by the public health measures.**
5. **Further collaborate with community partners to build a strong health promotion response, alongside the pandemic health protection response.**

BACKGROUND

By the time the COVID-19 global pandemic was declared on March 11, 2020, it was clear that the virus had the potential to threaten millions of lives and overwhelm healthcare capacity worldwide. In response, sweeping public health measures were required. The lack of a vaccine or an effective treatment meant the pandemic needed to be addressed through non-pharmacologic measures (also known as public health measures) such as physical distancing, along with and the closure of schools, businesses, and all non-essential activities to help achieve this. These community-level closures have brought social and economic upheaval far greater than ever experienced in living memory.

Historically, public health professionals have acknowledged the need to balance health protection and health promotion activities. The COVID-19 pandemic has, in many ways, reinforced the importance of health protection measures to decrease the rate of infection. Unfortunately, this emphasis on health protection has decreased public health's ability to implement health promotion work. For example, public health efforts towards positive mental health through encouraging social interaction within communities and community settings has been overshadowed by orders and recommendations to stay inside and to not interact with others outside one's immediate household. These public health measures designed to encourage people to stay home, therefore, seem contradictory to mental health promotion activities. The closure of various community settings that support mental and physical health, and the closure of many businesses that support economic well-being, likely further contribute to the health burden faced by the population.

Health protection measures will continue to be relevant throughout the pandemic, particularly considering that future waves of the COVID-19 pandemic are expected. However, it may be possible to mitigate the toll on mental, social and physical health from a future wave by gaining a better understanding of the harms experienced during this first wave, and how these harms can be prevented or addressed.

Given the unprecedented magnitude of public health measures implemented, there is a need to understand the full scope of the harms. This information will help public health authorities make decisions about the public health measures themselves - weighing the benefits and the harms of each measure – as well as consider how health promotion activities and programming can be continued in parallel to them. To support future public health planning efforts, a broad analysis

from multiple sources and perspectives is required. Therefore, a situational assessment with the following objectives has been undertaken:

Objectives

1. Determine if COVID-19 community-based public health measures are negatively influencing the health and well-being of the general population and sub-populations.
2. Identify mitigation strategies to reduce these negative impacts.
3. Prioritize mitigation strategies for potential implementation for the duration of the COVID-19 pandemic.

These objectives were aimed primarily at understanding the needs of the community-dwelling population in Simcoe Muskoka to inform the work of the Simcoe Muskoka District Health Unit (SMDHU), but also for shared learning and collaboration with local community partners, as well as with other health units across Ontario and provincial public health agencies and leaders.

METHODS

The scale of information required to fully understand the effects of the public health measures across the population against COVID-19 is immense and will take years to fully grasp. Because sufficient information is needed quickly in order to develop and apply public health mitigation strategies, the methods used for this situational assessment were streamlined while maintaining an acceptable level of research rigour.

COVID-19 public health measures included in this situational assessment are non-pharmacological community-based measures (i.e. stay-at-home physical distancing guidance/orders, childcare and school closures, decreased access to health/community/social services, non-essential workplace closures, closure of outdoor/community spaces, etc.). The scope of this situational assessment is to examine the harms associated with these measures, and not of the disease itself. Examination of the physical harms of the disease, as well as barriers to adhering to public health advice to reduce risk of acquiring the disease, are beyond the scope of this assessment.

Three overarching components were undertaken to inform this situational assessment: literature reviews, an epidemiological data summary, and environmental scans. Each of these components is summarized in this report. Links to each of the full reports for the components can be found in the box below, for those reports that are available for external sharing.

Reports

- Literature Reviews
  - General Population – SMDHU
  - Children and Families – Public Health Ontario
  - Substance Use – Public Health Ontario
  - Low Income – Timiskaming Health Unit
- Epidemiological Data Summary Report
- Environmental Scans
  - Local Community Key Informant Interviews
  - SMDHU Management Survey – for internal use only

For the environmental scans, the local community key informant interview report will be made available publically; the results of the SMDHU Management Survey will be made available for SMDHU internal use. Key highlights have been summarized in this report.

Due to time constraints, the scope of the SMDHU literature review had to focus on the general population only, excluding sub-populations, and had to examine a limited scope of outcomes specific to mental and social health. We informed Public Health Ontario and other public health units in Ontario about this situational assessment process and asked about their interest and ability to complete literature reviews for other subpopulations and outcomes for shared learning. Multiple agencies expressed interest. Public Health Ontario and Timiskaming Health Unit completed their literature reviews by the time of the development of this report, and their results are summarized below. Southwestern Public Health completed a literature review regarding adolescents and young adults; it was not able to be incorporated into this report, but is available for review along with the other materials from this initiative, here.

Literature Review Methods

General Population – SMDHU [1]

This literature review consisted of two components; a rapid review to identify potential harms of the COVID-19 public health measures on the general population and a narrative review to identify suggested mitigation strategies to reduce these harms.

Rapid review research question:

1. Does staying at home for long periods of time during current or past pandemics experienced by the general population of community dwelling adults aged 25 years and older worsen the rates of:
    - Substance use
    - Domestic violence
    - Mental health, and
    - Mental illness diagnosis, compared to non-pandemic times?

PECO definition in brief:

Population	Community dwelling, well-adults aged 25 years of age and over.
Exposure	Public health physical and social distancing measures to stay home during a pandemic.
Comparison	No lockdown exposure during non-pandemic times (a.k.a normative or baseline outcome data) in a similar population.
Outcomes	Worsening rates of domestic violence, physical abuse, emotional abuse or trauma. Reported or perceived worsening of mental health (anxiety, depression, stress, suicidal thoughts, suicide attempts, completed suicides, loneliness or increasing symptomology of these conditions). Reported increases in new cases of mental illness (diagnosed depression, generalized anxiety disorder, PTSD). Worsening rates of substance use (alcohol, legal and illegal drug use, and tobacco).

For the rapid review, a search was conducted of the Ovid MEDLINE®, Ovid MEDLINE® (Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily Update), APA PsychInfo, SocINDEX with Full Text and the medRxiv database for pre-print citations. Reference lists of included published studies were reviewed. Both published and unpublished (grey literature) databases were searched for records from the past 100 years to current.

Population: The rapid review included studies that sampled the general, well-population aged 24 years of age or older. We excluded studies specifically examining people with chronic conditions/ comorbidities, intellectual disabilities, pre-diagnosed mental health disorders, health care providers and medical students, those with confirmed diagnosis of respiratory illness (cases) or who have been knowingly exposed to an infectious agent in any specific setting or who are experiencing mandatory quarantine because of their current or potential infectious state. Specific sub-populations, such as health care providers, were also excluded.

Exposure: The exposure of interest was the broad population level physical distancing measures to stay home during a pandemic. Specifically, voluntary self-isolation or mandatory population level stay-at-home orders that occurred during the current COVID-19 pandemic or that occurred during previous epidemics or acute respiratory tract outbreaks was investigated. There was no restriction on the minimum duration of stay-at-home orders. Studies assessing the harms of pandemics in general, specific to our outcomes of interest without the exposure of 'staying home' were excluded. Studies from countries (i.e. China, Italy, Germany, France, Great Britain, USA) with high levels of government restrictions to keep populations at home published during January 2020 or after were included as these populations were assumed to have experienced mandatory lockdown measures during this time.

Comparison: In order to demonstrate worsening rates of outcomes, included studies were those that compared mental or social harms due to the lockdown/stay at home exposure during a pandemic to no lockdown exposure during non-pandemic times (a.k.a normative or baseline outcome data) in a similar population. Systematic reviews, prospective cohort studies, retrospective cohort studies, case-control studies, cross-sectional studies, case series, interrupted time series and modelling studies were included. Emphasis was placed on higher quality study designs. A stepwise approach to study design inclusion was used.

The following study characteristics were excluded: Individual case studies, abstracts and conference proceedings, editorials, dissertations, narrative reviews, opinion papers, editorials, commentaries, qualitative research designs, university-specific settings, epidemiological studies not examining exposure effects (e.g. effects of interventions unrelated to mitigation of harms), studies in other languages with no English translation, studies assessing gambling behaviours, studies assessing factors associated with compliance of physical distancing measures, or factors associated with outcomes of interest.

We critically appraised the included studies using the *Risk of Bias Instrument for Cross-sectional surveys of Attitudes and Practices* developed by the Clarity Group at McMaster University.[2] Specifically, the tool assessed the following five domains: representativeness of sample, adequacy of response rate, missing data processes, pilot testing, and use of validated survey instruments. No formal synthesis methods were used due to the heterogeneity of the studies and their limited number. Instead, the quantitative data was grouped by outcome to allow for comparison of worsening rates of outcomes and then by risk of bias assessment as suggested by Mackenzie and Brennan.[3]

A narrative review was conducted to describe strategies that could mitigate potential harms of COVID-19 public health measures. Mitigation-related interventions that were found in the database search for the rapid review were included in the narrative review. Grey literature provided additional perspectives beyond the published literature.

Children and Families - Public Health Ontario [4]

Rapid review research question:

What are the negative impacts on health and well-being of public health measures implemented in response to a pandemic (e.g. COVID-19) on young children and families?

Systematic searches for primary and secondary research evidence in peer-reviewed literature were conducted from inception to May 2020. PHO Library Services conducted an electronic database search in MEDLINE, Embase, PSYCINFO, CINAHL, SOCINDEX, and CHILD DEVELOPMENT & ADOLESCENT STUDIES, using a combination of indexing terms and keywords. The results from all databases were integrated and duplicates removed. A grey literature search was also conducted using a standard search strategy, to identify any grey literature reports. Searches were conducted in Google, Center for Addiction and Mental Health (CAMH) Library, Google Custom Search, and custom international public health databases.

Peer-reviewed and grey literature papers were eligible for inclusion if they examined the negative impacts on health and well-being of public health measures implemented because of a pandemic (e.g. COVID-19), or another infectious disease emergency, on young children and families. Papers were excluded if they did not include children aged 12 and younger (and/or their families) or if they did not report on any unintended health and well-being outcomes related to infectious disease outbreaks. Reviews with no methods, commentaries, editorial letters, editorials and conference abstracts were also excluded.

Substance Use - Public Health Ontario [5]

Rapid review research questions:

1. What are the changes in substance use-related harms experienced by people who use substances during periods of disruption?
2. What are the risk factors related to increasing substance use-related harms that occur during periods of disruption?

Public Health Ontario (PHO) Library Services developed and conducted a specific COVID-19 and substance use search in three electronic databases: MEDLINE, Embase, and PsycInfo. Records from all databases were combined and duplicates were removed. An additional search was conducted in PubMed to identify records on other periods of disruption, using key concepts including disaster, emergency, and drug poisoning.

The grey literature search used five search strings in Google, websites of key organizations (e.g., Canadian Drug Policy Coalition, Canadian Centre on Substance Use and Addiction, European Monitoring Centre for Drugs and Drug Addiction), organizational listservs (e.g., Evidence Exchange Network), and the first 100 results of each were reviewed. Reference lists of select relevant records were screened and additional records were referred by PHO Library Services and other experts.

English-language peer-reviewed and grey literature records that described: adults (25 years and older) who use substances or professionals involved in their care (e.g., physicians, program administrators); who were exposed to a period of disruption; measured outcomes relevant to substance use-related harm (e.g., poisoning); were published from the Organisation for Economic Co-operation and Development (OECD) countries were included. No restrictions were placed on the year of publication. Records were excluded if they were general organizational webpages, blog posts, or media articles. Critical appraisal of the methodological quality was not performed due to time constraints.

The authors used a framework of “drug, person, and setting/context” to guide the analysis of information related to risk factors for increased substance use-related harm during disruptions. This framework was informed by both the “drug, set, setting” framework from substance use research and also the epidemiologic triad (“agent, host, environment”) used in public health to understand health issues. They refer to “drug” as the drug being consumed, the “person” is the individual consuming the drug, and the “setting/context” is the broader setting in which the drug is obtained or consumed, or where a person accesses a network of supports (informal and formal).

Low Income – Timiskaming Health Unit [6]

Research Question:

Are there social, health and well-being harms of staying at home during the current or past pandemic among community dwelling low-income populations?

This rapid review followed the same methodology as the SMDHU rapid review except for the change to the population of interest, the addition of outcomes of interest and a slight modification to the search strategy. Both reports use a rapid review methodology to examine harms and a narrative review to examine possible mitigation strategies. The specific differences of the Timiskaming literature review compared to the SMDHU literature review are described below.

Population

Low income individuals from the general population who are community dwelling.

Outcome(s) (in addition to SMDHU literature review Outcomes)

- Physical harms including harm from injury
    - Reported decline in physical activity, reported or perceived increase in obesity, reported or perceived worsening of medical conditions, increase in reported injuries including falls, self-harm, on-road or off-road injuries
- Food insecurity

Search methods for identification of Studies

The searches were developed and conducted on May 19 and 20, 2020 by the Thunder Bay Shared Library Services Partnership (SLSP) Hub Librarian. The searches were sent out for comment to Public Health Hub Librarian peers.

Electronic Databases

Ovid MEDLINE® from 1946 to May 19, 2020.

Ovid MEDLINE® (Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily Update) from 1946 to May 19, 2020.

SocINDEX with Full Text from 1946 to May 19, 2020

PsycINFO with Full Text from 1946 to May 20, 2020

Other Searches

Studies in press were searched in Ovid MEDLINE(R) Epub Ahead of Print & Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations. Grey literature was omitted from the rapid review as per the recommendations from the Cochrane Collaboration and because of the limited timelines associated with this project. Articles in preprint were searched in the medRxiv, bioRxiv and the Social Science Research network databases.

Narrative Review Design

The narrative review explored and described public health measures that are recommended for local, provincial and national governments to mitigate the harms to low income populations from staying at home during current or past pandemics. Mitigation related interventions that were found in the database search for the rapid review were included in this review. A grey literature search based on the PECO question was conducted to supplement information gathered from published databases. Refer to Appendix D of the original THU report [4] for the complete grey literature search methodology.

Epidemiological Data Summary Methods [7]

The epidemiological data summary includes results of health and socio-economic indicators for the general population (of all ages) in Simcoe and Muskoka, when available. When local data was unavailable, indicator results were reported at the provincial or federal level.

Where possible, differences were also reported by sub-populations, including age group, income level, immigrant status, and Indigenous identity. Access to local Indigenous-specific data was not available within the timeframe for this project, but will continue to be discussed with local Indigenous health partners.

The exposure of interest was community-based COVID-19 public health measures as detailed above.

Given the immense scope of the societal disruptions, a wide selection of indicators were included under the categories of:

- Mental health
- Substance use and addiction
- Domestic conflict and child welfare
- Birth/ Parenting
- Physical health
- Employment
- Financial impact

These categories were chosen for two reasons: recent Canadian studies have found significant changes among indicators within these categories since the start of the pandemic and/or health outcomes are important to be aware of for public health programming.

Environmental Scan Methods

Internal SMDHU Survey [8]

SMDHU Agency Management, Executive Committee, and the Office of the Medical Officer of Health were invited to participate in an online survey through CheckMarket from June 1, 2020 to June 5, 2020. Participants were asked to describe if they had heard and/or observed through their current work at SMDHU any negative effects from the COVID-19 community-based public health measures and, if yes, which groups of people were most likely to be affected. Participants were also asked to identify what mitigation strategies were occurring, as well as which strategies could be considered in the future, to reduce these negative effects.

In total, 38 individuals were invited to participate in the online survey, with a reminder sent out on June 4, 2020. Overall, there were 20 responses to the survey, for a response rate of 52.6%.

Local Community Key Informant Interviews [9]

Select local community partners, representing a variety of sectors and priority populations across Simcoe Muskoka, were invited to participate in key informant interviews to understand if:

- There are negative effects of the COVID-19 community-based public health measures that they have experienced or observed in their community, or within their organization
- Any mitigation strategies are currently being implemented
- There are specific facilitators and barriers for strategy implementation
- Participants had suggestions for future mitigation strategies that may be helpful for the community.

Interview questions were reviewed by local Indigenous health leaders, and were revised accordingly prior to the interviews taking place. In total, 21 local community partners were invited to participate in the interviews from May 26, 2020 to June 3, 2020. The key informant interviews were approximately 30 to 45 minutes in length and interviewers followed a pre-determined script with appropriate prompts to ensure consistency across all interviews. Qualitative analysis was conducted using NVivo 12.4. In accordance with best practices when involving the Indigenous populations in research, Indigenous participants were provided the opportunity to review the summary related to the Indigenous population, to ensure their sentiments were captured correctly and the proper terminology was used.

In total, 11 local community partners participated in the interviews, representing organizations working with the following sub-populations:

- General well population (25 to 64 years) and community dwelling older adults (65 years and older) (n=3)
- Young children (0 to 12 years) (n=2)
- Youth (13 to 24 years) (n=1)
- Low income individuals and families (n=1)
- Indigenous populations (n=4)

RESULTS

Literature Review

General Population – SMDHU [1]

Rapid Review of Potential Harms of COVID-19 Public Health Measures

There were 4 studies that met inclusion criteria for the rapid review and were therefore included. Two studies [10, 11] surveyed a British population and two studies [12, 13] surveyed a Chinese population. Three [10-12] of the four studies used cross-sectional online surveys distributed via on-line networks and platforms and were thus considered non-representative convenience samples. The fourth study[13], used a telephone survey using random sampling methodology. Two studies[10, 13] were rated as higher risk of bias and two [11, 12] were rated at high risk of bias.

For Qian et al., 2020 [13], data were extracted only specific to the City of Wuhan because this city experienced severe lockdown orders compared to the City of Shanghai. This study reported a very low response rate to the survey (13.8%). No other studies reported response rates. Only one of the four studies described how they managed missing data. For Ahmed et al., 2020[12], data specific to Hubei province was extracted. No studies that met inclusion criteria reported on worsening rates of domestic violence, physical abuse, emotional abuse or trauma, suicide attempts, completed suicides, loneliness, reported increases in new cases of mental health illness or worsening rates of legal or illegal drug use, hazardous or harmful alcohol use, or tobacco. There were also no studies that aligned with inclusion criteria that sampled pregnant women.

Three studies[10-12] noted an increase in depression symptoms during the current pandemic, two from the UK and one from China. Although they all reported a significant increase in depressive symptoms, it should be noted that all three studies were at high-risk of bias.

Four studies[10-13] examined anxiety symptoms and again found increases among those sampled. Again these studies are at high risk of bias and one did not conduct statistical significance testing. One study also found an increase in self-reported stress levels.

One study[12] noticed a significant increase in those identified as at risk for alcohol dependence increasing from 0.7% to 6.8%.

Table 1: Overview of Results – Worsening Outcomes

Author	Outcome	Sample mean score	Prevalence estimate	Comparison
Jia et al., 2020 [10]	Depression	7.69, SD=6.0		2.91, SD= 3.5
Ahmed et al., 2020 [12]	Depression		28% (moderate + severe)	3.6% (3.0-4.2)
White et al., 2020 [11]	Depression	7.57, SD=4.39		Female 4.12, SD=3.78 Males was 3.83, SD=3.74
Jia et al., 2020 [10]	Anxiety	6.59, SD=5.6		2.95, SD=3.4
Qian et al., 2020 [13]	Anxiety		32.7% (moderate + severe)	5.3% (moderate + severe)
Ahmed et al., 2020 [12]	Anxiety		18.9% (moderate + severe)	0.2% (0.1-0.3) general anxiety disorder

White et al., 2020 [11]	Anxiety	10.23, SD=4.98		Females 6.78, SD=4.23 Males of 5.51, SD=4.04
Jia et al., 2020 [10]	Stress	6.48, SD=3.3		6.11, SD=3.1
Ahmed et al., 2020 [11]	Alcohol Dependence	6.8%		0.7% (95% CI: 0.5-0.9)

Narrative Review of Potential Mitigation Strategies

In the published literature there was a limited number of tested mitigation interventions. The interventions summarized here were those few that evaluated effectiveness. One study[14] involved the adaptation of a previously assessed text message program to ameliorate depression that was modified for the COVID-19 pandemic. These pandemic-focused text messages were created by a team of mental health professionals including clinical psychologists, psychiatrists as well as mental health therapists and patients to alleviate stress, anxiety and depression symptoms experienced during the pandemic. The research team collected baseline data on demographic data, stress, depression and anxiety and plans to collect follow-up data at six and 12 months. Another study[15] described the self-perceived benefits of a hotline service implemented during SARS. The authors described how the hotline improved callers' confidence and control by giving them clear and accurate information, which is what the majority of callers were seeking. Callers were also empowered with emotional support, reassurance, education and creative reframing. Although this paper was a narrative description of perceived benefits, no formal qualitative methodology was used.

The grey literature primarily focused on mitigating the harms of COVID-19, but did offer strategies to mitigate harms of public health measures. The World Health Organization released an interim guidance document describing mitigation strategies for the COVID-19 pandemic. Strategies specific to the exposure of staying at home include:

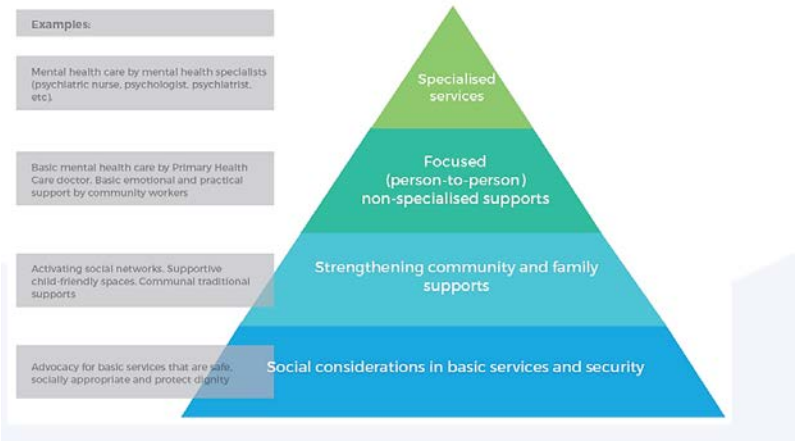
- Encourage home preparedness for quarantine or isolation, and support access to food supplies
- Encourage social interaction by virtual means
- Establish mental health strategies and crisis hotlines
- Develop social services to reduce risk and respond to domestic violence
- Income support by employers, communities, and government
- Pre-position and deploy food supplies to priority groups in populations in special circumstances, included the displaced [16]

Guidelines[17] and a briefing note[18] from the Inter-Agency Standing Committee (IASC) provide guidance and standards for providing mental health and psychosocial support (MHPSS) during

emergencies. These documents identify MHPSS interventions required in emergencies. Their approach aligns with the recommendation that MHPSS reflects a universal whole population approach with more targeted interventions for those vulnerable to harms throughout all phases of emergency response. [17,19] The IASC also notes that successful implementation of the WHO MHPSS service pyramid (see Figure 1) requires systemic changes and mental health reform.

In their updated MHPSS Guidance, the IASC [19] notes mental health and psychosocial support is not a luxury or an add-on but instead is essential to a successful and comprehensive response to COVID-19. This document further supports an integrated approach to supporting MHPPS interventions across sectors. It specifically looks at the importance of psychological first aid in the context of COVID-19 and continuing comprehensive and clinical MHPSS during COVID-19. Psychological first aid is basic psychological care provided to people in distress, which involves providing supportive and practical help while respecting individual dignity, culture and abilities. Psychological first aid can be provided by anyone (professionals and non-professionals) and helps people with self-efficacy, to access the support they need and to feel safe, connected, calm and hopeful [19]. It is suggested that psychological first aid skill development, within the COVID-19 context, would be appropriate for frontline workers, essential workers, law enforcement and other civil servants, individuals with managerial responsibilities and children and adolescents who provide peer support [19]. The Guidance Document also provides guidance to adapt specific MHPSS interventions in different COVID-19 scenarios [19].

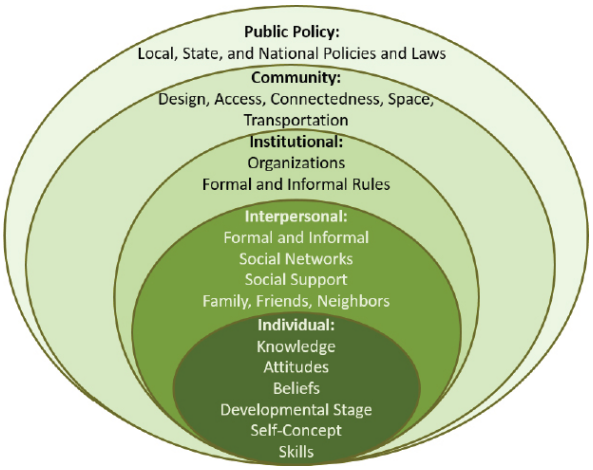
Figure 1: Intervention pyramid for mental health and social support [18]



There were many reports, publications and websites from reputable organizations found in the grey literature that offered useful mental health mitigation to address the possible harms from the pandemic and for those who stayed at home as public health authorities recommended. These information sources provide advice on a variety of outcomes that focus on different levels of the social-ecological model. Because of the heterogeneous nature of the information found, we present these mitigation strategy results by social-ecological model level to better facilitate

the development of considerations for action (see Figure 2). For further detail and sources, please see the SMDHU literature review report.[1]

Figure 2: Social-Ecological Model [20, 21]



Summary of Mitigation Strategies reported in Grey Literature by Social-Ecological Model Level[1]

Public Policy (Provincial/National):

- Integrate mental health care into universal health coverage
- Strengthen the integration of MHPSS throughout all phases of emergency planning including substance use and domestic violence considerations
- Implement regular surveillance of MHPSS including monitoring of psychosocial indicators and identifying populations at higher risk of psychosocial harms
- Implement strategies to ensure adequate internet infrastructure for rural residents to access MHPSS online
- Provide social and financial protection measures related to employment and income

Public Policy (Local):

- Strengthen the integration of MHPSS throughout all phases of emergency planning
- Ensure substance use, domestic violence and prenatal and maternal mental health care are included in Emergency Response Plans
- Implement regular surveillance of MHPSS including monitoring of psychosocial indicators and identifying populations at higher risk of psychosocial harms
- Fund MHPSS services within community initiatives
- Implement community development strategies to strengthen community resilience, social connectedness and social cohesion, and to reduce loneliness

Community:

- Implement community development strategies to strengthen community resilience, social connectedness and social cohesion, and to reduce loneliness
- Implement mental health literacy campaign

- Advocate for mental health care to be provided in alternative and innovative ways (e.g. telephone, text, video, online support)
- Implement community communications using risk communication principles that are sensitive to the potential impact on people's mental health
    - Communications should also address stigma
    - Communicate individual level mitigation focused key messages
    - Provide risk messaging specific to mental health, domestic violence and substance use

Institutional:

- Local organizations (including hospice and faith communities) collaborate to:
    - Establish a mental health and psychosocial support strategy to be implemented before, during and after emergencies.
    - Share mental health literacy resources, information and training opportunities (e.g. mental health literacy, trauma informed practice including critical incident stress management, psychological first aid, cultural sensitivity/competence, domestic violence support best practices and local resources and referrals)
- Implement regular surveillance and monitoring.
- Engage with media partners to promote messages that promote population well-being, and prevent/reduce/address stigma and discrimination.
- Implement screening and risk assessment to identify MHPSS issues or associated disorders (e.g. Integrate MHPSS into contact tracing and monitoring work).
- Activate functional referral pathways for persons needing MHPSS between all relevant sectors/partners and ensure people in front-line positions are aware of and use the referral pathways.

Interpersonal:

- Implement community telephone hotlines/support lines as a tool to support people in the community who feel worried or distressed.
- Encourage informal community support networks and social interaction (virtual);
    - Use technology to set up support groups/virtual communities and maintain social supports

Individual:

- Communicate individual level mitigation focused key messages. Individual level key messages to promote mental health and wellbeing include*:*
    - Minimize watching, reading or listening to COVID-19 news
    - Seek information only from trusted sources and avoid listening to, following or sharing rumours
    - Stay connected (via phone, email, social media, and video conference) and help others
    - Create structure and keep busy engaging in activities you enjoy and those you find relaxing
    - Take notice and pay attention to your needs and feelings
        - Be aware of symptoms of stress/mental unwellness.

        - Have a plan where you will go to seek help for physical, mental, psychosocial support.
        - Draw on skills you have used in the past during difficult times.
        - Practice self-care (breathing and relaxation exercises, mindfulness, meditation, activities you enjoy) and positive coping skills
    - Seek support and talk to people you trust
        - Have a plan where you will seek help for physical, mental, psychosocial support:
    - Maintain a healthy lifestyle
        - Be physically active
        - Limit screen time
        - Eat healthy
        - Get good quality sleep
        - Reduce/eliminate substance use

Children and Families - Public Health Ontario [4]

A total of 15 articles from the database search (14 primary studies and one review), as well as 11 reports and policy documents from the grey literature search, met inclusion criteria.

Key findings include:

The community-based public health measures reported in the literature included school closures and various strategies for implementing community-wide physical distancing, such as stay at home guidance or orders, national lockdowns, and home confinement.

The main outcomes of the H1N1 public health response (mainly short-term school closures) for children and families were the loss of household income/employment, loss of education, lack of access to school-based healthcare services, and lack of school meals. The short duration of the H1N1 school closures compared to current COVID-19 closures may have lessened these negative impacts.

Reported early impacts of the COVID-19 public health response have included decreased vaccination coverage, decreased movement behaviours and impacts on nutrition (e.g. low physical activity, poor diet, increased screen time and sedentary behaviour) and effects on children's mental health.

There was a paucity of evidence demonstrating effects on priority populations such as children in low-income families, children at risk of maltreatment, and immigrant families.

Evidence shows community-based public health measures implemented in response to COVID-19 may be negatively impacting factors related to children's healthy growth and development.

Substance Use - Public Health Ontario [5]

A total of 28 records met the eligibility criteria and were included in this review, of which nine were grey literature records (e.g., epidemiologic data from public health agencies, research briefs).

Key findings include:

Evidence on substance use-related harms and relevant risk factors during periods of disruption, is limited and results varied. Few studies reflected the voices and experiences of people who use drugs, considered inequities, or examined intersecting determinants of health for people who use substances.

Relevant records were based on Hurricane Sandy, Hurricane Katrina, the September 11 terrorist attacks, a heroin shortage, closure of a needle and syringe program, and the Coronavirus Disease 2019 (COVID-19) pandemic. Disruptions prior to the COVID-19 pandemic did not involve specific measures to distance people from each other.

The most commonly cited substance use-related harms were fatal and nonfatal drug poisoning. In the current context, while evidence on the impacts of COVID-19 disruptions are not fully known, preliminary reports indicate an increase in fatal drug poisoning is occurring.

The main risk factors for increased substance use-related harms reflected a disruption in ways that people typically manage their drug use and access a network of support. This included decreased availability and increased price of drugs, decreased access to substance use treatment, harm reduction services and other supports, and increased toxicity of the drug content.

Monitoring and timely reporting of fatal and nonfatal poisoning, along with knowledge based on living and lived expertise of substance use, community experience, and practice are essential to understand the impacts of COVID-19 community-based public health measures and to inform response strategies.

Low Income – Timiskaming Health Unit [6]

From the database search, one citation (Lei et al., 2020 [22]) that was based in China met inclusion criteria. The city of Wuhan and nearby cities within the province of Hubei went into mandatory quarantine (mandated lockdown/stay at home order) on January 23rd, 2020. This study used a cross-section online survey distributed via local chat groups and was thus judged as being a convenience sample. The survey response rate was 80.2%. This study was rated as having a moderate risk of bias.

The one study included in this review reported only on anxiety and depression. This study, nor any other study that aligned with the PECO question, reported on any other outcomes of interest.

The grey literature search yielded 10 reports to inform the mitigation strategies.

Harms

The key findings of harms affecting those with low-income are:

- Overall, evidence demonstrating the effects of population level lockdown/staying at home among low-income populations during any pandemic was scarce.

- One study from mainland China reported that people who experienced population level lockdown/staying at home measures during the COVID-19 pandemic, compared to those who didn't experience lockdown/stay at home measures, were significantly more likely to have an increased prevalence of anxiety and depression.
- Multivariate analysis revealed lower average income was associated with higher anxiety scores (adjusted R^2 = 0.299, ß = -0.975, SE = 0.441, p=0.028) amongst people who experienced population level lockdown/stay at home measures during the pandemic. Thus, low income was a factor associated with anxiety. A possible association between income level and depression was not examined. Those (from any income level) who experienced more economic losses also had higher anxiety and depression scores.
- Staying at home in response to the COVID-19 pandemic can negatively impact the mental health of affected populations. Being of low-income may adversely contribute to the harmful exposure of the lockdown/stay at home measures on mental health outcomes of populations.

Mitigation

The majority of the recommendations on how to mitigate the unintended harms of lockdown/stay at home orders focus on the broader systemic issues highlighted by these measures and refer mostly to mitigating financial harms. The systemic issues highlighted in the studies include but are not limited to: existing disparities between populations, existing mitigating policies, and pre-existing health conditions. Below are the suggested mitigation strategies to address the mental and social harms experienced by low income populations specified in this rapid review.

<u>Domestic Violence and Physical Harm</u>

Federal Level

- Provide immediate rollout or expansion of social assistance to families, preferably through the use of universal child grants.

Provincial Level

- Increase data collection on vulnerable populations.
- Secure food supply chains in local food markets.
- Implement physical distancing and lockdown strategies in low-income settings, especially in urban areas.
- Increase funding to services supporting women and children experiencing family and domestic violence including family violence services or programs like the safe-at-home program.

Local Level

- Educate the public about the issue of domestic violence and its risk factors.

Worsening Health Condition

Federal Level

- Expand unemployment insurance to cover part-time employees and gig-economy workers.

Provincial Level

- Develop policies to protect vulnerable populations, proactively enforce safe and healthy homes regulations and ensure access to food and other necessities.
- Place a moratorium on evictions and utility shut-offs, increase affordable housing and provide practical help such as financial support and tax deferral or elimination.
- Guarantee access to paid sick leave and healthcare and medications beyond Covid-19.
- Provide childcare for essential but low-paid workers.

Local Level

- Perform active outreach to those who may be socially isolated.
- Engage with communities with identified vulnerabilities, such as minority groups, to gain an understanding of their changing needs.
- Provide ongoing practical support for those who are dealing with secondary stressors, such as substance use.

Food Insecurity

Provincial Level

- Ensure government agencies who distribute unemployment benefits contact families in need to inform them of available services or resources.

Local Level

- Ensure health and social service providers refer families in need to locally available resources and agencies.
- Provide school lunches at home for the children of essential but low-paid workers.
- Ensure regional providers deliver immediate food relief to those most affected by lockdown due to COVID-19.

Mental Health Decline & Illness

Federal Level

- Provide additional financial support for those whose annual household incomes are below $40,000 annually who have also lost income because of the public health physical distancing measures.

Provincial Level

- Protect tenants through eviction notice freezes and protect mortgages through payment deferrals.
- Provide immediate additional funding support to homelessness services.
- Expand the eligibility for temporary accommodation, crisis accommodation, rental assistance, income support and social housing for all those not currently eligible.
- Quarantine individuals for no longer than required, provide a clear rationale for quarantine and provide information about protocols and ensure sufficient supplies are provided
- Appeal to altruism by reminding the public about the benefits of quarantine to wider society

Local Level

- Encourage mental health practitioners to advocate for vulnerable and institutionalized individuals to regional, provincial and federal level policy makers.

Epidemiological Data Summary[7]

The following are the key findings from the data summary report[7] organized by key subject areas.

Mental Health

The effects of the COVID-19 pandemic were noted both on the use of mental health services as well as on the psychosocial impacts on mental health status itself.

During the week of March 8, 2020, there was a significant decrease in the number of mental-health related and all-cause emergency department visits. This is the same week that the World Health Organization (WHO) declared COVID-19 a global pandemic and the Government of Ontario declared a state of emergency. As a result of these declarations, local hospitals decreased the number of non-essential services.

There was no change when comparing the pandemic to pre-pandemic levels for the number of:

- Distress line calls received by the Simcoe County Branch of the Canadian Mental Health Association (CMHA).
- Mental health-related calls received by emergency services in the District of Muskoka.
- Referrals to mental-health/addictions services through Ontario211 in Simcoe Muskoka.

Notably, there was an increase in mental health-related calls reported by the Bracebridge, Huntsville and Southern Georgian Bay (Georgian Bay Township only) OPP detachments during the pandemic period (March 2020) compared to non-pandemic periods.

In terms of mental health status, overall, increasing impacts on mental health were reported in Canada, particularly among younger ages (ages 15-25), Indigenous peoples and those reporting a significant or moderate impact on their ability to meet financial obligations or essential needs. Specifically, a recent Statistics Canada survey on mental health found:

- 52% of Canadians responding to the survey reported that their mental health was "somewhat worse" or "much worse" since physical distancing began. The self-reported rating of worsening mental health was particularly high among those aged 15-24 (64%) and among First Nations, Métis and Inuit female respondents (64%).
- 41% of Canadian youth aged 15-24 and 43% of respondents who reported significant impacts on their ability to meet financial obligations reported symptoms that were consistent with moderate or severe anxiety in the past two weeks during the COVID-19 period (April 24-May 11, 2020).
- 48% of the Canadian population (aged 15+) reported their mental health as "excellent" or "very good" in May 2020 compared to 54% earlier in the pandemic (March 29-April 3 2020) and 68% in 2018. All age groups except individuals aged 65 and older were less likely to report excellent or very good mental health during the COVID-19 period compared to 2018.
- 25% of Canadian respondents who reported the pandemic had a moderate or major impact on their ability to meet financial obligations or essential needs reported fair or poor mental health compared to 13% reporting little to no financial impact.

Substance Use and Addiction

Tragically, according to the Ontario Office of the Chief Coroner, the number of reported deaths that are suspected to be drug-related has increased in March, April and May 2020 (roughly about a 25% increase compared to 2019).

In regards to alcohol, More Canadians reported increasing their consumption rather than decreasing their consumption during the early COVID-19 pandemic period (14% vs 10%). This increase in alcohol consumption was significantly lower among adults aged 55+ compared to youth aged 15-34 (6% vs 19%) and was significantly higher among those rating their mental health as fair or poor (28%) compared to those rating it as good, very good, or excellent (11%).

Between February and March 2020, Ontarians purchased 17% more beer, wine, and liquor, and Canadians as a whole purchased 18% more beer, wine, and liquor.

Alcohol-related emergency department visits decreased in the week of March 8, 2020, but this corresponds to a decrease in all-cause emergency department visits at that time.

Similar to the increasing trend in alcohol consumption, a larger proportion of Canadians reported increasing their cannabis use rather than decreasing their use during the early COVID-

19 pandemic period (6% vs 2%). Consumption increased among ages 35-54 (7%) and those aged 55 years and older (2%) were significantly less likely to use cannabis compared to younger adults aged 15-34 (12%). Increased cannabis consumption was also significantly higher among those rating their mental health as fair or poor (17%) compared to those rating it as good, very good, or excellent (4%).

While cannabis retail store sales have been increasing in Ontario and Canada since February 2019, the increase in sales between February and March 2020 was larger than expected (21% vs 16% and 19% vs 8%, respectively).

Physical Health

Findings show that COVID-19 has had significant impacts on the ability to access routine and non-urgent care. The Financial Accountability Office of Ontario estimates that between March 15 and April 22, 2020, up to 52,700 hospital procedures have been cancelled or avoided in Ontario and, every week that the COVID-19 outbreak continues, up to 12,200 more procedures are delayed.

Physical activity has also changed according to some indicators. About 6 in 10 people reported doing physical exercise either outdoors or indoors for their physical and/or mental health during the pandemic period. This was significantly higher among those who had a better self-perception of their mental health compared to those with a fair or poor self-perception. However, those with fair or poor self-perceived mental health were significantly more likely to participate in meditation or changing their food choices for health reasons. Also, more Canadians reported that their physical health was excellent or very good – 69% of Canadians compared to 60% in 2018.

Nutrition and food insecurity have also been impacted. A significantly larger proportion of Canadians reported increasing their consumption of junk food and sweets later in the pandemic compared to earlier in the pandemic. Food insecurity was significantly higher during COVID-19 (15%) when compared to the 2017/ 2018 Canadian Community Health Survey (11%).

Domestic Conflict and Child Welfare

Some indicators show there may be concern in this regard. 32% of Canadians were “very” or “extremely” concerned about family stress due to confinement and 8% were “very” or “extremely” concerned about violence in the home as impacts of COVID-19. Concern for violence in the home was significantly higher among Canadian immigrants (12%) compared to Canadian-born (7%); context for this was not explored. Bracebridge, Huntsville and Southern Georgian Bay (Georgian Bay Township only) OPP detachments reported a 24% increase in domestic violence related calls between February and March 2020.

There has been a decrease in the number of referrals to Simcoe Muskoka Family Connexions since January 2019. Of note, there was a 66% decrease in the number of referrals for new investigations due to physical force and/or maltreatment between March 2020 and April 2020.

This may be related to the decreased presence of standard referral sources, including educational personnel (due to school closures), child care providers and legal personnel. Family Connexions notes that most recent referrals are received from police officers and law enforcement. There has also been no change in the percentage of SMDHU Healthy Babies Healthy Children (HBHC) screens for which the client's relationship with parenting partner is strained or in which the client or parenting partner has been involved with Child Protection Services compared to pre-pandemic periods.

Birth / Parenting / Breastfeeding

It was noted there was no significant difference between the pre-pandemic and pandemic period among:

- The percentage of HBHC screens in which individuals express concern about their ability to parent their baby/child
- The percentage of HBHC screens in which individuals express concern about their ability to care for their baby/child, and
- The exclusive breastfeeding initiation rate among all births to Simcoe Muskoka residents.

Employment / Financial Impact

Ontario employment declined by a record 1.1 million jobs (or -15 per cent) over March and April 2020. The Financial Accountability Office of Ontario estimates an additional 1.1 million jobs have had reduced hours, impacting 1 in 3 Ontario jobs. The rate of job loss and the unemployment rate was highest among those aged 15-24 and those with lower levels of educational attainment. While the unemployment rate was the same (11.3) between Ontario men and women in April 2020, the recovery of employment to February 2020 levels has been slower for women.

Locally, between February and May 2020, employment declined by 12,900 jobs or 10% in Barrie, Springwater, and Innisfil, and the unemployment raised from 4.3 in February to 11.6 in May 2020.

Nearly 3 in 10 (29%) Canadians reported that the COVID-19 situation is having a moderate or major impact on their ability to meet financial obligations or essential needs such as rent or mortgage payments, utilities and groceries. This was particularly high among those who rated their mental health as fair or poor (41%) and among immigrant men (43%).

Environmental Scan

The following details the high-level results of the internal SMDHU survey and the local community key informant interviews organized by identified harms and mitigation strategies:

Internal SMDHU Survey [8]

Observations of the Negative Effects of COVID-19 Public Health Measures

- Overall, across all COVID-19 community-based public health measures, the majority of respondents identified hearing or observing the following negative effects of the pandemic through their current work at SMDHU: negative impacts on mental health, increased feelings of social isolation, and lower rates of physical activity.
- The top three groups at greater risk of the negative effects of the COVID-19 community-based public health measures include the general well population (25 to 64 years), youth (13 to 24 years), and community dwelling older adults (65 years and older).
- The groups impacted and the identified negative effects varied by COVID-19 community-based public health measure. See Table 1

Table 1 Summary of the Top Three Negative Effects and Sub-Populations at Greater Risk of the Negative Effects for Each COVID-19 Community-Based Public Health Measure

COVID-19 Community-Based Public Health Measure	Top Three Negative Effects Identified	Top Three Groups Identified to be at Greater Risk of the Negative Effects
Public health recommendation to stay home	1. Negative impact on mental health 2. Increased feelings of social isolation 3. Lower rates of physical activity	1. General well population (25 to 64 years) 2. Community dwelling older adults (65 years and older) 3. Youth (13 to 24 years)
Physical distancing guidance/orders	1. Increased feelings of social isolation 2. Negative impact on mental health 3. Lower rates of physical activity	1. General well population (25 to 64 years) 2. Community dwelling older adults (65 years and older) 3. Youth (13 to 24 years)
Childcare and school closures	1. Negative impact on mental health 2. Increased feelings of social isolation 2. Lower rates of physical activity 3. Increase in abuse/neglect of a household member	1. Young children (0 to 12 years) 1. Youth (13 to 24 years) 2. General well population (25 to 64 years) 3. Low income individual and families
Decreased access to health/community/social services	1. Negative impact on mental health 2. Increase in abuse/neglect of a household member 2. Increased feelings of social isolation 3. Increased substance use or harms of use	1. General well population (25 to 64 years) 2. Community dwelling older adults (65 years and older) 3. Youth (13 to 24 years)
Non-essential workplace closures	1. Negative impact on mental health 2. Increased feeling of social isolation 3. Increased substance use or harms of use 3. Lower rates of physical activity	1. General well population (25 to 64 years) 2. Low income individuals and families 3. Youth (13 to 24 years)
Closure of outdoor/ community spaces	1. Increased feelings of social isolation 1. Lower rates of physical activity 2. Negative impact on mental health 3. Increased substance use or harms of use	1. General well population (25 to 64 years) 2. Youth (13 to 24 years) 3. Community dwelling older adults (65 years and older)

		3. Young children (0 to 12 years)

*Negative effects and sub-populations are ranked from 1 to 3. Where rankings repeat it means that negative effects or sub-populations were tied in the ranking, therefore some public health measures have more than 3 items showing.

Mitigation Strategies Implemented by SMDHU and in the Community

Table 2 depicts the main mitigation strategies implemented by SMDHU and in the community, and successes and barriers identified by respondents as heard and/or observed in their current role at SMDHU.

Table 2 Summary of Mitigation Strategies Being Implemented by SMDHU and in the Community, and Successes and Barriers

	Mitigation Strategies	Success	Barriers
Implemented by SMDHU	• Communications to the public and local community partners • Keeping the health unit's website (SMDHU.org) updated with current information and resources to support the community • Collaborating with community partners on mitigating negative effects • Maintaining contact with high risk clients • Increasing/adapting services provided to clients and the community	• Staff and the community are able to stay informed with current and accessible information • Some SMDHU services are still being provided to the community	• Some SMDHU programming and services to the community have not been provided due to staff and manager redeployment.
Implemented in the Community	• Transitioning to virtual service delivery models, such as telephone, or online • Implementing flexible work schedules and work from home • Working in partnership with other businesses (e.g. motels) and/or community organizations • Making funding available for those in need • Providing support for those without access to technology	• Organizations are able to continue to provide services to the community • They are able to make referrals to appropriate services, • More people are seeking assistance and services • There has been a limited number of cases of COVID-19 among the homeless population	• Limited engagement in virtual services and the inability to provide some services virtually • Financial limitations experienced by clients and organizations • Lack of access to technology for clients to access services

Additional Mitigation Strategies That Would be Helpful for the Community

A variety of mitigation strategies were suggested for implementation by SMDHU, by local community partners, and by the provincial and federal governments. The top mitigation strategies are identified in Table 3.

Table 3 Summary of the Suggested Mitigations Strategies to be Implemented by Various Groups

For Implementation by…	Suggested Mitigation Strategies
… SMDHU:	• Resume normal programming, including face-to-face services • Additional measures to support SMDHU staff (e.g. childcare needs) • Clear and consistent messaging about public health measures
	• Continued collaboration between organizations

…Other Community Organizations:	• Flexible work schedules and arrangements to support staff and their families • Align messaging with public health • Offer a variety of communication methods to meet the needs of clients and partners • Begin to safely resume normal services
…Provincial Government:	• Clear and consistent messaging, in consultation with public health, to the public • Provide a clear detailed plan for moving forward • Begin to relax some public health measures • Continued supports for vulnerable populations
…Federal Government:	• Implement Basic Income Guarantee • Create or review policies to ensure Canada is not vulnerable in future crisis/pandemic • Create policies that encourage the provinces to support financial and mental health well-being of those impacted by the pandemic and public health measures

Local Community Key Informant Interviews [9]

Observations of the Negative Effects of COVID-19 Public Health Measures

- Across all COVID-19 community-based public health measures, there were common negative effects observed by participants. These can be broken down into health impacts, social and economic impacts, impacts on service delivery, and impacts on understanding the public health measure messaging (see Table 4)

Table 4 Negative Effects of COVID-19 Community-Based Public Health Measures Overall

	Negative Effects of Public Health Measures Combined
Health Impacts	• Increased feelings of social isolation across all populations, with not being able to socialize with friends and family, or not having access to support systems that provided social connection in the past • Negative impacts on mental health, such as increased anxiety and stress, and not being able to do things that supported mental health in the past • Negative impacts on physical health, such as less physical activity for children, and those with pre-existing conditions • Increase in abuse/neglect of a household member, such as children and women who are living in unsafe situations, and families with the added stress of the pandemic adding to potential violence and safety issues in the home • Concerns around the long-term impacts on people's health, such as people not seeking preventative health care or services for health concerns • Concerns around the impact on child development

	• Impacts on family relationships, such as parent-child relationships, and between families with following the public health measures
Social and Economic Impacts	• Enhanced socioeconomic concerns for vulnerable populations who were struggling prior to the pandemic • Financial impacts on those who are unable to work • Impact on regular life, such as parents and families having to work from home while looking after children, and/or provide educational support for their children • Increased food insecurity, such as people in the community not having access to services or programs that provided them with food
Impacts on Service Delivery	• With organizations switching to virtual service delivery, there are people in the community who are no longer able to access the services they require, due to these services not being able to be offered in a virtual format • Concerns around the continuation of the public health measures, reopening of the province, and the long-term impacts of the public health measures on the community • Lack of access to technology for some people in the community, such as limited or no internet access, not having access to electronic devices with data plans, or having limited knowledge of how to use the internet or electronic devices
Impacts on Understanding the Public Health Measure Messaging	• Mixed messaging and understanding regarding the public health measures, confusion around the changes taking place during reopening, and differences in messaging on expectations of the public health measures provided to the public between local communities and the province

- Of the sub-populations identified as being at greater risk of the negative effects of the COVID-19 public health measures, as identified by participants, Table 5 outlines the main negative effects for various sub-population:

Table 5 Summary of the Sub-Populations Identified and Accompanying Main Negative Effects of COVID-19 Community-Based Public Health Measures

Sub-populations Identified by Participants	Negative Effects of Public Health Measures Combined
Staff	• Increased feelings of social isolation, with not connecting with colleagues, or not having that connection with clients
Families and parents	• Negative impact on mental health, such as increased anxiety and stress regarding the loss of childcare, around reopening of schools/childcare, and the other public health measures
Young children (0 to 12)	• Increase in abuse/neglect of a household member, such as children who are living in unsafe situations

Working adults	• Negative impact on mental health, anxiety and stress from loss of childcare, and anticipatory anxiety that they may lose employment
Seniors	• Increased feelings of social isolation, with not being able to socialize with family and friends, or not having access to support systems that provided social connection in the past
Individuals and families living in low income	• Enhanced socioeconomic concerns for vulnerable populations who were struggling prior to the pandemic, more specifically around finances
Youth (13 to 24)	• Increased feelings of social isolation
People experiencing homelessness or living in inadequate housing	• Impacts on service delivery such that people experiencing homelessness, initially, were not able to access services usually provided within shelters • Increased household food insecurity, with limited access too food both for people experiencing homelessness, and those living in social housing
People with mental health or addiction concerns	• Negative impact on mental health
Indigenous	• Increased feelings of social isolation from family and friends, both with the urban Indigenous population and on-reserve First Nation population. Some First Nation populations on-reserve are limited due to the public health measures when it comes to visiting family, for example children, who are located off-reserve. There is disruption to personal and family connection and supports which would have been in place prior to the pandemic
People with pre-existing health issues	• Concerns about the future impacts for those who have pre-existing conditions and are not seeking the care they require
Rural	• Increased feelings of social isolation, where people are separated by acres, and not seeing neighbours • Negative impact on mental health • Lack of access to technology, such as limited internet access due to poor bandwidth
Newcomers	• Newcomers dealing with living in a new country, struggling with language, feeling socially isolated, being further impacted by the pandemic
Women	• Increased feelings of social isolation • Increase in abuse/neglect of a household member, such as women living in unsafe situations and not having a safe space to go to
Post-secondary and international students	• Financial impacts on students who had internships or summer jobs prior to the pandemic, and are paying for their education

	• Lack of access to technology, with some students not having access to the internet to complete their course work

- Please refer to Mitigating Negative Effects of COVID-19 Public Health Measures - Environmental Scan: Key Informant Interviews Report for a breakdown of the negative effects identified by participants for each COVID-19 community-based public health measures

Mitigation Strategies Implemented in the Community

- Mitigation strategies being implemented in the community and within participants' organizations can be categorized into four groups - technology, service delivery to clients, communication, and staff from different organizations. Table 6 depicts the main mitigation strategies, successes and barriers identified by participants in each of these categories.

Table 6 Summary of Mitigation Strategies Being Implemented in the Community, Successes, and Barriers

	Mitigation Strategies	Success	Barriers
Technology	• Organizations are adapting quickly in shifting their service delivery model to more virtual formats to continue to provide services to the community and to clients	• There has been greater access to the community because services are being offered virtually, for example more people are viewing videos online, or people are accessing the services more because it is more comfortable for them	• Some people in the community are unable to access technology. This includes access to Wi-Fi services due to location, having access to electronics such as a computer or cellphone with data package, or they do not know how to use the internet or electronic devices, are uncomfortable or prefer not to use the virtual services
Service Delivery to Clients	• Providing more financial, food and basic needs supports to the community. • Adjusting service delivery that cannot be moved to a virtual model to follow public health measures. • Contacting clients on a regular basis	• There are more connections between staff and clients, because staff have more time to connect with their clients individually, and there is more intentional communication and engagement with clients because they are not seeing their clients face to face	• Clients are missing the face to face services, there is no physical contact or connection that clients require over providing services virtually • With the virtual model, organizations may not be able to achieve the services clients require, as some services cannot be provided in this format
Communication	• Providing updated resources and information to clients and the community, such as updated messaging and resources from public health, share information on services	• Clients are appreciative of the ongoing support and communication. Organizations are receiving compliments for staying connected with clients	• Some clients are not getting the message that services they need are being provided • Unclear messaging around the public health measures, and

	that are available through social media, distance learning resources, etc. • Continued communication and collaboration between organizations to share information, reduce duplication of services, identify funding opportunities, and identify concerns		reinforcing those recommendations
Staff from Different Organizations	• Providing supports for staff such as emergency funds, mental health supports, or secured pay regardless of impact on work time	• There is more connection between staff because of ongoing and open communication virtually • Shows the quality of staff, because they are willing and able to continue to provide services to their clients	• Concerns around funding and the impacts it will have once it runs out, for example, when Canadian Emergency Response Benefit (CERB) runs out, more people may apply for social assistance programs, or having to stop providing services because there is no more funding

- Mitigation strategies were also identified for specific sub-populations by some participants. Please refer to Mitigating Negative Effects of COVID-19 Public Health Measures- Environmental Scan: Key Informant Interviews Report for a full list.

Additional Mitigation Strategies That Would be Helpful for the Community

- Lastly, a variety of additional mitigation strategies were suggested by participants which they believed would be helpful for the local community, if implemented at the local, and/or provincial and federal levels. See Table 7.

Table 7 Summary of Suggested Mitigation Strategies for Local, Provincial and Federal Implementation

	Suggested Mitigation Strategies
Local Recommendations	• Clear messaging across municipalities and services as it relates to public health messaging, standardized implementation of the public health measures across services, using clear language that the public can understand, and what organizations are providing • Figure out how to reach more of the community to provide services, such as getting people access to the services they need • Develop hubs for service and access to technology which the community can use safely • More organization partnership on hosting events, so the community knows what services are available • Continue cross sector collaboration
Provincial and Federal Recommendations	• More communication to create clear messaging, including transparency of information • Provide more funding for mental health

	• Funding increases for support programs, such as housing subsidy, food subsidy, food supports, and social assistance • Common set of guidelines and safety standards across for both provincial and federal • Better coordination between Ministries

ANALYSIS

The methods used for each section of this situational assessment varied significantly, therefore the overall results were brought together using a modified mixed methods approach based on the descriptions provided by Curry & Nunez-Smith (2015)[23]. An emergent design was used where methods were not set in detail at the outset, but emerged in the early phases of the project. A convergent design with merged integration was conducted where qualitative and quantitative components were conducted simultaneously and analyzed together. Triangulation was used for analysis - examining for convergence of information from multiple methods and data sources. Findings were grouped and themed and the level of agreement between them was analyzed. Due to the broad scope of this research and multitude of types of indicators, a formal measure of the level of agreement within themes could not be conducted. The report was reviewed by all authors and any discrepancies or omissions were discussed and reconciled.

Harms

A number of key themes emerged regarding potential harms of COVID-19 community-based public health measures:

Mental Health

The most commonly recurring theme was potential harms to mental health. Negative effects on mental health were noted in the literature reviews, most notably regarding anxiety and depression. Children and the general adult population were noted to have increased depression and anxiety symptoms, and those with low income appeared to have a higher burden of these symptoms. Negative impacts on mental health were also the most commonly identified concern in both the internal SMDHU and local community key informant components of the environmental scan. Mental health was ranked in the top three concerns for all public health measures in the internal survey, often with 100% of SMDHU respondents indicating that they heard it was being adversely affected. The local community key informant interviews noted increased levels of stress and anxiety created by the challenges of following public health measures and concerns were described regarding access to mental health services. Aspects of local epidemiological data collection also reinforce this, but others are inconclusive; survey data noted that many Canadians polled felt that their mental health had worsened, and there was an increase in calls to the Bracebridge, Huntsville and Southern Georgian Bay (Georgian Bay

Township only) OPP detachments regarding mental distress (data only available for these detachments). Emergency department visits and calls to other local supports for mental health have not increased, but instead have decreased; this is likely accounted for by the reduction in overall hospital visits since public health measures were implemented.

Substance Use

Preliminary epidemiological data shows that alcohol and cannabis use is increasing across Canada during the pandemic and sales for both have been higher than usual, nationally and in Ontario. The literature shows that alcohol dependence may also be increasing, based on limited data using AUDIT questionnaires.

It is also noted in the literature that there may be increased substance use-related fatal and nonfatal drug poisoning associated with significant disruptive events such as a pandemic. The main risk factors identified in the literature for increased substance use-related harms reflected a disruption in ways that people typically manage their drug use; this included decreased availability and increased price of drugs, decreased access to substance use treatment and harm reduction services, and increased toxicity of the drug content. Early reports for Ontario show that there is likely an increase in drug poisoning deaths occurring during the current pandemic. Only one respondent in the local community key informant interviews noted an increase in substance use and drug toxicity, but noted it may be due to a combination of public health measures. In the internal SMDHU survey, those who use substances were not perceived as being at particular risk of harms due to public health measures compared to other sub-populations, but they were noted as being most vulnerable to the specific harms of increased substance use, negative impacts on mental health, and increased social isolation.

Child Well-being, Growth, and Development

The public health measures enacted for COVID-19 have created significant disruption in the lives of children. Routines are disrupted; families are facing a range of stressors; education, social services and meals delivered via schools are reduced; and opportunities for socializing and play are lessened. Multiple indicators pointed to concerns regarding the well-being, growth, and development of children. The literature shows that concerns facing children and families during the 2009 H1N1 pandemic included the loss of household income/employment, loss of education, lack of access to school-based healthcare services, and lack of school meals. Early impacts from the literature of the COVID-19 public health response include decreased vaccination coverage, decreased movement behaviours and impacts on nutrition (e.g. low, physical activity, poor diet, increased screen time and sedentary behaviour), and effects on children’s mental health.

Local epidemiological data indicate that there has been a decrease in the number of referrals to Simcoe Muskoka Family Connexions since January 2019, but this may be related to a reduction in the usual referral pathways due to reduced contact with educators and legal professionals. The data shows no significant difference between the pre-pandemic and pandemic period among the percentage of SMDHU Healthy Babies Health Children (HBHC) screens in which

individuals express concern about their ability to parent their baby/child or their ability to care for their baby/child. Also, no difference was noted in the exclusive breastfeeding initiation rate among all births to Simcoe Muskoka residents.

However, in the internal survey of the environmental scan, SMDHU respondents had heard of childcare and school closures having a negative effect mainly on young children (0 to 12 years) and youth (13 to 24 years). All respondents had heard of these closures having a negative effect on mental health, with young children, and the general well population (25 to 64) being at greater risk. Over half of respondents had heard of the closures having a negative effect on increased social isolation, reduced physical activity, and increasing abuse/neglect of a family member, with young children and youth being at greater risk of all of these negative effects. It was also noted that there was significant frustration regarding online learning and not being able to access children's belongings left at school. Overall, the internal survey found the top three negative impacts for both children and youth to be negative impacts on mental health, increased feelings of social isolation, and lower rates of physical activity. In the local community key informant interviews, concerns regarding child development and impact on parent/child relationships were noted. Many respondents also felt children and youth were at risk for increased feelings of social isolation, as well as potential abuse and neglect.

Access to Services

The closing of non-essential businesses and services has led to a reduction in delivery of key services. In addition to this, hospitals and other health providers have significantly reduced procedures conducted and patient visits. Epidemiologic data shows that between March 15 and April 22, 2020, up to 52,700 hospital procedures have been cancelled or avoided in Ontario and, every week that the COVID-19 outbreak measures continue, up to 12,200 more procedures are delayed. In the internal survey of the environmental scan, a majority of SMDHU respondents had heard that decreases in services are having a negative impact on mental health, increasing household abuse/neglect, increasing social isolation, and increasing substance use. The top three harms respondents felt to be related to decreased access to health/community/social services were negative impacts on mental health, increase in abuse/neglect of a household member, and increased feelings of social isolation. Respondents in the local community key informant interviews felt decreased access to services would have an impact on mental health, including increased anxiety and stress in accessing these services, and also noted concerns around individuals and families not seeking the critical care or preventive care they needed. It was felt that this would impact both current and future health.

Domestic Conflict

The reviewed literature notes that stress, disruption of social and protective networks, loss of income, decreased access to or closure of social services, living in households with financial stressors, and being partnered with someone who consumes a lot of alcohol are factors that can increase the risk of violence for women. Many of these factors are now present due to the pandemic response. The epidemiologic data collected noted that 32% of Canadians were "very" or "extremely" concerned about family stress due to confinement and 8% were "very" or

“extremely” concerned about violence in the home during the pandemic. Concern for violence in the home was significantly higher among Canadian immigrants (12%) compared to Canadian-born (7%); reasons and context for this was not explored. Locally, it was noted that the Bracebridge, Huntsville and Southern Georgian Bay (Georgian Bay Township only) OPP detachments reported a 24% increase in domestic violence related calls between February and March 2020. This was in the very early stages of the pandemic response, so subsequent data would be important to see if the trend continues. The local community key informant interviews of the environmental scan reported concerns about potential increases in abuse of a household member as they may not have a safe place to go, most notably due to closure of schools and reduced access to services. It was also felt the stress of the pandemic could contribute to domestic conflict.

Sub-populations at Risk

Literature reviews were targeted at the specific sub-populations of young children and families, people with low income, and people who use substances. Concerns for the well-being of these groups were reinforced in the epidemiologic data collection and the environmental scan. Further identified in the environmental scan were community dwelling older adults. These findings have been summarized earlier in this analysis.

A literature review specific to the harms of the public health measures on Indigenous Peoples was not available. The local community key informant interview section of the environmental scan identified harms that were specific to Indigenous peoples and communities. In particular, increased feelings of social isolation from family and friends, both within the urban Indigenous population and on-reserve population were noted. Some Indigenous people on-reserve are limited due to the public health measures in regards to visiting family, for example children, who are located off-reserve. It was noted that there is disruption to personal and family connection and supports which would have been in place prior to the pandemic. For those living off-reserve, accessing services is difficult, because they cannot access those services offered on-reserve, as well as some services cannot be offered virtually. Also, Indigenous communities, more so First Nations, face historical challenges with being told to physically distance from others, bringing up historical trauma of grief and loss. Losing the ability to connect with extended family and community in cultural and ceremonial events has further exacerbated fear and poor mental health. While local Indigenous-specific epidemiological data was not available, increasing impacts on mental health have been reported in Canada among First Nations, Métis and Inuit people, and females in particular, since physical distancing began.

Mitigation Strategies

Findings regarding mitigation strategies are largely derived from the SMDHU and THU literature reviews (narrative review portions) and both parts of the environmental scan. The main themes are presented below and are organized by level of implementation. Mitigation strategies are not

specific to SMDHU and include strategies that could be considered for implementation by other organizations, governments, etc.

General Operations

Local

- Resumption of normal programming when possible, including face to face services that abide by public health measures. More specifically:
    - Assess how to get regular programming up and running again under COVID precautions
    - Returning staff to base programs when possible, to enable collaborative assessment, planning and delivery of service to address physical and mental health challenges.
- Introduce measures to support employee well-being, such as extended work hours or continued work from home to allow for childcare arrangements, combined work from home and in office, and provide psychosocial support education (e.g. mental health literacy, psychological first aid) and services.
- Shift to virtual/online services where possible and appropriate to maintain services.
- Offer resources to access online services such as devices, pay telecommunication bills for those who can't afford it, etc.
- Provide safe transportation for those who need it to access services
- Begin to resume normal services in a safe manner and provide in-person services in alternative manners if needed (i.e. Meetings outside, proper PPE, etc.)
- Continue cross sector collaboration, including collaboration between Indigenous and non-Indigenous organizations, between organizations providing services to young children, and between those providing supports to seniors
- Engage community partners to support the provision of culturally sensitive communications, services, and supports
- Implement regular surveillance, monitoring and screening for mental and social conditions universally and for those with risk factors
- Public health to ensure they require individuals to quarantine themselves for no longer than is necessary, provide a clear rationale for quarantine, provide information about protocols, and collaborate to ensure sufficient supplies are provided

Provincial

- Implement regular surveillance, monitoring, and screening for mental and social conditions universally and for those with risk factors
- Invest in adequate internet infrastructure for all, particularly rural residents to ensure access to education, effective dissemination of COVID-19 risk communications, and the ability to access online mental health supports
- Begin to relax some of the public health measures, such as gathering size and assessing how to reopen childcare and schools, for a gradual and safe reopening based on surveillance and epidemiology

Mental Health / Domestic Conflict / Substance Use

Local

- Allocate adequate funding to support mental health services within community initiatives
- Strengthen local emergency response plans (e.g. integrate mental health promotion and psychosocial supports throughout all phases; enhance vulnerable population assessment to include mental health, substance use and domestic violence)
- Within preparedness and response plans, include essential services to address violence against women
- Engage with community partners to share mental health literacy resources, information and training opportunities
- Collaborate to provide education to health, social, education sector workers/volunteer on mental health and domestic violence support and best practices (e.g. mental health literacy, trauma informed practice, psychological first aid, local resources and referrals)
- Encourage online support groups and virtual communities
- Provide information about services available locally for abuse survivors and establish referral links
- Educate the public about the situation of domestic violence and risk
- Integrate screening, risk assessment and referral to identify mental or social issues or associated disorders into programming
- Partner to train health care providers on mental health and domestic violence support and best practice
- Encourage mental health practitioners to advocate for vulnerable and institutionalized individuals to policy makers
- Provide ongoing practical support for those who are dealing with secondary stressors, such as substance use

Provincial

- Integrate mental health care into universal health coverage
- Allocate adequate funding to support mental health services within community initiatives
- Continue to invest to ensure a sustainable food system
- Increase funding to services supporting women and children experiencing family and domestic violence including specialist family violence services, the safe-at-home program and women's refuges
- To help reduce risk of domestic violence, encourage means of increasing social interactions in keeping with current public health restrictions (e.g. social circles)

Provincial/Federal

- Implement financial protection measures related to employment and income

Income / Food / Housing

Local

- Continue advocacy for a basic income policy

- Continue collaboration between organizations, such as collaboration with municipalities to bring better paying jobs with good hours and benefits, affordable housing, changes to the built environment to support ongoing COVID-19 public health measures
- Continue emergency homeless shelters in a motel model that includes additional services and supports, such as mental health supports
- Build greater local food sustainability to reduce vulnerability to future crisis/pandemic
- Ensure food and other necessities can be provided for those who need it
- Expand eligibility for local services to include more people and wave certain requirements to improve access (i.e. signatures, document verification, etc.)
- Ensure providers refer families in need to locally available resources or to organizations that aggregate local resources (e.g. 211, United Way)
- Address the lack of access to school food programs, for example by providing school lunches at home
- Ensure regional providers deliver immediate food relief to those most affected by lockdown due to COVID-19
- Ensure government agencies particularly those distributing unemployment benefits connect families in need to available resources
- Conduct urgent securing of food supply chains and local food markets

Provincial - Income

- Continue to provide supports to vulnerable populations, including implementing a basic income and affordable housing support
- Guarantee access to paid sick leave and healthcare and medications beyond Covid-19
- Provide greater access to childcare for essential but low-paid workers whose children are now not going to school
- Expand eligibility for provincial services to include more people and wave certain requirements to improve access (i.e. signatures, document verification, etc.)

Provincial - Housing

- Develop policies to protect vulnerable populations, proactively enforce safe and healthy homes regulations and ensure access to food and other necessities
- Place a moratorium on evictions and utility shut-off and increase affordable housing and provide practical help such as financial support and tax deferral or elimination
- Protect tenants through eviction notice freezes; protect mortgages through payment deferrals
- Provide immediate additional funding support to homelessness services
- Expand the eligibility for temporary accommodation, crisis accommodation, rental assistance, income support and social housing for all those not currently eligible

Federal

- Implement basic income legislation
- Provide immediate rollout or expansion of income support to families, preferably through the use of universal child benefits
- Expand unemployment insurance to cover part-time employees and gig-economy workers

- Provide additional levels of financial support along with those who lose earnings while in quarantine to populations with lower household incomes (below $40,000 annually)
- Create policies that encourage the provinces to support financial and mental health well-being of those impacted by the pandemic and public health measures

Community Engagement / Public Messaging

The following are not broken down by jurisdiction as they may have relevance at all levels:

- Engage community partners to support the provision of culturally sensitive communications, services, and supports
- Perform active outreach to those who may not be part of a support network
- Engage with different communities, especially those whose voices are often not heard, such as minority groups, to gain an understanding of their changing needs
- Provide clear and consistent messaging to the public, in consultation with public health, and provide as clear and detailed a plan for public health measures moving forward as possible

Potential Messaging for the Public

- Adapt messaging to better suit sub-populations at particular risk
- Raise awareness of:
    - Self-care strategies (e.g. breathing and relaxation exercises, meditation, cognitive and physical exercise, mindfulness activities and meditation)
    - The potential harmful impacts that physical distancing, staying at home and other measures to address this pandemic are likely to have on women who are subjected to violence and their children
    - The value of increasing social interactions in keeping with current public health restrictions (e.g. social circles)
    - How the pandemic can increase the risk of substance use-related harms
    - Local mental health services
- Minimize watching, reading or listening to COVID-19 news
- Seek information only from trusted sources and avoid listening to, following or sharing rumours
- Stay connected (via phone, email, social media, and video conference) and help others.
- Create structure and keep busy engaging in activities you enjoy and those you find relaxing
- Take notice and pay attention to your needs and feelings
    - Be aware of symptoms of stress/mental unwellness
    - Draw on skills you have used in the past during difficult times
    - Practice self-care and positive coping skills
- Seek support and talk to people you trust
    - Have a plan where you will seek help for physical, mental, and psychosocial support
- Maintain a healthy lifestyle, as much as your circumstances allow:
    - Be physically active
    - Limit screen time
    - Eat healthy

- Get good quality sleep
- Reduce/eliminate substance use

LIMITATIONS

The goal of this situational assessment was to answer the research questions in an expedited timeline, in order to provide direction and recommend actions for mitigation strategies to be implemented as quickly as possible. This rapid approach to the research comes with certain limitations, and sacrifices some level of precision and rigour. It is, therefore, difficult to make definitive statements about the magnitude of harms. It was not possible to examine all sub-populations in-depth, and research relevant to this question for various sub-populations and select outcomes is scarce. In light of that, this situational assessment should not be interpreted as exhaustive, but instead offers an indication of the potential harms that may be occurring.

In early March 2020, multiple public health interventions were implemented quickly and simultaneously. Not all interventions were studied in this situational assessment. Measuring the effect of individual interventions on health outcomes would require more detailed research methods at the individual level and would still likely have much remaining ambiguity. Interventions at the level of institutions/settings, such as limitations on visitors, were also not assessed here, though they are of great importance. In addition to the effects of the public health interventions, the concerns and health risks of the COVID-19 pandemic itself surely contribute to many of the outcomes examined in this situational assessment, and it is difficult to separate out those impacts.

It was noted in the literature reviews that there was little research relating to the current pandemic. This is to be expected, but it is therefore important to interpret much of the findings in their appropriate context. Many studies including in the literature reviews examined smaller past pandemics of short duration or with much less restrictive public health measures. This may mean that findings presented in this report underestimate the true levels of harm occurring. Those studies that do assess the current pandemic may also underestimate harms as it is possible that problems may develop over time as the pandemic continues. Studies that did examine the current pandemic often relied on online convenience sampling and were judged to be at high-risk of bias.

Epidemiological data collection during the current pandemic was limited as timely local level data on psychosocial indicators are limited. Indicators of service use (i.e. emergency department visits, calls to community health organizations, referrals to community services) were more readily available in a timely fashion. However, it is more difficult to attribute changes in these indicators to the impact of community-based public health measures as many factors may influence their change. For example, indicators that rely on emergency department data may show a reduced incidence that must be interpreted in the context of the overall reduction in emergency department visits related to COVID-19 precautions/fears. In regards to indicators of psychosocial impacts of physical distancing measures during the pandemic, they were often

unavailable at the local level. As such, this data was obtained from national and provincial surveys such as those produced by Statistics Canada or the Centre for Addiction and Mental Health. This national/provincial data may or may not reflect local realities.

As the environmental scan was completed under tight timelines, there were a number of limitations that were present for both the internal SMDHU survey and the local community key informant interviews. Overall the results are only representative of those who participated in both the internal survey and key informant interviews, and may not be the shared perspective of the entire target population, therefore the results cannot be generalized across these groups. The scope of the environmental scan was limited with respect to the sub-populations that may be at greater risk of negative effects of the COVID-19 community-based public health measures, therefore, there may be additional sub-populations that are also at greater risk of negative effects that are not mentioned in this report. It is also important to note that the findings related to the sub-populations are only those heard and/or observed by respondents of the survey and participants of the interviews, and may not capture the entire picture of what these sub-populations may be experiencing in relation to the negative effects of COVID-19 community-based public health measures.

Specific to the internal survey, due to the methodology chosen, responses may not have been as robust as those received through an interview format. As well, some respondents may have found it difficult to distinguish which negative effects are a result of which public health measures, since they are all happening simultaneously with similar goals to keep people physically distanced from each other. Respondents were also asked to respond to questions based on what they have heard and/or observed through their current work at SMDHU, therefore the results only reflect this perspective.

Specific to the key informant interviews, while the interviews were structured using an interview guide to maintain the reliability of the information collected between interviewers, there was some variation between interviewers regarding the amount of prompts asked; this could have prompted the participants to provide different information. There also were a few instances where the participant responses did not follow the script format, therefore, participants may not have answered some questions completely, or may have skipped questions. Due to the short timelines of this project, not all participants were given the opportunity to review the notes taken from their interview, nor were they able to review the findings from the interviews to ensure their sentiments were captured appropriately. As well, there was not enough time to conduct a more formal and appropriate Indigenous-driven environmental scan, following the First Nations Principles of Ownership, Control, Access and Possession (OCAP®), in parallel. *OCAP® is a registered trademark of the First Nations Information Governance Centre (FNIGC).* [24]

Limitations in analysis for the situational assessment report exist due to the broad number of outcomes and the limited reliable data available. This posed difficulties in triangulating findings as each of the many outcomes had only a few pieces of supporting data. As a result, analysis should not be interpreted as definitive, but may serve as an indicator of possible harms for further study.

CONCLUSIONS & CONSIDERATIONS

The precautionary principle refers to the notion "that it is sometimes justified or obligatory to adopt protective measures in response to a given risk, even if current scientific knowledge has not established the existence of that risk as scientific fact".[25] The COVID-19 global pandemic is an enormous risk to health. The public health measures in response to it are unprecedented, and studies of their harms and benefits are in their infancy. Regardless of this lack of knowledge, given the risks that are present, action should not be delayed in favour of further study. Rather further study and action should occur concurrently, with the actions and findings of one informing the other.

Due to the limited available information, this situational assessment cannot claim to definitively describe all of the potential harms of the public health measures that exist, their magnitude, or their priority. However, it does point in directions where, if action occurs and continues now, there is the potential to reduce some of the harms. The following considerations outline potential actions for SMDHU, but may be relevant for other health units and community organizations:

1. **Pursue ongoing surveillance and study of the effects of COVID-19 public health measures on health and health equity, and evaluation of the mitigation strategies.**

   The effects of COVID-19 public health measures are likely still evolving and full effects may be delayed in their presentation. Ongoing surveillance is needed to address these concerns and guide future mitigation strategies. The following is for consideration:

   - In parallel with the current pandemic surveillance, develop an ongoing surveillance framework examining the effects of COVID-19 public health measures on both the general population and sub-populations.
   - Use ongoing surveillance to prioritize mitigation strategies, particularly those targeted at specific sub-populations.
   - Share current and future findings with provincial public health decision makers, to enable the integration of information gathered on the harms of COVID-19 public health measures with pandemic epidemiologic/modelling data, to make evidence informed decisions regarding the initiation, relaxation, or resumption of public health measures. Importantly, these decisions should take into account the known harms and health equity implications of each measure and weigh them against their effectiveness in controlling the pandemic.
   - Share current and future findings with local community partners, to help inform their service delivery and priorities.

2. **Continue efforts to resume priority public health activities as possible, with consideration of identified harms, without significantly impacting the COVID-19 pandemic response.**

Public health has a substantial role to play in keeping people and communities healthy. Many individuals working in public health have expertise in areas directly related to mitigation strategies highlighted in this report, but have needed to be re-deployed for the pandemic response. The following is for consideration:

- Continue striving to staff priority public health activities within a range of programs, when possible without significant impact to the pandemic response; prioritize activities based on identified harms of the public health measures, through the use of SMDHU's COVID-19 business continuity plan.
- Within program planning, seek to be informed by and responsive to the potential harms of the ongoing public health measures.

3. **Weigh the selection of public health measures for use based on their balance of effectiveness, harms, and health equity implications.**

   In order to maximize the benefit of public health measures and minimize harms, these measures should be selectively used and weighted based on ongoing learnings. The following is for consideration:

   - For public health measures and service delivery restrictions that are under local public health authority, continue to relax measures as soon as it is safe to do so without significantly compromising pandemic response. Importantly, local decisions to relax and re-institute measures should take into account the known harms and health equity implications of each measure and weigh them against their effectiveness in controlling the pandemic. This approach should also be shared for provincial consideration.
   - Continue to quarantine individuals for no longer than is required, and with appropriate supports in place.

4. **Consider modifications to existing SMDHU programs, services, organizational procedures and public policy advocacy to address the challenges brought by the public health measures.**

   Programs and services that cannot resume their pre-pandemic activities, and procedures and public policy that are not suited to the new realities of the COVID-19 public health measures, may benefit from modifications or re-focus, to ensure they are effective and relevant. Where capacity permits, the following is for consideration:

   - For programs and services that can mitigate harms of COVID-19 public health measures, seek to be as accessible as possible (i.e. digital solutions, removing administrative barriers, etc.)
   - Consider alternative approaches to ensure access is not reduced for particular groups (i.e. digital solutions may not be accessible to some rural areas, etc.)

- Tailor programs to focus on pandemic related harms where warranted, with mitigation strategies arising from this report (i.e. in client-facing programming, include skills for maintaining mental health while physical distancing) and through investigating other strategies
- Strengthen local emergency response plans (i.e. integrate mental health promotion and psychosocial supports throughout all phases; enhance vulnerable population assessment to include mental health, substance use and domestic violence)
- Convey clarity and consistency in public health messaging on mitigating the harms of public health measures.
- Adapt information and programs addressing the harms to be culturally safe and tailored to sub-populations with unique needs, in collaboration with community partners.
- Continue to adapt organizational procedures to support employee well-being, including childcare responsibilities
- Advocate to all levels of government for public policy that ensures basic needs are met for all during the pandemic (i.e. basic income policy, increasing financial assistance eligibility, restrictions on evictions, etc.)
- Advocate to all levels of government for public policy or investments related to other mitigation strategies (i.e. ensuring information technology infrastructure is available to all, etc.)

5. **Further collaborate with community partners to build a strong health promotion response, alongside the pandemic health protection response.**

   Community organizations have mandates and expertise that are vital to mitigating the harms of public health measures, and SMDHU's collaborations with them are well established. The following is for consideration:

   - Build on current communications and collaborations between organizations, including those serving sub-populations with unique needs, in order to share information, reduce duplication of services, identify funding opportunities, identify local needs and concerns, implement local solutions, and advocate collaboratively where warranted.
   - Consider common messaging for the public to build skills for maintaining health while public health measures are in place, including mental health promotion and mental health literacy.
   - Consider common messaging/efforts to help inform workers/volunteers in health, social service and education sectors on mental health promotion best practices

(i.e. mental health literacy, trauma informed practice, psychological first aid, and local resources and referrals).

For additional considerations that are specific to particular harms or levels of implementation, please see the analysis section.

FURTHER STUDY

This situational assessment looked solely at the harms of specific public health COVID-19 measures and possible strategies to mitigate these harms. A related and important question to address is: what are the barriers to being able to adhere to public health advice? Although out of scope, this theme often arose from key informants in the environmental scan, clearly indicating this is a concern for many sub-populations.

Past literature typically studied pandemics of limited duration. Also, at the time of writing, public health measures have only been in place for approximately three months. Restrictions are beginning to loosen, but a return to previous restrictions may occur in the future. It is also very likely that many effects are yet to be seen. Individuals, families, and businesses/organizations that may not have had significant impacts yet may see impacts at a later date, having used up reserve resources. As well, outcomes that have a significant lag will not be apparent for some time, such as the physiologic impacts of stress (financial, emotional, etc) and social isolation, and other potential avenues through which the social determinants of health contribute to morbidity and mortality. As a result, the questions posed in this situational assessment would ideally be revisited longitudinally to evaluate their full impact. This could be accomplished at the local level, both informally and formally, or it could be examined from an academic lens over time.

Due to time constraints, very few sub-populations could be examined, and none were examined in depth locally. This means key considerations could be overlooked and opportunities for harm mitigation may have been missed. A literature review examining adolescents and young adults has also recently been completed by Southwestern Public Health, which provides additional valuable findings to consider.

The COVID-19 global pandemic is an unprecedented event that will require substantial future study both in the short-term and longitudinally.

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