

At-a-glance

Bringing equity into the fold: a review of interventions to improve mental health

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Abstract

In Canada, it is challenging to find examples of positive population mental health interventions that meet scientific standards of evidence. It is even more difficult to identify effective interventions that address health equity. The discrepancy between standards of evidence in the health sciences, and the evidence that can be gleaned from social experiments, is not new. Efforts to reconcile these differences show a general tendency toward controlled interventions in public health. However, it is possible to extract findings from quasi-experimental interventions that meet scientific standards while also showing promise of positive impacts on mental health equity. This article describes work undertaken in 2015 to begin to address this evidence gap.

Keywords: *equity-focused, mental health, quality of evidence, external validity, intervention design, evidence for equity*

Introduction

While many Canadians experience positive mental health, important inequities persist and, in some areas, are increasing.¹ Evidence shows that some population groups are at a higher risk of poor mental health due to social, material and economic circumstances; such as experiences of everyday discrimination or food insecurity.² Indigenous youth, sexual and gender minority youth are among those who experience rates of high mental distress.^{3,4} By targeting life conditions that can be harmful to mental health, it is possible to improve wellbeing for everyone, while benefiting the most vulnerable. This can be seen in the housing sector where investments to provide secure permanent shelter to low-income individuals can be life-changing for homeless youth, who suffer high rates of poor mental health.⁵

Health equity in our context is defined as “the absence of avoidable or modifiable differences in health among populations or groups defined socially, economically,

or geographically. These measurable health differences arise from underlying levels of social advantage/disadvantage, show a consistent pattern across the population, and are considered to be unfair.”⁶

Poor mental health can affect any individual or family. However, the path to recovery is, in part, influenced by the life course; from early childhood through to the elder years.⁷ Exposure to trauma can lead to different outcomes, depending on an individual’s life skills and social supports. These conditions shape one’s ability to cope with life’s stressful events.⁸

According to the Canadian chronic disease surveillance statistics, more than one in ten individuals are affected by a mood or anxiety disorder in Canada, representing nearly three-quarters of the population that uses health services for a mental illness annually.⁹ Of the 4000 deaths by suicide each year in Canada, more than 90 percent of individuals were experiencing a mental illness or mental health problem.¹⁰ Suicide is the second leading cause of

Highlights

- The majority of equity-focused interventions identified in this review did not use validated methods to evaluate effectiveness.
- There appears to be a trade-off between social innovation to advance mental health equity and the quality of evidence produced.
- Consequently, many examples of culturally- and contextually-relevant mental health interventions that aim to address equity continue to go unreported or undetected.
- The authors propose three ways to rectify these evidence gaps.

death in children, youth and young adults aged 10-29 years.¹⁰ Boys account for 65% of suicides among 15-19 year olds, while girls account for over 80% of self-harm hospitalizations in that same age group.^{11,12} Perhaps less known, girls aged 10-14 years account for 59% of suicides in that age cohort.¹¹ These statistics reveal significant gender differences in levels of vulnerability as girls, boys and gender-diverse children transition to adolescence and early adulthood, reinforcing the need to apply sex- and gender-based analysis (SGBA) to mental health promotion / mental illness prevention initiatives.^{9,13} Moreover, existing research into transgender populations shows a worrisome relationship between individual life circumstances and risk of suicide and other self-harming behaviour.⁴ It is, therefore, time that we contextualized poor mental health by implementing policies, programs and interventions that

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can reduce or remove systemic and structural barriers to mental health equity.

Methods

As part of its efforts to promote evidence-informed decision making, the Public Health Agency of Canada (PHAC) launched the Canadian Best Practices Portal (the Portal) in 2008, a searchable database of population health interventions that have been assessed as meeting specific criteria for either “promising practices” or “best practices,” or “Aboriginal Ways Tried and True (WTT).”

This article describes work undertaken in 2015 to identify mental health interventions on the Portal that were equity-focused in both design and impact, building on earlier efforts that focused on healthy weights.¹⁴

All mental health interventions that met the equity criteria were also rated using the detailed assessment tool developed for the Portal.¹⁴ This rating tool assesses interventions within three broad domains: impact, adaptability and quality of evidence. Only those mental health interventions that scored as a ‘promising practice’ or ‘best practice’ on the rating scale, or met the criteria for Aboriginal Ways Tried and True, qualified for inclusion in our review. Most interventions were excluded because they did not meet the minimum score for quality of evidence.

In addition, specific criteria were used in order for interventions to be designated as equity-focussed. Interventions were required to: 1) report positive outcomes specifically for people living in conditions of disadvantage (these outcomes may or may not be compared to people living in more advantaged conditions); and *either* 2) explicitly target people living in conditions of disadvantage *or* 3) include activities that are focussed on specific health equity goals (e.g., that address the disproportionate exposure to health-damaging factors).¹⁴

Results

The review began with the 113 mental health interventions originally posted on the Portal. Of these, only 11 met the health equity criteria (after satisfying the new best practice or promising practice criteria). An external search saw eight additional interventions pass basic screening criteria for mental health promotion.

However, of these, only two met the criteria for health equity focus, resulting in a combined total of 13 interventions. A sample of 5 interventions that met the minimum evidence standards, as well as health equity criteria, is presented in Table 1.

Mental health interventions that qualified for inclusion often aimed at individual or family-level behaviour change. A few targeted school culture, an area that has grown exponentially yet produced few rigorous studies. One exception, a housing intervention (Housing, Insulation and Health Study), produced evidence of positive impacts on overall wellbeing, by targeting changes to the physical environment (Table 1). The same study found that better insulated homes produced significant improvements to social and emotional functioning, in addition to higher scores for physical health, compared to the control group. People in the intervention group also saw a significant improvement in measures of vitality, happiness and general health scores compared with the control group. Such examples offer much-needed evidence of how changes to the physical environment (investing mid-to upstream) can produce positive and lasting mental health impacts. We might not have anticipated the psychosocial benefits to improving indoor housing quality. However, this finding should not be overlooked given the potential to impact mental health for Canadians living in substandard housing, many of whom face multiple systemic barriers to experiencing positive mental health.

These five examples may also serve to illustrate another important finding. Studies that aim to address equity as a primary objective tend to focus downstream, by aiming to improve the coping skills and social supports of vulnerable individuals. There would appear to be a trade-off between the equity focus of the intervention and quality of evidence available. The housing study is a noteworthy exception. While explicit in its aim to benefit people living in conditions of disadvantage, the study also makes the link between standard housing and psychosocial wellbeing. This revelation was not an intended focus of the study, but rather a by-product of the strength of the instrument used to measure change.

Discussion

The purpose of this project was to identify interventions that showed strong evidence

of positive impacts on population mental health in general, and on health equity in particular. We share some observations as to why so few mental health promotion interventions met the criteria for inclusion and propose ways to rectify these evidence gaps.

The first observation is that several interventions did not explicitly target health inequity in either their implementation activities, the measurement of their impacts, or both. These interventions could not be considered equity-focused even though a number of them showed potential benefits to vulnerable populations. There is a need for interventions to make health equity explicit from the outset.

For example, one promising intervention targeted potential high-school dropouts to evaluate the efficacy of a suicide prevention approach known as CAST (Coping and Support Training). The study reported positive outcomes for vulnerable adolescents who received the intervention (compared with usual-care), and included strategies to reduce disproportionate exposure to health-damaging factors – such as suicide ideation and drug involvement. However, it did not qualify as equity-focussed.²⁰

The reasons for this are several. While explicitly aimed at vulnerable youth – using ‘potential high school dropout’ as a marker for suicide risk – the study did not directly address underlying conditions of dis/advantage. While data such as age, sex, and racial identity were collected (for the purpose of random sampling), the study could have explored the possible interactions and contextual factors related to risk of high school dropout or suicide. The study presented sex-associated differences in intervention outcomes as part of reporting on the results. However, these subanalyses were not part of an intentional equity analysis objective.²¹

From a suicide prevention perspective, the CAST protocol showed good promise among high-school age youth. From an equity perspective, the study may have also impacted the life chances of vulnerable youth by increasing the probability of high school graduation. However, the intervention could have more explicitly recognized high-school dropout as a ‘condition of disadvantage,’ given the option

TABLE 1
Examples of mental health promotion interventions that met the health equity criteria

Intervention name	Type	Country	Health equity content		
			Targeted population	Health equity goal(s)/ strategy(ies)	Key outcomes across major studies
Fast Track ¹⁵	Promising Practice	United States	Children of families living in disadvantaged social-ecological contexts; students in high-risk schools	Classroom curriculum to develop children's emotional concepts, social understanding, and self-control; parent training groups to develop positive family-school relationships and behavior management skills; home visits for fostering parents' problem-solving skills, self-efficacy, and life management; child social skill training groups; child tutoring; child friendship enhancement in the classroom.	Improvements in parenting behavior, child social-cognitive skills, peer relationships, academic skills, and classroom social ecology; reduction in aggressive and delinquent behavior, juvenile and adult arrests, substance use problems and risky sexual behaviours.
Nurse Family Partnership ¹⁶	Best Practices	Canada	First-time, low-income, mothers (at time of pregnancy to two years post-partum)	Home visits to support women to: link with needed health and human services, make good decisions about personal development, make healthy choices during pregnancy, provide competent care to improve the health and development of their children, build supportive relationships with families and friends, and become economically self-sufficient.	Improved maternal sense of mastery and self-sufficiency, fewer incidences of childhood injuries and maltreatment, fewer subsequent pregnancies and increased intervals between children, improved prenatal health, less frequent smoking, improved academic indicators for child, and decreased use of alcohol and drugs among children at follow-up.
Infant Health and Development Program ¹⁷	Best Practices	United States	Low-income, socially isolated women and adolescents with low-birth weight, premature infants	Reduce the developmental and health problems of infants by providing medical, developmental and social assessments, referrals for health and social services, home visits, enrollment in a child development center, and parent group meetings.	Positive impacts on infant's cognitive, motor and behavioural skills and resilience, particularly for those infants born to the most at-risk families and who were at the "heavier" side of the low birth weight range. Positive impacts on mothers' employment, maternal stress, and reported symptoms of depression.
Family Spirit ¹⁸	Ways Tried and True	United States	American Indian teenage mothers and their children	Provision of culturally tailored, strengths-based home visitation curricula to enhance parenting competence, reduce maternal psychosocial and behavioral risks, and promote healthy infant and toddler emotional and social adjustment.	Improvements in parenting knowledge, locus of control, depression symptoms, and externalizing behaviours; reduction in child externalizing, internalizing and dysregulation behaviours.
Housing, Insulation and Health Study ¹⁹	Promising Practice	New Zealand	Occupants of uninsulated dwellings in low income communities	Installing insulation in existing homes.	Improvements in self-rated health, reduced symptoms of asthma and self-reported wheezing, fewer days off school and work, and fewer visits to general practitioners.

to explore the (indirect) benefits of high-school retention was available.

This evaluation study may serve as a case example to demonstrate the difference that incorporating equity as an explicit consideration can make; not only to the field of implementation science, but also to the efficacy of mental health interventions.

The second observation is that while many interventions did include a specific focus on health equity, the methods used to evaluate their impacts failed to meet accepted standards of rigour and replicability. For example, interventions received

low "quality of evidence" scores when they did not report the actual size and demographic break-down of the sample participating in an intervention, or when a comparable 'control group' was left out. Low scores also resulted when interventions did not include objective or validated outcome measures or did not follow an adequate number of participants over time. Interventions must include descriptive baseline data and consider the use of comparable control groups (where possible) to improve the validity of their findings.

The tension between standards of evidence in the health sciences, and the

evidence that can be gleaned from natural or social experiments, is not new.²² Efforts to reconcile this discrepancy show a general tendency toward controlled interventions.²³ As a result, it was more difficult to include mental health interventions that were aimed at intervening at multiple levels or at influencing health outcomes indirectly (through changes in the built environment, for example). The further 'upstream' the intervention, the more difficult to control for a single variable or to define and follow a 'control group'. Human environments are fluid and multi-dimensional, making it more challenging, though not impossible, to meet a standard

of evidence that is regarded as rigorous in the health sciences.

This evidence impasse need not continue. Innovative examples of 'midstream' interventions have the potential to sustain health benefits for those who are more vulnerable.¹⁴ Funding agencies and the recipients of funding are now experimenting with appropriate ways to capture evidence of impacts on equity so that we may learn from existing examples of innovation.

For example, contextual factors (such as leadership and readiness for change) are often integral to the effectiveness of population-level mental health interventions. The need for fidelity requires intervention researchers to adopt validated scales to monitor and measure change. However, a diversity of validated instruments is needed to study the impacts of interventions on complex phenomena such as mental health, so that the evidence produced is considered reliable and the associated interventions, largely replicable.

In 2016, PHAC published *Toward Health Equity: A Practice Tool* to more broadly encourage health equity in public health practice. This detailed diagram and companion document provides guidance on how to think about health equity, both in the design and implementation of population health interventions.²⁴

Conclusion

The purpose of this review was to provide examples of well-designed and implemented population mental health interventions to improve health equity. Although few examples were found, we propose that by adopting three evidence-based methods consistently, implementers of social experiments and other complex interventions can enhance the validity of their findings and, ultimately, their capacity to contribute to this important field.

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Conflicts of interest

The authors have no conflicts of interest to disclose.

Authors' contributions and statement

NJ devised the project in collaboration with the Propel Centre for Population Health Impact. AF provided input on intervention screening, data analysis and interpretation. AS wrote the first draft with input from all authors, and revised the manuscript after providing intellectual content and a critical review. All authors discussed the results.

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