

1 CADTH Health Technology Review

2 **Peer Support Programs for**
3 **Youth Mental Health**

4

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Questions or requests for information about this report can be directed to Requests@CADTH.ca

8 Authors

9 Peer Support Youth Advisor Engagement

10 Julie Boucher led patient-engagement activities and wrote the summary of those activities included in the report. She also reviewed
 11 the protocol and drafts of the patients' Perspectives and Experiences Review and provided final approval of the version of the report
 12 submitted for publication.

13 Systematic Review of Clinical Effectiveness and Safety

14 Anusree Subramonian led the protocol development for the Clinical Review; screened and selected studies; extracted, tabulated,
 15 critically appraised, and interpreted data; wrote the Clinical Review; revised the review based on reviewers' feedback; and provided
 16 final approval of the version of the report submitted for publication.

17 Shannon Hill supported the lead author of the Clinical Review by screening and selecting studies; double-checking extracted
 18 information; critically appraising studies and interpreting data; providing support in writing; reviewing the Clinical Review until
 19 completion; and providing final approval of the version of the report submitted for publication.

20 Michelle Gates contributed to study design during protocol development; provided methodological oversight and support throughout
 21 the conduct of the review; provided critical review of the contents of the report; and provided final approval of the version of the report
 22 submitted for publication.

23 Scan of Program Evaluation Methods

24 Shannon Hill led the protocol development for the Environmental Scan; screened and selected studies relating to program evaluation
 25 methods; conducted stakeholder consultations; extracted, tabulated, and narratively summarized information from the literature and
 26 consultations; wrote the Environmental Scan; revised the review based on reviewers' feedback, and provided final approval of the
 27 version of the report submitted for publication.

28 Francesca Brundisini contributed to the Environmental Scan design during protocol development; provided methodological oversight
 29 and support throughout the conduct of the review; provided critical reviews of the contents of the report, and provided final approval
 30 of the version of the report submitted for publication.

31 Research Information Services

32 Melissa Severn designed the database search strategies for all sections of the report; executed the search strategies; completed
 33 grey literature searches; maintained search alerts; prepared the search methods and appendix; and provided final approval of the
 34 version of the report submitted for publication.

35 David Kaunelis peer-reviewed the search strategies; assisted with report referencing; and approved the final version of the report
 36 submitted for publication.

37 Program Development

38 Andrea Smith developed the project plan; contributed to the coordination of the review; authored the introduction; and contributed to
 39 the writing of the Discussion, Conclusions, and Implications for Policy-Making sections. She approved the final version of the report
 40 submitted for publication.

41

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50

51

52

DRAFT

Abbreviations

53		
54		
55	CESD	Center for Epidemiologic Studies- Depression Scale
56	C-PROM	Canadian Personal Recovery Outcome Measure
57	CYPCO	Children and Young People Community Organizations
58	ED	Emergency Department
59	ES	Environmental Scan
60	GRADE	Grading of Recommendations Assessment, Development and Evaluation
61	HOP	Honest, Open, Proud
62	HOP-C	Honest, Open, Proud- college
63	HRQoL	Health Related Quality of Life
64	HTA	Health Technology Assessment
65	PSIQI	Peer Support Integrity, Quality, and Impact
66	PRISMA	Preferred Reporting Items for Systematic reviews and Meta-Analyses
67	RCT	Randomized controlled trial
68	ROB-2	Cochrane Risk of Bias-2
69	SD	Standard Deviation
70	SR	Systematic review
71	SSMIS-SF	Self-Stigma of Mental Illness Scale–Short Form
72	TAU	Treatment as usual
73	TAY	Transitional Aged Youth
74		
75		

76 **Definitions**

77 For clarity, CADTH has adopted the following definitions in this HTA:

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- **Formal peer support programs** are those programs delivered by formal or structured community or health clinic-based organizations that offer peer support to youth peer service users by trained peer support workers who share lived experience relating to mental health. Peer service users are those who are youth (aged 12-25 years) and who are seeking support for a primary concern relating to their mental health. Peer support can be offered on a 1:1 or on a group basis, and may be delivered virtually (e.g., video conferencing, mobile applications, web platforms or on-line chat, phone) or in-person. We have emphasized formal programs with training and supports for peer support workers, as training is an important mechanism to ensure the safety of peer support workers and users, ensure a degree in the standardization in the peer support offered, and address considerations of equity based on ensuring staff receive training around knowing the limits of their lived experience.

Programs whose primary focus is on supporting youth around a primary concern of substance use or addictions, or those programs that aim to provide primary prevention to youth to prevent mental health conditions or issues are out of scope for this project. There are many peer-led and mutual support programs supporting recovery from substances, which aim to support harm reduction or abstinence and may require different mechanisms and approaches with their own evidence-base that is outside the scope of this review.¹

- **Youth** is defined as being between 12-25 years of age, as is consistent with the typical age ranges of youth served by youth mental health and wellness hubs that are established and expanding across Canadian jurisdictions. Importantly, it covers the period when many mental health issues first appear and the transition out of adolescences into young adulthood.²
- **Mental health challenge** is any condition or issue either self-identified or formally diagnosed, including but not limited to anxiety, depressive symptoms, and eating disorders, but excluding a primary presentation of substance use and addictions.

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161 Key Messages

- 162 • Increasing numbers of youth need access to mental health support in Canada. Health systems are considering options to
163 improve the availability of mental health services for youth and peer support is one of these options.
- 164 • Peer support is a flexible, casual, and convenient intervention that aims to connect youth with a youth peer support worker.
165 The peer support worker can link the peer support user to services and provide tangible support and strategies for coping
166 with mental health challenges. Formal peer support programs with trained and supported peer support workers may mitigate
167 safety concerns (e.g., confidentiality, inappropriate boundaries) for both peer support users and peer support workers and
168 help deliver appropriate support for an individual users' recovery.
- 169 • Our HTA found that formal peer support programs (i.e., trained peer support workers based at structured community or
170 health clinic-based organizations provide support to peer support users) might help a young person feel more comfortable to
171 share information about their mental issue and ask for help. The 2 randomized controlled trials we identified, found that
172 compared to no peer support, peer support may improve one's attitudes towards disclosure of mental illness, distress
173 related to that disclosure, and help-seeking behaviour. However, because only a small amount of low-quality evidence is
174 available, it is uncertain whether peer support programs are effective at supporting an individual in their recovery (compared
175 to programs without a peer support component). In addition, the safety of peer support programs and their impact on the
176 use of healthcare resources is currently unknown (no research evidence found).
- 177 • Strengthening program evaluations can improve the understanding of the benefits and maximize the effectiveness of peer
178 support programs. While our environmental scan did not identify formal guidelines or best practices for evaluating peer
179 support programs, we found shared principles of evaluation approaches among programs. These include using recovery-
180 oriented outcomes, involving youth throughout the evaluation, and tailoring the evaluation to reflect the local program
181 context.
- 182 • A lack of shared experience or lack of understanding of lived experience can be a barrier to accessing or providing inclusive
183 peer support. This highlights the need for training and recruiting diverse and disadvantaged youth. Ensuring representation
184 and involvement of youth with diverse backgrounds and experiences across the design and evaluation of peer support
185 programs can advance equity, diversity, and inclusion.

187 Abstract

188 Context and Decision Problem(s)

189 The mental health of youth living in Canada is a serious public health concern that worsened during the COVID-19 pandemic. Mental
190 health decision makers are considering adopting and implementing peer support programs as an option for improving access to
191 mental health care for youth. Peer support is based on the recovery model and typically involves a relationship between a peer
192 support worker who shares lived experience of mental health challenge with a peer support user. Peer support has the potential to
193 increase youth's access to mental health services in the form of youth peer support workers, who can support recovery, can connect
194 youth to additional mental health care services and reduce the stigma around seeking mental health care because they themselves
195 are youth with experience of mental health issues.³ The role of peer support and peer support workers can vary by program and be
196 tailored to the specific needs of the community. As a result there is a wide range of applications of peer support for youth mental
197 health. For example, it can assist youth navigate and access health care, or provide youth with tangible coping strategies for
198 individuals coping with feelings of depression.

199 As peer support is an intervention that could increase access to mental health support for youth, decision makers have expressed
 200 the need to understand the clinical effectiveness and safety of formal peer support programs and its impact on the use of health care
 201 resources. They have also expressed the need for and importance of including considerations of equity into the design,
 202 implementation, and evaluation of peer support programs to ensure that these programs are accessible and relevant to
 203 disadvantaged youth. Policy and program decision makers are interested in understanding how to best evaluate peer support
 204 programs to ensure that they meet funder and program objectives and the needs of the youth.

205 To support decision making around formal peer support programs for youth mental health, in this HTA we (referring to the CADTH
 206 review team):

- 207 • Assessed the clinical effectiveness and safety of formal peer support programs for youth mental health;
- 208 • Identified and described existing and recommended methods for the evaluation of peer support programs for youth mental
 209 health (including completed evaluations conducted in Canada and internationally); and summarized findings of completed
 210 evaluations for formal peer support programs in Canada.
- 211 • Engaged youth peer support workers and youth peer support service users to serve as advisors, to enable the team to
 212 consider the research findings alongside an understanding of the wider experiences of those accessing and providing peer
 213 support.

214 Peer Support Youth Advisor Engagement

215 Four youth with lived experience of peer support were involved as peer support youth advisors to support the research team
 216 understand the context for the scientific evidence and the experiences of those accessing and providing peer support. The advisors
 217 shared their perspectives before the protocol was finalized, when preliminary evidence findings were available, and after the final
 218 report was completed. The feedback helped to ensure that this HTA was relevant to peer support service users and peer support
 219 workers.

220 Advisors spoke about how recovery-based outcomes are especially important to youth and described recovery as an ongoing
 221 journey rather than a finite outcome. On the other hand, they shared that whereas outcomes such as use of healthcare resources
 222 and clinical effectiveness are not as relevant to youth, they can offer a measurable way to determine whether peer support is
 223 effective. They also expressed that self-stigma and public and community stigma are of concern to youth accessing peer support for
 224 mental health.

225 Advisors encouraged diversity, inclusion, and representation in all aspects of peer support programs. To help achieve this, they
 226 called for youth with lived experience to be involved in the co-creation of program evaluation strategies. Youth involvement can
 227 inform and improve programs and ensure that they align with and reflect the needs and identities of their users.

228 The knowledge and experiences shared by advisors enabled the team to consider the outcomes of interest to youth involved in peer
 229 support programs and encouraged further reflection on considerations of equity and program inclusivity

230 Clinical Effectiveness and Safety Evidence

231 We conducted a systematic review to assess the effectiveness and safety of peer support interventions compared to interventions
 232 without peer support among youth aged 12 to 25 years with mental health concerns (substance use was excluded). For the purpose
 233 of this review, we considered formal peer support delivered by trained peer support workers with shared lived experience.

234 We conducted a systematic search of multiple electronic databases and of grey literature. We identified 3 publications, reporting
 235 results from 2 randomized controlled trials of 216 participants. The included trials reported on outcomes related to personal recovery
 236 and clinical symptoms. We did not identify any evidence on the safety of peer support interventions. The findings suggested that peer
 237 support may be favoured over no peer support in some of the personal recovery outcomes (e.g., attitudes to disclosure, disclosure

238 related distress, secrecy, help-seeking behaviour), whereas for the other outcomes evidence showed that there may be little to no
 239 difference in the effect of peer support compared to waitlist or TAU without peer support. However, the evidence for all outcomes was
 240 very uncertain because of high risk of bias in the studies, and serious concerns related to inconsistency, indirectness, and
 241 imprecision. Overall, the clinical evidence on the benefits of peer support programs compared to no peer support for the
 242 management of mental health concerns among youth is very uncertain, meaning it is not a reliable indication of how effective peer
 243 support programs are compared to interventions without peer support.

244 Scan of Program Evaluation Methods

245 An Environmental Scan was conducted to identify and describe program evaluation methods and guidelines in Canada or
 246 internationally and findings of completed program evaluations in Canada. The scan was informed by a limited literature search and
 247 targeted stakeholder consultations, which included representatives from 7 organizations across Canada that offered peer support
 248 services for youth mental health. The findings showed that there is a lack of standardization and formal guidance for program
 249 evaluation of peer support programs which contributes to heterogeneity in evaluation approaches across programs. Yet,
 250 heterogeneity in program evaluation can be valuable as it allows to adapt practices to individual and program needs. Despite the lack
 251 of formal guidance or standardized methods, programs did share common principles and practices when engaging in program
 252 evaluation. These include practice-based evidence; a focus on evaluation that adheres to a recovery-model of care; employing a co-
 253 design approach to evaluation so that youth are involved in the design and conduct of evaluation; and addressing the needs of the
 254 youth involved in the program through evaluation. Data collection methods varied across organization and program evaluations, but
 255 generally programs relied on the use of survey, interviews, focus groups and case studies to collect data. Evaluation data were
 256 analyzed at various timepoints depending on the goal and aim of the program evaluation. The identified programs addressed equity
 257 in the program evaluations by ensuring youth safety, inclusiveness and cultural competency for local communities. Program
 258 representatives also discussed challenges that are faced when balancing the needs of the program participants and the funder's
 259 expectations for program evaluation.

260 .

261 Conclusions and Implications for Decision- or Policy-Making

262 The findings of this HTA highlight opportunities to build an evidence base around peer support programs for youth mental health.
 263 With investments being made in youth mental health, peer support is a promising option despite the limited evidence of the clinical
 264 effectiveness and safety of formal programs. Peer support is positioned to be an informal, flexible, and convenient intervention that
 265 can connect youth to additional mental health care, reduce the stigma around seeking care, and provide youth with coping skills and
 266 support for their mental health challenges. Formal programs with trained peer support workers who have access to on-going
 267 debriefing and support mentorship may mitigate safety concerns for both peer support users and peer support workers (such as
 268 confidentiality and inappropriate boundaries) and ensure that the support offered is likely to aid in individual youth peer support users'
 269 recovery. Evaluations of peer support programs can serve to assess the needs of the programs and of the youth engaged in the
 270 programs to help with quality improvement efforts and inform future programming. Training and recruiting diverse and disadvantaged
 271 youth are necessary in order for programs to be inclusive, to ensure fair and equitable access to peer support programs. Equity, in
 272 the context of peer support was described by the consulted organizations as being inclusive, safe and prioritizing the needs of the
 273 diverse youth whom the program is designed to serve, and needs to be integrated into program design, recruitment, training and
 274 evaluation. Opportunities for engaging youth can advance equity, diversity and inclusion initiatives.

Introduction

275

Introduction and Rationale

276

277 The mental health of youth living in Canada is a prominent public health concern. Even before the COVID-19 pandemic, youth aged
 278 15-24 years were the least likely of all people living in Canada to report excellent or very good mental health.⁴ Compared to other
 279 high-income countries, Canada ranked 31 out of 38 countries on measures of well-being (feeling positive and being in good mental
 280 health) and 35 out of 38 countries on teen suicide rates with Indigenous youth having the highest rates.⁵ Exacerbated by the COVID
 281 pandemic, estimated rates of youth who report having poor mental health have jumped to over 60% in 2020.⁶ Marginalized youth,
 282 including members of the 2SLGBTQ+ community, Indigenous youth, racialized youth, youth who are refugees and newcomers,
 283 young people with disability, and youth living in rural or remote areas are particularly vulnerable to mental health challenges,^{4,6} and
 284 have been disproportionately impacted by the economic, social, and health consequences of the COVID-19 pandemic.⁶

285 According to a survey of 14,000 public school students by a research team based at the Centre for Addictions and Mental Health
 286 (CAMH) in Toronto, one in three youth said that there was a time in the past year where they wanted to talk to someone about a
 287 mental health problem but did not know where to turn.⁷ It is estimated that less than 20% of children and youth who are affected by
 288 mental illness will receive appropriate treatment.⁸ Barriers to accessing mental health services are both social and structural.⁹ The
 289 fear of or experiences of stigma are a significant deterrent to seeking care, particularly for those already marginalized.⁹ Mental health
 290 services themselves are often complex and difficult to navigate,^{2,6} with limited public (either publicly insured or publicly provided)
 291 services which typically have lengthy wait lists. Many other services are covered only by private insurance or out-of-pocket
 292 expenses.² For those services now offered on-line or virtually due to the COVID-19 pandemic, limited internet or
 293 computer/smartphone access and the physical need for privacy are barriers affecting youth seeking virtual or remote care for their
 294 mental health.⁶ As a result of the limited availability of mental health services, youth have increasingly sought mental health care
 295 from emergency departments and hospitals. Over a 10-year period between 2008-2009 and 2018-2019, there was a 61% increase in
 296 visits to emergency departments for mental health and a 60% increase in hospitalizations for children and youth in Canada aged 5-
 297 24 years.¹⁰ Those youth aged 15-17 years have the highest rate of visits to emergency department and hospitalization for mental
 298 health disorders amongst children and youth.¹⁰ Emergency department visits for mental health care are an established indicator of
 299 poor access to mental health services.¹⁰

300 As a result, many health care systems across Canada are planning or implementing wide-scale change or making system-level
 301 investments in mental health care for youth. These include new models of care (e.g., stepped care, integrated youth care, Youth
 302 Wellness Hubs) and an increase in funding to community-based and virtual mental health care to improve timely access to support
 303 for those youth seeking care.¹¹ It is in these conversations around further investments in mental health for youth that peer support
 304 programs are being considered as a promising option.

305 Peer support programs provide a peer service user with support from a peer support worker. The basis of support is the relationship
 306 between peers which is founded on and draws from their shared lived experience. In the case of peer support for youth mental
 307 health, typically lived experience means the peer worker is a youth who is in a positive state of recovery from or supported someone
 308 in recovery from mental health challenges and has the skills and aptitude to provide peer support.^{3,12} Participation in peer support
 309 programs is typically voluntary and does not require a referral or formal diagnosis to receive care.

310 Peer support is based on a recovery model of mental health, which means that rather than seeking a cure or reduction of symptoms,
 311 the focus is on supporting an individual to recover a quality of life while striving to achieve their full potential.³ Some aspects of
 312 recovery include an individual's ability to connect with their community, forge or maintain personal relationships, and the ability to feel
 313 hopeful about their future. A variety of theories underlie the mechanism of peer support in which the peer service user can learn from
 314 the information, modelled behaviour, or encouragement and empowerment provided from the peer support worker through their
 315 relationship.¹³ Peer support is also seen as a means of addressing or reducing stigma around mental health, specifically in youth
 316 who are described as being more open to seeking services and support from other youth as opposed to adults.³

317 The ethical and social concerns most explicitly expressed have to do with the relationship between the peer support worker and the
 318 peer service user, with concerns around the privacy and confidentiality of the information shared by both peers, the boundaries
 319 between the peer service user and peer worker, meaning the recognition of a potential or actual power imbalance and the need for
 320 professional relationships, and the potential harms to the peer support worker or peer service user should inadequate training or
 321 supports be available to them.¹⁴ Further, peer support programs can potentially widen existing inequities in access to services and
 322 burden of mental health if they are not inclusive, culturally safe, and provide fair and equitable access, and do not meet the needs of
 323 peer service users and peer workers who are members of marginalized or disadvantaged communities.¹⁴

324 Peer support programs often explicitly intend to be inclusive and provide support to disadvantaged youth. There is broad
 325 acknowledgement that ensuring inclusivity requires, among other things, training, hiring and supporting peer support workers who
 326 are themselves members of disadvantaged groups. This is because the peer user and peer worker need to share meaningful lived
 327 experience that includes that of being a socially disadvantaged youth and with mental health challenges.³ Moreover, inclusive care is
 328 enhanced by involving disadvantaged youth as peer workers and services users to help inform and influence program and policy
 329 development.^{15,16} As stigma is a complex phenomenon that can exacerbate and be exacerbated by other forms of systematic
 330 discrimination,¹⁷ peer support programs which are inclusive and support disadvantaged youth are necessary to meaningfully address
 331 the diverse forms of stigma experienced by youth with mental health challenges.

332 Peer support programs can range from informal to formal, and from programs self-organized by peers to meet their own needs to
 333 highly structured programs that include training, paid peer support workers, and case management. While they started as self-
 334 organized, grassroots programs, over time they have evolved and more formal programs delivered as part community non-
 335 governmental organizations and health care facilities have emerged.¹⁸ Peer support can be a stand-alone program or be integrated
 336 into a larger multi-component program and are a complement to existing mental health services.¹⁸ The specific objectives of peer
 337 support and the role of the peer support worker can be tailored to meet local program aims and needs of the local youth, for example,
 338 it can assist youth navigate and access health care, or provide resources to support improved coping with academic pressures. Peer
 339 support programs have the potential to increase youth's access to mental health services through youth peer support workers, who
 340 can support recovery and connect youth to additional mental health care services. Despite the interest in peer support programs as a
 341 means of providing mental health care for young people, the effectiveness of peer support programs for young people is not well-
 342 established.¹³ Moreover, there is a recognized need to use available information and evidence to support building programs that are
 343 inclusive, meet policy objectives (e.g., support transitions in care) and to design on-going evaluations. Service and health care
 344 organizations face the challenge of making decisions on how to recruit, train, and maintain peer support workers, and ministry and
 345 regional funders want to ensure value on their investment into programs. CADTH undertook this HTA to provide evidence to support
 346 decision-making around formal peer support programs for youth mental health.

347 Context and Decision Problems

348 Decision Problems

349 Policy and program decision makers across Canada are designing and implementing services for youth mental health and are
 350 considering the potential role of formal peer support programs. To inform potential decisions about the adoption and implementation
 351 of peer support programs for youth mental health, decision makers have expressed the need to understand their clinical
 352 effectiveness and safety and the potential impact on the use of health care resources. Additionally, to meet the needs of youth in
 353 Canada it is recognized that peer support programs need to provide care that is inclusive, that is, meets the needs of all youth
 354 including those who may experience marginalization or disadvantage. To this end, decision makers have expressed the importance
 355 of including considerations of equity to ensure peer support programs are accessible and relevant to marginalized or disadvantaged
 356 youth when thinking about the possibility of designing and implementing peer support programs.

357 To support potential design and implementation, policy and program decision makers have expressed an interest in understanding
 358 how to evaluate peer support programs. Evaluation is seen as an opportunity to enhance the evidence base around peer support
 359 programs for youth mental health and to understand how to design programs to maximize their benefits, minimize their harms, and
 360 set standards for program design. Given that peer support programs are a complex intervention with wide variation in their design

361 and with the potential for the influence of local context, decision makers have expressed a need to understand what evaluations of
 362 peer support programs for youth mental health have been conducted and what methods or approaches can be considered for future
 363 evaluations.

364 Objective

365 The objective of this HTA was to support decision making around adopting, implementing, and evaluating formal peer support
 366 programs for youth mental health. To do this, CADTH:

- 367 • Assessed the clinical effectiveness and safety of formal peer support programs for youth mental health;
- 368 • Identified and described existing and recommended methods for the evaluation of formal peer support programs for youth
 369 mental health including completed evaluations conducted in Canada and internationally; and summarized findings of
 370 completed evaluations in Canada.
- 371 • Engaged youth peer support workers and youth peer support service users as part of CADTH's patient engagement
 372 activities.

373 Research Questions

374 This HTA informs the decision problems by answering the following research questions. Details on the specific interventions and
 375 outcomes are included in Table 2.

376 Systematic Review of Clinical Effectiveness and Safety

- 377 1. What is the clinical effectiveness of formal peer support programs compared to interventions without peer support for the
 378 management of mental health concerns among youth?
- 379 2. What is the safety of formal peer support programs compared to interventions without peer support for the management of
 380 mental health concerns among youth?
 381

382 Scan of Program Evaluation Methods

- 383 1. What completed evaluations and evaluation method guidelines for formal peer support programs for youth mental health
 384 exist in Canada and internationally?
- 385 2. What are the characteristics and components used in the evaluations and method guidelines for formal peer support
 386 programs for youth mental health, and how are they measured?
- 387 3. What are the findings of the completed evaluations in Canada?

388 Methods Overview

389 This HTA was informed by preliminary scoping activities including scoping searches of the existing published and grey literature
 390 around peer support for youth mental health. We wrote an a priori protocol using appropriate reporting guidelines (e.g., the Preferred
 391 Reporting Items for Systematic Reviews and Meta-Analyses Protocols [PRISMA-P], Guidance for Reporting Involvement of Patients
 392 and the Public [GRIPP2])¹⁹ to ensure clarity and completeness.

393 Informed by the recommendations of the Campbell and Cochrane Equity Methods Group,^{20,21} we worked to include considerations of
 394 equity throughout the conduct of this review. We selected the Equity Checklist for HTA (ECHTA)²² as a tool to iteratively guide our
 395 consideration of equity in the HTA. Specific groups of disadvantaged youth who experience an inequitable burden of mental health
 396 challenges and access to inclusive mental health services were identified using PROGRESS-Plus,²³ the available published and grey

397 literature on peer support, discussions with clinical and content experts, and through existing descriptions of peer support programs
398 explicitly designed to target or serve disadvantaged youth. These groups of youth include but are not limited to youth members of the
399 2SLGBTQ+ community, Metis and Indigenous youth, Black youth and youth of Colour, youth members of newcomer communities,
400 youth experiencing homelessness or street involvement, youth with disabilities, and youth living in rural and remote communities.
401 The prompts provided by the ECHTA were used for discussion and reflection in the development and conduct of each individual
402 components and in the writing of the shared discussion section in this final report.

403 A systematic review (SR) of clinical effectiveness and safety was conducted to address decision makers' need for evidence around
404 the impact of formal peer support programs on patient and health systems outcomes. We consider effectiveness as a broad term,
405 covering all aspects of benefits and harms of any intervention. In this context of peer support, the term includes recovery, as
406 described in the sections of this report. We included a wide variety of study designs (beyond randomized trials) recognizing that non-
407 randomized studies may be the only sources of evidence available and may provide important insights into the benefits and harms of
408 peer support among disadvantaged populations. We also intended to present information regarding effectiveness and safety within
409 relevant population subgroups (informed by PROGRESS-Plus),^{23,24} however this evidence was not available within the included
410 studies.

411 We conducted an Environmental Scan of completed evaluations in Canada and the methods used to evaluate peer support
412 programs for youth mental health in Canada and internationally to address decision makers' need for information around how to
413 evaluate peer support programs. We collected data through a limited literature search of both the published and grey literatures and
414 through consultations with key informants from programs offering peer support for youth mental health. We considered equity by
415 identifying and describing features of evaluation methods that may address or reflect program goals around fair and equitable access
416 and inclusive program. We have reported whether and how disadvantaged youth (as service users and support workers) were
417 involved in evaluations when information was available.

418 Engaging with peer support service users and peer support workers (i.e., peer support youth advisors) helped to ensure that this
419 HTA is relevant to youth with mental health challenges who engage with peer support programs. Considerations of equity informed
420 our engagement activities by involving youth who may be disproportionately affected by decisions made about the design and
421 implementation of peer support programs for mental health and who can help inform the development of inclusive programs. Peer
422 support service users and peer support workers we engaged brought a variety of experiences from underserved communities.

423 Opportunities for Stakeholder Feedback

424 Stakeholders were given the opportunity to provide feedback on the draft list of included studies and the draft report.
425

Peer Support Youth Advisor Engagement

Overview

CADTH involves patients, families, and patient groups to improve the quality and relevance of our assessments, ensuring that those affected by the assessments have an opportunity to contribute to them. CADTH has adopted a [Framework for patient engagement in HTA](#). The framework includes Standards for Patient Involvement in Individual HTAs and is used to support and guide our activities involving patients.

For this Health Technology Review, CADTH engaged 4 peer support youth advisors with lived experience of peer support whose first-hand knowledge, understanding, and experiences of peer support programs provided context to the evidence used to refine the protocol and helped reviewers interpret the overall findings of the assessment.

Methods

Invitation to Participate and Consent

Potential participants were identified through CADTH connections with peer support programs and pan-Canadian health organisations. A CADTH patient engagement officer contacted individuals who expressed interest, via teleconference and/or email (depending on individuals' availability and level of comfort). During this initial meeting, the patient engagement officer described CADTH, the purpose and scope of the project, the purpose of the engagement, and the nature of the engagement activities.

CADTH engaged 4 peer support youth advisors with lived experience of receiving or providing peer support to learn from a diversity of experiences and perspectives. Advisors were located across the country and had varied experience in terms of the types of programs they accessed as peer support users and the training they received as peer support workers. Some self-identified as members of marginalized or disadvantaged communities. In their role as advisors, they were able to share their own experiences as well as reflect on and share knowledge they gained through their interactions with other youth. Advisors shared knowledge of issues of particular importance to: 2SLGBTQ+ youth, People of Colour, youth with disabilities, and youth experiencing homelessness.

The patient engagement officer obtained the individuals' informed consent to share their information and comments with CADTH staff. Advisors are recognized and thanked in the report's Acknowledgements. They were also offered honorarium for their time and effort.

Engagement Activities

Peer support youth advisors who are peer service users and trained peer support workers were involved at several time points, including:

- before protocol finalization
- during drafting of the initial report, and
- upon completion of the final report during the feedback period.

462 The involvement of peer support youth advisors enabled the research team to consider the scientific evidence with an understanding
 463 of the wider experiences of those accessing and providing peer support. Perspectives shared during engagement processes helped
 464 to ensure that this review is relevant to peer support service users and peer support workers who participate in peer support
 465 programs. It enabled the research team to consider the outcomes of interest to youth involved in peer support programs and
 466 encouraged further reflection on considerations of equity and program inclusivity.
 467

468 Upon completion of the final report, advisors were invited to provide feedback on the clarity of writing and comment on the relevance
 469 of the findings to youth in Canada. They were asked if they felt that their contributions to the project were reflected in the draft final
 470 report, and revisions will be made if needed.

471 Results

472 The reporting of this section follows the GRIPP2 Short Form¹⁹ reporting checklist and includes the results, discussion, and reflections
 473 and critical perspectives on advisor involvement, to outline the process of engagement and where and how advisors' contributions
 474 were used in the review.

475 **Table 1: Peer Support Youth Advisor Involvement in CADTH's Health Technology Review of Peer**
 476 **Support Programs for Youth Mental Health**

Topic	Item	Reported on page
Aim	Four peer support youth advisors with lived experience of peer support were involved in informing the protocol and commenting on outcomes important to youth accessing and offering peer support for mental health.	11, 17
Methods	<p>After giving informed consent, the advisors discussed their experiences and knowledge of peer support via teleconference with CADTH researchers and in email communication. During protocol development, 2 youth with lived experience of peer support were invited as advisors to comment and provide feedback on:</p> <ul style="list-style-type: none"> - research questions - eligibility criteria - equity considerations - outcomes that are important to youth accessing and offering peer support <p>Once preliminary findings were available, 2 youth with lived experience of peer support were invited as advisors to explore their perceptions of key findings, including if the findings were understandable, and if they reflected personal experiences or understandings.</p> <p>An honorarium was offered to advisors for participating in a teleconference and to review a summary of their discussion.</p> <p>Each were also invited to provide stakeholder feedback on the draft of the full report.</p>	15,16,17
Engagement results	<p>The research team heard how peer support appeals to youth for many reasons, mainly, because it offers a convenient, low barrier, low commitment service. According to advisors, peer support clients feel safe and comfortable in a peer support environment.</p> <p>The researchers were also made aware of the importance of several clinical effectiveness and safety outcomes. Personal recovery was meaningful to advisors, who emphasized that it is an ongoing process rather than a finite goal that can be achieved. "You're</p>	11,58,59, 61, 61

	<p><i>continuing on your wellness journey, you're not turning your shoulder to services, you're not self-sabotaging, you're making positive movements in your own life.</i>" This goes together with resilience, which an advisor described as the ability to successfully balance work, school, and more, especially during COVID. Social outcomes were also said to be valuable; for example, a good support system will work together with peer support to further benefit mental health.</p> <p>Although the relevance of clinical effectiveness of peer support was questioned because it is typically associated with services offered in clinical settings, some advisors conveyed the importance of assessing progress in a measurable way.</p> <p>Advisors were also cautious about how healthcare resource utilization would be interpreted, explaining that it can be difficult to capture the intent of accessing resources. For example, increased hospitalizations might indicate that someone is proactively reaching out for help or that they are in a crisis.</p> <p>In terms of safety outcomes, stigma was discussed by advisors, who expressed that conversations around boundaries and confidentiality are necessary. They acknowledged that being recognized in a peer support setting (e.g., if individuals who attend the same school and support program, recognize each other) or having private information unknowingly being overheard by friends or family (e.g., a discussion is accidentally overheard when accessing virtual peer support at home), is a concern for youth. In addition, advisors expressed that youth with lived experience should be involved in the co-creation of peer support program evaluation strategies. <i>"Anything that deals in mental health needs to be informed or co-created with youth with lived experience."</i> Information collected for evaluation must also serve a clear purpose that should be clearly communicated to youth. For example, not everyone feels comfortable answering questions on demographic data and/or sensitive information truthfully because of privacy concerns. Those involved in conducting evaluations must have a baseline of knowledge of what are the right questions to ask and what is not necessary. <i>"Why is it important for us to know your sexual orientation versus your gender? Does that even matter? Why is it important to know if you're an immigrant? There has to be a rationale to these questions and that's how you build EDI into it. If that critical lens isn't put, it's not resolving anything and it's creating further dissonance between research and participants."</i></p> <p>Lastly, conversations with advisors around equity, diversity, and inclusion helped further inform researchers' discussions in this review. Advisors spoke about the importance of representation in all aspects of peer support programs. One way this can be achieved is by involving youth with lived experience in the co-design of evaluations so that they can inform programs and ensure that they align with and reflect the needs and identities of their users. Moreover, information collected by evaluations must serve a clear purpose that should be clearly communicated to youth, to prevent further dissonance between evaluators/peer support programs and participants.</p> <p>Sharing this knowledge with the research team allowed them to consider the evidence in the context of the wider experiences of youth who access and who offer peer support services.</p>	
<p>Discussion and conclusions</p>	<p>The successful involvement of youth advisors in this report is related to several factors. First, they were briefed on the objectives of the project and their role in a preliminary meeting. In addition, a discussion guide was shared with them prior to the teleconference meeting, to ensure that they felt comfortable with the topics and questions that would be discussed. Advisors were also supported by a patient engagement officer, who helped facilitate their participation in the project. Importantly, the research team was receptive to their participation and interested in learning from their experiences and insights.</p>	<p>11,17</p>

	<p>Hearing about service users' and peer support workers' experiences with peer support programs was helpful for the research team to understand the processes underlying the use of peer support. For the clinical effectiveness and safety review, perspectives shared helped guide discussions about relevance, meaning, and nuances of the outcomes of interest. Similarly, advisors' experiences completing and/or developing peer support program evaluation tools provided an understanding of the evaluation strategies from the point of view of individuals being asked to participate in and/or co-create evaluation strategies.</p>	
<p>Reflections and critical perspective</p>	<p>The advisors were highly engaged and candid in their conversations with the researchers. They were able to reflect on the questions being asked in advance of the meetings and felt comfortable articulating their thoughts and sharing their perspectives during the teleconference. CADTH researchers were open and inquisitive, and asked thoughtful questions to add context in their analyses of the review findings.</p> <p>The value in this approach – to engage different individuals at different time points in the project – allowed us to capture multiple perspectives and a diversity of needs rather than a singular perspective.</p> <p>The lack of available clinical evidence on peer support effectiveness and safety, especially in a Canadian context, meant there was less information on which advisors could comment. However, advisors were able to reflect on their experiences and share their knowledge and understandings about how outcomes that are relevant to them have been or might be used to assess program effectiveness and safety.</p> <p>Although we learned from a diversity of experience, only 4 individuals were engaged in this project, which is not representative of all youth who experience an inequitable burden of mental health challenges and access to inclusive mental health services and cannot fully capture the diversity of experience of youth who receive or provide peer support. Similarly, youth advisors needed access to a telephone or internet to take part in a scheduled conversation with CADTH; this might have excluded some voices.</p>	<p>42</p>

477

478

Systematic Review of Clinical Effectiveness and Safety

Overview

Research Questions

1. What is the clinical effectiveness of formal peer support programs compared to interventions without peer support for the management of mental health concerns among youth?
2. What is the safety of formal peer support programs compared to interventions without peer support for the management of mental health concerns among youth?

Key Findings

- We identified 2 randomized controlled trials that examined the clinical effectiveness of formal peer support programs compared to interventions without peer support for the management of mental health concerns among youth.
- The clinical evidence on the benefits and harms of formal peer support programs compared to no peer support for the management of mental health concerns among youth is very uncertain, meaning that due to multiple limitations (risk of bias, inconsistency [or lack of evidence of consistency], indirectness, and imprecision) it is not a reliable indication of how effective formal peer support programs are compared to interventions without peer support.
-
- The limited evidence suggested that peer support may be favourable over no peer support for outcomes related to disclosing one's mental illness and seeking help for their mental health challenge. However, the evidence is very uncertain.
-
- There is a lack of information on the safety of peer support programs compared to interventions without peer support.

Study Design

To inform the design of this clinical review, we conducted preliminary scoping searches of existing published literature and produced a CADTH reference list.²⁵ As the name indicates, a CADTH reference list is a published report which lists some of the relevant evidence regarding a specific healthcare topic. CADTH published a reference list regarding the clinical effectiveness and safety of structured peer support interventions for the management of mental health concerns among young people (10 to 25 years) in January 2021. We searched for relevant HTAs, SRs, primary studies and evidence-based guidelines published from 2010 to December 2020. Because the CADTH report was produced to inform the scope of subsequent products, it had broad inclusion criteria compared to this report. Young people between the ages of 10 to 25 years and various types of peer support programs were eligible for inclusion and all mental health conditions were considered for the Reference List.²⁵ In the CADTH report, we identified 2

512 SRs^{26,27} and 1 cross-sectional study²⁸ comparing the clinical effectiveness of various peer support interventions for the management
513 of mental health concerns in young people.²⁵ We identified no HTAs or evidence-based guidelines. Mental Health Commission of
514 Canada has published guidelines for practice and training of peer support which underscores the importance of shared lived
515 experience in peer support workers and that of the recovery- based model of care.¹²
516

517 One of the SRs (Rose-Clarke et al., 2019²⁶) identified during scoping considered a wide range of peer-facilitated community-based
518 interventions for several physical and mental health conditions for adolescents in low- and middle-income countries. The authors
519 considered various peer-facilitated strategies such as peer counseling, peer education and peer activism. The review included 7
520 studies and found inconsistent results regarding the effectiveness of peer facilitated interventions in improving adolescent mental
521 health. The second SR (Ali et al., 2015²⁷) considered online peer-to-peer support using tools such as online chat rooms and
522 collaborative virtual environments for youth with mental health conditions. The overall results across studies were inconsistent and
523 the SR highlighted the lack of high-quality studies. In both SRs, the peer-facilitated and peer-to-peer support interventions did not
524 fulfill the definition of formal peer support provided by trained youth with lived experience. Lastly, one cross-sectional study²⁸
525 surveyed LGBTQIA+ youth who attended Hatch-Youth for various durations. Hatch-Youth is a drop-in center for LGBTQIA+ youth
526 (irrespective of their mental health status) to improve their mental health and to lower behavioral risk outcomes. Each meeting
527 consisted of a social hour, consciousness-raising hour, and a youth-led peer support hour. The peer support session involved group
528 discussions on various topics (e.g., bullying, coming-out, self-awareness) and were facilitated by trained volunteers from the
529 community (shared lived experience unclear). The study found that longer participation in Hatch-Youth was associated with a
530 decrease in self-reported depressive symptomatology, increased self-esteem, and improved coping ability.²⁸ Two other SRs,
531 published recently, examined the effectiveness of group¹ and one-to-one²⁹ peer support interventions for adults with mental health
532 concerns. The SRs highlighted the inconsistencies in the definition of “peer support” used by studies. Heterogeneity in population
533 (spectrum of mental health disorders), intervention (varying definitions of peer support) and outcomes (varied depending on the
534 mental health condition) were notable.

535 It was evident from the informal scoping and the CADTH reference list²⁵ that there is a lack of up-to-date syntheses of evidence
536 assessing the effectiveness and/or safety of formal peer support programs among youth. Accordingly, we surmised that an overview
537 of SRs or an update of existing SRs would not be an appropriate nor feasible method to inform the research questions, as existing
538 reviews are not up-to-date and do not match our review focus. Therefore, we conducted a de novo SR of relevant primary studies to
539 synthesize the evidence regarding the clinical effectiveness and safety of formal peer support programs compared to interventions
540 without peer support for the management of mental health concerns among youth.
541

542 **Methods**

543 **Review Conduct**

544 For the current SR, we followed a protocol that was written a priori. We prospectively registered the protocol for the clinical review in
545 the international repository PROSPERO (registration number: CRD42022299556) We made no protocol amendments while
546 undertaking the review. We have reported the clinical review in accordance with the Preferred Reporting Items for Systematic
547 Reviews and Meta-analyses 2020 Statement (PRISMA 2020).³⁰

548 **Literature Search Strategy**

549 The literature search for clinical studies was performed by an information specialist using a peer-reviewed search strategy according
550 to the PRESS Peer Review of Electronic Search Strategies checklist.³¹ The complete search strategy is presented in
551

552 **Appendix 1.**

553 Published literature was identified by searching the following bibliographic databases: MEDLINE All (1946–) via Ovid, Embase
554 (1974–) via Ovid, the Cumulative Index to Nursing and Allied Health Literature (CINAHL) via EBSCO, PsycInfo via Ovid, Cochrane
555 Central Register of Controlled Trials via Ovid, and Scopus. All Ovid searches, with the exception of Cochrane Central Register of
556 Controlled Trials, were run simultaneously as a multi-file search. Duplicates were removed using Ovid deduplication for multi-file
557 searches, followed by manual deduplication in Endnote. The search strategy was comprised of both controlled vocabulary, such as
558 the National Library of Medicine’s MeSH (Medical Subject Headings), and keywords. The main search concepts were peer support
559 and youth with mental health concerns. Clinical trials registries were searched: the US National Institutes of Health’s clinicaltrials.gov,
560 World Health Organization’s International Clinical Trials Registry Platform (ICTRP) search portal, Health Canada’s Clinical Trials
561 Database, and the European Union Clinical Trials Register.

562 CADTH-developed search filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-
563 analyses, or network meta-analyses, and any types of clinical trials or observational studies. The search was limited to English and
564 French language documents published between Jan 1, 2006 and Dec 17, 2021. Conference abstracts were excluded from the
565 search results.

566 Regular alerts updated the database literature searches until the publication of the final report. The clinical trials registries search
567 was updated prior to the completion of the stakeholder feedback period.

568 Grey literature (literature that is not commercially published) was identified by searching sources listed in relevant sections of the
569 Grey Matters: A Practical Tool For Searching Health-Related Grey Literature checklist,³² which includes the websites of regulatory
570 agencies, HTA agencies, clinical guideline repositories, systematic review repositories, patient-related groups, and professional
571 associations. Google was used to search for additional internet-based materials. These searches were supplemented by reviewing
572 bibliographies of key papers (relevant SRs and the included primary studies) and through contacts with experts and industry, as
573 appropriate. The grey literature search was updated prior to the completion of the stakeholder feedback period. See

574

575 **Appendix 1** for more information on the grey literature search strategy.

576 **Study Eligibility Criteria**

577 Table 2 shows the study eligibility criteria for the clinical research questions.

578 **Table 2: Selection Criteria for Clinical Research Questions**
579

Inclusion	Exclusion
Population	
<p>Youth (between 12 and 25 years of age) with mental health concerns (including but not limited to depression, anxiety, suicidality, eating disorders, post-traumatic stress disorder) either self-identified or formally diagnosed.</p> <p>Subgroups of interest:</p> <ul style="list-style-type: none"> Age PROGRESS-Plus factors^{23,33} including but not limited to place of residence, race/ethnicity/culture/language, gender/sex, and socioeconomic status Mental health condition (e.g., depression, eating disorders) Type of peer support (e.g., 1:1 vs. group, in person vs. virtual) 	<ul style="list-style-type: none"> Age <12 years or >25 years. Substance use disorders or addictions as the primary concern and reason for delivering/accessing peer support. Neurodevelopmental disorders such as attention-deficit/hyperactivity disorder, autism and learning disabilities as the primary concern and reason for delivering/accessing peer support
Intervention(s)	
Formal peer support programs ^a	<ul style="list-style-type: none"> Peer support programs that do not fulfil the definition (e.g., do not include formal training, shared lived experience). Support in the form of peer communication, peer-to-peer support (mutual support) or support helplines.
Comparator(s)	
Interventions without formal peer support (e.g., informal or unstructured peer support interventions, support helplines, self-help group); no intervention (including waitlist); no comparator	Not applicable
Outcomes	
<p>Question 1: Any outcomes in the following domains, irrespective of the follow-up duration and outcome ascertainment method</p> <ul style="list-style-type: none"> Personal recovery (e.g., self - efficacy, reduced stigma, HRQoL, coping strategies, client goal achievement, empowerment) Clinical outcomes (e.g., recovery rates, burden of symptoms) Healthcare resource utilization (e.g., hospitalizations, ED visits, need for other interventions) Social outcomes (e.g., employment, education, stable housing, social support, social isolation) <p>Question 2: Any outcomes in the following domains, irrespective of the follow-up duration and ascertainment method</p>	Not applicable

<ul style="list-style-type: none"> Treatment emergent adverse events (e.g., worsening of symptoms), over-dependence, withdrawal/discontinuation from the program, adherence, other harms (e.g., stigmatization, increased shame)^b 	
Study Design(s)	
Randomized and non-randomized study designs, including: <ul style="list-style-type: none"> Randomized controlled trials Non-randomized controlled clinical trials Cohort studies (controlled or uncontrolled) Case-control studies Before-and-after studies (controlled or uncontrolled) Interrupted time series studies (controlled or uncontrolled) 	<ul style="list-style-type: none"> Cross-sectional studies Case reports Case series Qualitative studies and qualitative evidence from mixed-methods studies Evidence syntheses Protocols and trial registers Editorials, letters, and commentaries Studies of any design published as conference abstracts, presentations, thesis documents, or preprints
Time Frame	
2006 to present ^c	Before 2006

ED = emergency department; HRQoL = health-related quality of life

^a Formal peer support programs are those delivered by formal community or health care-based organizations that offer peer support to peer service users by trained peer support workers who share lived experience relating to mental health.

^b If the included studies report on outcomes assessed in peer support workers, those findings will be extracted and summarized.

^c Kirby report,³⁴ the first national report on the mental health system of Canada was published in 2006. The recovery model, necessary for peer support, proposed by the report was widely accepted and the report led to significant changes in Canadian mental health strategies.³⁵

Screening and Selecting Studies for Inclusion

We considered the following criteria when selecting studies for inclusion:

- For this review, youth were defined as individuals between 12 and 25 years of age because this age range overlaps with that of youth mental health hubs (which often include peer support) in several Canadian provinces, and the time period when mental health concerns often first appear.³⁶
- Youth could be of any gender, sexuality, or ethnicity. Studies in all settings were eligible for inclusion. There were no restrictions placed on , setting or severity of symptoms. .
- Studies of wider populations (i.e., including children and/or adults) were included if:
 - findings for youth can be isolated (e.g., in subgroup analyses);
 - ≥80% of the sample consists of youth;
 - the mean and mean ± 1.5 standard deviation (SD) age falls between 12 and 25 years.
- Peer support workers could be of any age.
- Peer support could be offered on a 1:1 or on a group basis, can be in person or virtual (e.g., video/telephone chat), synchronous (in real time – e.g. in person sessions, video chat) or asynchronous (not in real-time e.g., text messaging)
- Mental health concerns could be of any severity.
- Studies that had a larger scope than only youth with mental health concerns (e.g., studies of youth with both mental health concerns and substance use disorders) were included if relevant findings related to peer support primarily for mental health concerns are reported in isolation (e.g., in a subgroup).
- Peer service users could receive concurrent interventions (e.g., psychotherapy, pharmacotherapy).

- For the outcomes, all instruments and all time points were eligible for inclusion
- Studies not meeting the eligibility criteria outlined in Table 2 or were published in a language other than English or French were excluded.

Study Selection

Two reviewers independently screened titles and abstracts for relevance to the clinical research questions, following the liberal accelerated approach (i.e., a single reviewer’s decision was required for inclusion, and 2 for exclusion).^{37,38} We retrieved full-text articles that at least 1 reviewer judged to be potentially relevant and independently assessed these for possible inclusion based on the predetermined selection criteria (Table 2). We used Distiller SR (Evidence Partners, Ottawa, Canada) to facilitate study selection. One reviewer scanned the reference lists of the included studies and relevant SRs to locate additional studies of potential interest. Two reviewers independently reviewed full text of all selected articles. The 2 reviewers compared their chosen included and excluded studies; and discussed disagreements until consensus was reached, involving the opinion of a third reviewer if needed (i.e., methodologist, content expert). We presented the study selection process in a flow chart. We had planned to contact study authors if any additional information was needed to determine the relevancy of any studies. However, this ended up not being necessary. We posted a list of studies selected for inclusion in the clinical review to the CADTH website for stakeholder review and feedback for 10 business days and planned to review any additional studies identified for potential inclusion. No additional studies were identified. We screened studies identified through search alerts using the aforementioned process and incorporated those meeting the selection criteria of the review into the analysis if they were identified before the end of the stakeholder feedback period for the draft report. We had planned to describe studies identified after the last stakeholder feedback period in the discussion, with a focus on comparing their results with those obtained from the synthesis of earlier reports included in the review. However, no additional studies were identified after stakeholder feedback period.

Data Extraction

A single reviewer performed data extraction with independent verification for accuracy and completeness by a second reviewer. Reviewers extracted data directly into Microsoft Office Word. As there were only 2 included studies, we deemed it not possible to truly pilot the form, and instead edited it iteratively as needed. The information extracted included characteristics of the study (i.e., design, setting, funding source), population (i.e., inclusion and exclusion criteria, number of participants, age, sex and/or gender, sexuality, race and/or ethnicity, mental health concerns), intervention (i.e., details of the program, number of sessions, selection and training of peer supporters) and comparators, outcomes and their ascertainment (e.g., instruments used for measurement), length of follow-up and timepoints of outcome measurement, and results data regarding the outcomes and the subgroups of interest. As one of the included trials was published in 2 reports, we extracted data from the main publication (Conley et al.),³⁹ and only additional information and any data related to the 2-month follow-up were extracted from Hundert et al.⁴⁰

We extracted all data that were compatible with each relevant outcome domain at any duration of follow-up, including measures of treatment effects (e.g., mean changes in outcome scores from baseline to follow-up), and any results of between-group statistical tests reported on those measures. We made no assumptions about the presence or absence of an outcome if it was not reported in the study. For example, we did not assume that no adverse events occurred only because the authors did not report on any. We did not make any attempts to contact study authors, as we did not deem any relevant data to be unclear or missing.

Risk of Bias Appraisal

Two independent reviewers assessed outcome-level risk of bias (or for groups of outcomes believed to be at similar risk of bias, for feasibility reasons) of RCTs from the intention-to-treat perspective using the revised Cochrane risk-of-bias tool for randomized trials, version 2.⁴¹ As there were only 2 included studies, we did not pilot the RoB form. The RoB 2 assessment tool is structured into 5 domains to assist in evaluating biases arising from the randomization process, deviations from intended interventions, missing outcome data, measurement of the outcome, and selection of the reported result.⁴¹ For each domain, we assigned a judgment of low risk of bias, high risk of bias, or some concerns about risk of bias. We then judged the overall risk of bias of each trial as low risk of bias, some concerns about risk of bias, or high risk of bias based on the domain-level determinations. We predicted the direction of

648 the potential risk of bias when possible and provided a rationale for decisions about the risk of bias for both the domain-level and
649 overall assessments.

650 Reviewers resolved disagreements in the risk of bias for the domain-level and overall assessments through discussion. We did not
651 exclude studies from the review based on the results of the critical appraisal. However, we incorporated the critical appraisal results
652 into assessments of the certainty in the body of evidence for each outcome-comparison.

653 Data Analysis and Synthesis

654 Narrative Synthesis

655 We considered clinical heterogeneity (i.e., differences in study setting, populations and interventions) and methodological
656 heterogeneity across the included trials, as well as the reported outcome measures, in our decision on whether to pool findings
657 statistically via a meta-analysis. As we included only 2 trials in this review, and many of the outcomes were reported by a single trial,
658 it did not seem appropriate nor informative to perform a statistical synthesis. Instead, we performed a narrative synthesis of the
659 results reported in the trials considering available guidance.⁴² The narrative synthesis included the presentation of study
660 characteristics and findings by outcome within summary tables, together with descriptions in the main text. To synthesize study
661 findings, we first grouped trials by outcome domain and timepoint of interest for the comparisons between peer support interventions
662 and control groups. We then developed a preliminary synthesis by organizing the findings and identifying patterns in the size and
663 direction of reported effects. We evaluated the within and between study relationships and discussed the findings about the direction
664 and magnitude of any observed effects. We interpreted the findings with consideration for the differences in instruments used across
665 the studies. We chose to synthesize data at the 3 reported timepoints namely, post-intervention, post-booster (available in one
666 study), and at the longest follow-up. We considered the sample size of the included trials and their risk of bias in determining the
667 relative weight of each study's findings in the overall conclusion. However, the included studies were both similar in sample size
668 (both small, $n < 120$) and had high risk of bias, therefore their findings were considered to contribute equally to the overall
669 conclusion. Reviewers then came to consensus on having a single overall conclusion across trials for each outcome-comparison
670 (i.e., favouring either intervention or comparator, little-to-no difference).

671 When findings across the trials were heterogeneous (especially in terms of direction of observed effects), we had planned to explore
672 this heterogeneity using within- and between-study subgroup analyses. No within-study subgroup analyses were reported in the
673 included trials, and the small number of trials representing various subgroups precluded drawing credible conclusions about the
674 potential sources of heterogeneity. Therefore, we drew conclusions based on the main comparison and did not present separate
675 conclusions by subgroups of the population or intervention. Instead, we considered this unexplained heterogeneity in our
676 assessments of the certainty of the evidence.

677 We had planned to assess the risk of small study bias for meta-analyses containing at least 8 studies of variable size, but since we
678 only included 2 trials and did not perform a meta-analysis, we were unable to complete this assessment.

679 Certainty of the Evidence

680 Two independent reviewers rated the certainty of the body of evidence for each outcome-comparison using the methods of the
681 Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group.^{43,44} Reviewers discussed
682 discrepancies until consensus was reached. We had planned to contact study authors if any additional information was needed to
683 complete the GRADE assessments. However, this did not end up being necessary.

684 Following the GRADE approach, the included RCTs started as high certainty evidence.^{44,45} We then rated down the certainty in
685 treatment effect estimates for concerns related to risk of bias, inconsistency across studies, indirectness, imprecision of effects,
686 and/or publication bias.^{44,45} We considered the possibility of rating up the certainty of evidence, but this was not appropriate for any
687 outcome-comparison.^{44,45} Ultimately, the GRADE approach resulted in an assessment of the certainty of a body of evidence in 1 of 4
688 grades: high, moderate, low, or very low.⁴⁶ As the certainty in the evidence decreases, so does our confidence that the estimate of
689 effect from the included study is close to that of the true effect.⁴⁶ We employed a non-contextualized approach whereby we rated the
690 certainty that a non-null effect was present.⁴⁷

691 The results of GRADE assessments are reported in Summary of Findings tables, which include footnotes to justify all decisions to
692 rate down the certainty of the evidence for any given outcome-comparison. When providing summaries of the evidence in the text,
693 we used the word “may” for low certainty evidence and “probably” or “likely” for moderate certainty evidence.⁴⁸ We describe very low
694 certainty evidence as “very uncertain”.⁴⁸

695 Results

696 Quantity of Research Available

697 We identified 5,357 unique citations via the electronic literature search. We excluded 5,168 of these records during title and abstract
698 screening. We retrieved 8 additional records from the grey literature search. After full text screening of 197 potentially relevant
699 articles, we excluded 194 records and included 3 publications^{39,40,49} (reporting results from 2 RCTs). No additional unique studies
700 were identified during the stakeholder review of the included studies, nor from subsequent search alerts. A PRISMA flow chart³⁰
701 (Appendix 2, Figure 1 shows the study selection process. We have included a list of excluded studies along with the reason for
702 exclusion in Appendix 3.

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704

705 **Trial and Participant Characteristics**

706 We identified 2 open-label RCTs (reported in 3 publications)^{39,40,49} to be included in this clinical review. Conley et al. (2020)³⁹
 707 evaluated a peer support program among students from 3 university campuses in the United States. A second publication⁴⁰ of the
 708 same trial (published in 2021) reported results from a subset of participants who were followed up for a longer period. Mulfinger et al.
 709 (2018)⁴⁹ assessed the effectiveness of a peer support intervention among adolescent psychiatric patients in Germany. Table 3
 710 shows the overview of characteristics of the included trials. We have included a detailed table of characteristics if included trials in
 711 Table 8 Appendix 2, Throughout this report we have used the term ‘mental health concerns’ to denote self-reported or formally
 712 diagnosed mental health concerns. However, when the included studies used the term “mental illness” to describe the study
 713 population we retained that terminology.

714 **Population**

715 In the study by Conley et al.,³⁹ university students (aged ≥ 18 years) with a self-identified mental health challenge or mental illness
 716 were included. Mulfinger et al.⁴⁹ included adolescent psychiatric patients aged 13 to 18 years with at least one self-reported current
 717 axis-I or axis-II disorder (e.g., psychiatric illnesses such as anxiety, depression; personality disorders), and a moderate (or severe)
 718 level of self-reported disclosure-related distress. Across the trials, 216 participants were included (Conley et al.,³⁹ n = 118; Mulfinger
 719 et al.,⁴⁹ n = 98). Depressive symptoms were reported among 59.1%⁴⁹ to 85.5%³⁹ of participants, while 17.3%⁴⁹ to 69.2%³⁹ reported
 720 anxiety symptoms. Other mental health concerns potentially experienced by participants were not described within the studies. The
 721 population in the trial by Conley et al.³⁹ was mostly female (82.2%), white (68.6%) and heterosexual (66.9%). In the Mulfinger et al.
 722 study,⁴⁹ most participants were female (69.3%), born in Germany (94.8%) and with a mean (standard deviation [SD]) 22.5 (32.2)
 723 months since their first psychiatric diagnosis.

724 **Intervention and Comparators**

725 The peer support intervention in both of the included trials^{39,49} was the Honest, Open, Proud (HOP) program,⁵⁰ a peer-led, in-person
 726 group intervention developed to empower participants with disclosing their mental health concerns and to reduce their mental health
 727 related self-stigma. HOP was originally developed for adults but was later adapted for adolescents. This manualized program covers
 728 five themes over the course of 3 two-hour sessions over the course of 3 weeks. These include beliefs and attitudes about having a
 729 mental illness, the advantages and disadvantages of disclosing one’s mental illness, recognizing the right people and setting for
 730 disclosure, personal disclosure and telling one’s own story, and about the role of solidarity and peer support. The sessions included
 731 vignettes, role-plays, exercises on self-reflection and group discussions. Conley et al.³⁹ evaluated the college version of HOP (HOP-
 732 C) which was adapted for university students. In HOP-C program, the first session included a discussion on the concepts of
 733 identifying as an individual with mental illness and the pros and cons of disclosure. In the second session, different ways of
 734 disclosure including social media disclosure were discussed, and in the third session participants were asked to craft personal
 735 disclosure stories and to practice telling their story. The HOP-C program included an additional booster workshop session given 2 to
 736 3 weeks later.³⁹ The session manual and a workbook for the participants are available online.^{50,51}

737 The sessions were led by trained individuals who had shared lived experience of mental illness. The peer facilitators were youth or
 738 young adults who underwent a 2-day training. In the Mulfinger et al. study, a young mental health professional was also present for
 739 the sessions.⁴⁹ As this study was conducted in Germany, the program was adapted to a German context.

740 The comparators were treatment as usual (TAU)⁴⁹ or a waitlist control.^{39,40} In the Mulfinger et al. study, participants in both groups
 741 received TAU which included regular care from the psychiatric clinic.⁴⁹ Additional details of usual treatment were unclear from the
 742 publication. In the Conley et al study, HOP-C was compared to a waitlist control group, who were offered the program at a later point
 743 in time. 41.3% (n = 26) and 57.1 % (n = 36) of participants in the HOP-C group, as well as 45.5% (n = 25) and 54.5 % (n = 30) of
 744 participants in the waitlist group were reported as receiving therapy/counseling and medications respectively at the time of the study.
 745 ^{39,40}

746 Outcomes

747 The included trials assessed several self-reported outcomes, mostly related to personal recovery. Among them, self-stigma and
748 stigma-stress were reported by both included trials.^{39,40,49} Other personal recovery outcomes such as secrecy and disclosing mental
749 illness (e.g., self-efficacy about disclosing mental illness, attitudes to disclosure), health related quality of life (HRQoL), self-identified
750 stage of recovery, empowerment, feelings of hopelessness, social withdrawal, and help-seeking were included only in the Mulfinger
751 trial.⁴⁹ Clinical outcomes such as symptoms of anxiety (Conley et al.)^{39,40} and depression (both trials)^{39,40,49} were included. No
752 outcomes related to healthcare resource utilization or social outcomes were reported. Detailed descriptions of all outcome measures
753 are available in Table 33 Appendix 2. No relevant studies were identified that reported on harms related to peer support. The
754 included studies did not report on the safety of peer support workers.

755 Both trials measured the outcomes at baseline, after the HOP sessions (post-intervention), and at follow-up.^{39,49} The follow-up time
756 ranged from 6 weeks after baseline (3 weeks after the sessions) in the Conley et al. trial³⁹ to around 2 months after the sessions (5
757 weeks after booster) in the Mulfinger et al. trial.⁴⁹ In the Conley et al. trial, the intervention included an additional booster session 3
758 weeks after completion of the initial program; an additional outcome assessment was conducted after this booster session (post-
759 booster).³⁹

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Table 3: Overview of Characteristics of Included Clinical Trials

Author (year) ^a Study design Setting Funding source	Participant characteristics	Intervention and comparator	Outcomes (ascertainment method) Length of follow-Up
<p>Conley et al. (2020)³⁹</p> <p>Associated: Hundert et al. (2021)⁴⁰</p> <p>RCT</p> <p>3 university campuses in the USA</p> <p>Funding not reported</p>	<p>118 university students who self-identify as having a mental health illness or mental health challenge</p> <p>82% female; mean (SD) 21.4 (6.6) years; primarily White (69%); 67% heterosexual; with clinical depression (59%) and/or anxiety (69%).</p>	<p>'Honest, Open, Proud-College' (HOP-C), aiming to reduce self-stigma about mental illness and help participants to make decisions about disclosure.</p> <p>Format: 3-week peer-led manualized⁵¹ in-person group program with weekly 2-hour lessons; 1 booster workshop 2 to 3 weeks later.</p> <p>Facilitators: students who identified as living with mental health concerns and completed a 2-day training.</p> <p>Comparator: Waitlist</p>	<p>Self-stigma (SSMIS-SF); stress and coping (Stigma Stress Scale); self-efficacy about disclosure (single item); depression symptoms (CESD 10); anxiety symptoms (GAD-7). No safety outcomes reported.</p> <p>All outcomes assessed at baseline (T0), post-program (T1), post-booster (T2). 2-month follow-up (T3) reported in a population subset (n = 55).⁴⁰</p>
<p>Mulfinger et al. (2018)⁴⁹</p> <p>RCT</p> <p>Inpatient wards and outpatient psychiatry clinics in Germany</p> <p>Academic and foundation funding</p>	<p>98 adolescents aged 13 to 18 years with at least one self-reported current axis-I or axis-II mental health concern, and a moderate or severe level of disclosure-related distress.</p> <p>69% female; mean (SD) 15.8 (1.1) years; 95% born in Germany; with clinical depression (59%) and/or anxiety (17%).</p>	<p>'Honest, Open, Proud' (HOP) aiming to reduce self-stigma about mental illness and help participants to make decisions about disclosure.</p> <p>Format: 3-week peer-led manualized⁵¹ in-person group program with weekly 2-hour lessons.</p> <p>Facilitators: young adults with lived experience of mental illness who had completed training; and a young mental health professional.</p> <p>Comparator: TAU</p>	<p>Stigma stress (Stigma Stress Scale); HRQoL (KIDSCREEN-10); empowerment (Empowerment Scale); disclosure-related distress (4-item questionnaire); hopelessness (Beck's Hopelessness Scale); self-stigma (ISMI-SF and SSMIS-SF); help seeking (General Help Seeking Questionnaire), recovery (Self-Identified Stage of Recovery Scale); secrecy and social withdrawal (Link's Stigma Coping Orientation Scales); depressive symptoms (CESD)</p> <p>All outcomes assessed at baseline (T0), post-program (T1), and at 6-months follow-up (T2).</p>

^a Studies appear in reverse chronological order by date of publication.

CESD = Center for Epidemiologic Studies Short- Depression Scale; CES-D 10 = Center for Epidemiologic Studies Short- Depression Scale 10; GAD = Generalized Anxiety Disorder 7-Item scale; ISMI-SF = Internalized Stigma of Mental Illness-Short Form; N = number of participants; RCT = randomized controlled trial; SD = standard deviation; SSMIS-SF = Self-Stigma of Mental Illness Scale-Short Form; TAU = treatment as usual.

767 **Risk of Bias Appraisal**

768 Table 4 shows a summary of the risk of bias assessments for the 2 RCTs.^{39,40,49} Table 9, Appendix 2 shows the detailed risk of bias
769 assessments. Overall, we assessed the included RCTs to have a high risk of bias.

770 For the risk of bias arising from the randomization process, we judged the Conley et al. study^{39,40} to have some concerns because
771 the randomization method at one site may not have been adequate. While 2 universities appeared to have used adequate
772 randomization methodologies, a third used “blindly shuffled pieces of paper”; this methodology in particular may not have been
773 adequate and it is possible that the allocation of participants could be revealed prior to their assignment to treatment groups.^{39,40} The
774 magnitude and direction of bias that may have been introduced is not clear. There were no serious concerns about risk of bias due to
775 deviation from the intended interventions. All outcomes reported in both RCTs^{39,40,49} were at a high risk of bias due to missing
776 outcome data. In the Conley et al. study, data from up to 33% of participants in the HOP group, and 19% of in the control group were
777 missing at the longest follow-up; it is possible that the high and imbalanced losses to follow-up were at least in part related to
778 perceived lack of efficacy in the HOP group. There was also no evidence to indicate that the results were not biased by missing
779 outcome data (e.g., sensitivity analyses). Similarly, in the Mulfinger et al. study, data from 22% of participants were missing in both
780 groups.⁴⁹ We also judged both RCTs^{39,40,49} to be at a high risk of bias in measurement of the outcome, as all outcomes were self-
781 reported by the study participants who were aware of their treatment allocation, and it was possible that this knowledge influenced
782 the outcome assessment. While it is possible that response of participants in both groups were influenced by their allocation, it is
783 likely that this risk favoured the intervention (HOP/ HOP-C) since it is possible that the participants assigned to the intervention group
784 may be optimistic of the effects of the intervention. As published protocols were not available for either of the studies, it was unclear
785 if data for all outcomes were analyzed in accordance with a prespecified analysis plan that was finalized before unblinding of outcome
786 data. However, the Mulfinger et al. study⁴⁹ was registered (NCT02751229) and all reported outcomes were pre-specified. The
787 predicted direction of the risk of potential bias in selection of the reported result is unclear for both trials.

788
789 **Table 4: Risk of Bias Summary — RCTs (RoB 2, effect of assignment to the intervention)⁴¹**

Study citation	Bias arising from the randomization process	Bias due to deviations from intended interventions	Bias due to missing outcome data	Bias in measurement of the outcome	Bias in selection of the reported result	Overall risk of bias
Conley et al. (2020); ³⁹ Hundert et al. (2021) ⁴⁰	All outcomes: Some concerns [?]	All outcomes: Low risk	All outcomes: High risk [?]	All outcomes: High risk [+]	All outcomes: Some concerns [ND]	All outcomes: High risk [?]
Mulfinger et al. (2018) ⁴⁹	All outcomes: Low risk	All outcomes: Low risk	All outcomes: High risk [?]	All outcomes: High risk [+]	All outcomes: Some concerns [ND]	All outcomes: High risk [?]

790 RCT = randomized controlled trial; RoB 2 = Version 2 of the Cochrane Risk of Bias Tool.⁴¹

791 Note: the predicted direction of bias arising from each domain and the overall risk of bias is indicated in square brackets. [+] suggests the bias may favour the intervention;
792 [-] suggests the bias may favour the comparator; [ND] suggests the bias may influence the result towards the null; [?] suggests the predicted direction is unclear.

793 **Data Analysis and Synthesis**

794 Table 5 shows a high-level overview of the findings and certainty of evidence assessments for each outcome comparing the clinical
795 effectiveness of peer support programs versus interventions without peer support (i.e., waitlist or TAU) for the management of mental
796 health concerns among youth. Tables 19 to 32 in Appendix 2 presents detailed GRADE Summary of Findings tables which include
797 footnotes that detail the reasons for rating down the certainty of evidence. We identified no relevant studies regarding the safety of
798 peer support programs compared to interventions without peer support.

799 **Question 1: Clinical Effectiveness**

800 Below, we present the findings for all the outcomes on the clinical effectiveness of peer support intervention from the included trials.
 801 Overall, we judged the certainty of the evidence regarding the clinical effectiveness of peer support programs compared to
 802 interventions without peer support on all outcomes across all timepoints to be very uncertain due to serious concerns across all
 803 GRADE domains aside from publication bias: risk of bias, inconsistency, indirectness, and imprecision. This means that when
 804 interpreting the results, readers should be mindful that that true effect of formal peer support programs compared to interventions
 805 without peer support may be very different than the findings generated from these 2 trials. The trials were judged to be at high risk of
 806 bias due to missing outcome data and self-reported subjective outcomes which may have been affected by the open-label nature of
 807 the trials. We rated down our certainty in the evidence due to serious concerns for inconsistency because either only one trial was
 808 available that reported on the outcome (limited evidence of consistency) or because of inconsistent results between the trials (at
 809 post-intervention). We judged the results to be indirect because the effect of the single included intervention (HOP / HOP-C) is
 810 unlikely to be representative of the wide spectrum of peer-support interventions that may exist for all youth (including disadvantaged
 811 populations) across the spectrum of mental health concerns. Lastly, we assessed the evidence as imprecise because of the small
 812 sample size in each comparison ($n < 400$) which may have resulted in unstable estimates of effect. Though only 2 trials were
 813 included, we did not find any persuasive evidence of publication bias; instead, we consider that it is quite possible that many
 814 programs exist but are not being formally evaluated and shared in the public domain. Therefore, we did not rate down in that domain
 815 for any outcome-comparison.

816 Stigma

817 *Self-stigma*

818 The two RCTs^{39,40,49} reported on self-stigma or internalized stigma. The peer support interventions were HOP⁴⁹ and HOP-C^{39,40}
 819 programs, comparing to TAU⁴⁹ or waitlist controls.^{39,40} Outcomes were measured at post-intervention, post-booster and at follow-up
 820 (6 weeks⁴⁹ or 2 months⁴⁰ after core-sessions), using the 4 subscales of the Self-Stigma of Mental Illness Scale–Short Form (SSMIS-
 821 SF; range: 5 to 45)⁵² or the Internalized Stigma of Mental Illness⁵³ (10-item version, range: 1 to 4). Conley et al.,^{39,40} reported the
 822 mean score from 3 subscales of SSMIS-S ranging from 1 to 5. In both measures, higher scores indicate more self-stigma.

823 At post-intervention, the results were heterogenous (2 RCTs^{39,49}, $n = 191$) and the findings are considered to be very uncertain.
 824 Conley et al.³⁹ found that in the harm subdomain of the SSMIS-SF scale, HOP-C was favoured compared to waitlist control at follow-
 825 up. The mean (SD) scores of the harm subdomain in the HOP group were 3.23 (2.08) at baseline and 2.49 (1.65) at post-
 826 intervention, whereas the scores in the waitlist control were 2.92 (1.75) at baseline and 3.02 (2.08) at post-intervention ($p = 0.019$).³⁹
 827 Results for change from baseline for the other domains were not reported. In the Mulfinger et al. study, at post-intervention, change
 828 from baseline of the overall score of SSMIS showed that HOP was associated with a reduction in self-stigma compared to TAU
 829 (mean between group difference for change from baseline -2.93 [95% CI = -5.35 to -0.52]). There was no significant difference
 830 between groups in the change from baseline of ISMI scores.⁴⁹

831 At post-booster (1 RCT³⁹, $n = 97$) evidence from Conley et al. showed little-to-no difference in the effect of HOP-C compared to
 832 waitlist reducing self-stigma, as found by the between group t-tests for the agreement, application and harm subdomains of the
 833 SSMIS-SF. However, these findings are very uncertain, and it is not possible to rule out an effect in either direction, as the apparent
 834 lack of difference could be related to imprecision resulting from the small sample size.

835 At the longest follow-up (2 RCTs, $n = 117$; 6 weeks⁴⁹ or 2 months⁴⁰) the evidence was heterogenous and the findings were very
 836 uncertain. HOP-C was not associated with any significant reduction in any of the subdomain scores of SSMIS compared to waitlist
 837 control. Results from Mulfinger et al.⁴⁹ found that participants who received HOP reported lower self-stigma scores at 2 months follow
 838 up compared to those who received TAU. Mean between group difference for change from baseline in ISMI scores was -0.35 [95%
 839 CI = -0.54 to -0.05]). Mean between group difference for change from baseline in SSMIS scores was -5.14 [95% CI = -8.22 to $-$
 840 2.05]).

841 *Stigma stress*

842 Both included RCTs^{39,40,49} reported on stigma stress. Outcomes were measured at post-intervention, and at follow-up (6 weeks⁴⁹ to 2
 843 months⁴⁰ after core-sessions). In the HOP trial and in the 2-month follow-up of the HOP-C trial, stigma stress was calculated as

844 perceived harm minus perceived resources to form the Stigma Stress Scale. Higher scores (range –6 to 6) indicate increased stigma
 845 related stress. At the post-intervention and post-booster follow ups of the HOP-C trial, stigma stress was not calculated, rather the
 846 results of the subscale scores were reported separately.

847 At post-intervention, 1 RCT by Mulfinger et al.⁴⁹ (n = 84) suggested that peer support may be favoured compared to TAU in lowering
 848 the stress related to self-stigma. Mean between group difference for change from baseline to post-intervention was –2.06 (95% CI –
 849 2.70 to –1.42), but this evidence was very uncertain.⁴⁹

850 At the longest follow-up, the evidence was heterogenous (2 RCTs, n = 117; ^{40,49}6 weeks⁴⁹ or 2 months⁴⁰) and the overall certainty in
 851 this evidence was very low. The Conley et al. trial (reported in Hundert et al.)⁴⁰ found little-to-no difference (potentially related to
 852 imprecision) in the effect of peer support intervention (HOP-C) in reducing stigma related stress, whereas the results from the
 853 Mulfinger et al. trial⁴⁹ favoured peer support. At 6 weeks follow-up, the mean differences for change from baseline in the HOP group
 854 was 2.19 units lower than the TAU group (95% CI –2.89 to –1.43). At post-intervention and at post-booster, Conley et al.³⁹ found that
 855 HOP-C group was associated with a significant increase in the scores of perceived resources to cope with stigma stress compared to
 856 the control group. (p = 0.001). There were no differences in the subscale stigma as a stressor (perceived harm). However, the stigma
 857 stress scores were not calculated for those time points.

858 Secrecy and Disclosing Mental Illness

859 *Self-efficacy Related to Secrecy and Disclosing of mental illness*

860 The HOP-C trial by Conley et al.^{39,40} reported on participants' self-reported self-efficacy related to secrecy and to the disclosure of
 861 mental illness. The outcome was assessed by 2 questions - "How confident are you in making decisions and handling well all the
 862 issues related to disclosing your mental illness?" (p.171)³⁹ and "How confident are you in making decisions and handling well all the
 863 issues related to keeping mental illness a secret?" Answers were rated from 1 (not at all) to 7 (very much).

864 The trial showed that at post-intervention there may be little-to-no difference (potentially due to imprecision) in the effect of peer
 865 support in efficacy related to keeping the mental illness a secret or to that related to disclosure of mental illness compared to no peer
 866 support (n = 107)³⁹ Following booster session (n = 97), the trial showed that HOP may be favoured with respect to self-efficacy about
 867 disclosure (p = 0.001) but there may be little-to no difference in self-efficacy related to keeping mental illness a secret.³⁹ At the 2
 868 month follow-up assessment (n = 55), the results suggested that there may be little-to-no difference in the effect of peer support vs.
 869 no peer support (waitlist) in self-efficacy related to secrecy or to disclosing mental illness.⁴⁰ The evidence at all timepoints were
 870 considered to be very uncertain.

871 *Attitudes to disclosure*

872 One RCT (Mulfinger et al.)⁴⁹ reported on participants' attitude to disclosure of mental illness to family/friends and to
 873 teacher/employer. The outcome was assessed by 2 questions about how comfortable they are in disclosing mental illness to (i)
 874 family/ friends and (ii) teacher/employer. Answers were rated from 1 (not at all) to 7 (very much).

875 The trial showed that peer support may be favoured compared to treatment as usual on improving the attitudes of participants to
 876 disclosing their mental illness at post-intervention, and at 6 weeks follow-up, but the evidence informing the results was very
 877 uncertain. At post intervention (n = 84), participants in the HOP group reported significantly higher improvement from baseline in their
 878 attitudes to disclosure towards family/friends (mean between group difference for change from baseline 1.00 [95% CI 0.43 to 1.57])
 879 and towards teacher/employer (mean between group difference for change from baseline 0.66 [95% CI 0.15 to 1.16]) compared to
 880 participants in the TAU group. Similarly, at 6-week follow-up assessment (n = 62), participants in the HOP group reported
 881 significantly higher improvement from baseline in their attitudes to disclosure towards family/friends (mean between group difference
 882 for change from baseline 1.02 [95% CI 0.43 to 1.61]) and towards teacher/employer (mean between group difference for change
 883 from baseline 0.91 [95% CI 0.28 to 1.53]) compared to participants in the TAU group, but the evidence was very uncertain.

884 *Disclosure Related Distress*

885 One RCT (Mulfinger et al.)⁴⁹ reported on participants' distress related to disclosure of mental illness. The outcome was assessed by
 886 a single question about how distressed or worried they are about disclosing mental illness. Answers were rated from 1 (not at all) to 7
 887 (very much). This single item was also used as a screening item for study inclusion, with a score of 4 or more required to be enrolled
 888 to the trial.

889 The trial showed that peer support may be favoured compared to treatment as usual on lowering the participants' disclosure related
 890 distress at post-intervention, and at 6 weeks follow-up, but this evidence was very uncertain. At post-intervention (n = 84), the
 891 between group difference for change from baseline -0.44 (95% CI, -0.79 to -0.08). Similarly, at the 6-week follow up (n = 62), the
 892 distress related to disclosure of mental illness was lower in HOP group compared to TAU group (mean between group difference for
 893 change from baseline = -0.78 [95% CI -1.16 to -0.40]).

894 *Secrecy*

895 One RCT (Mulfinger et al.)⁴⁹ reported on the participants' secrecy related to mental illness. The outcome was assessed by the
 896 stigma-coping and orientation subscale of the Link's Stigma Scales.⁵⁴ Higher mean scores (range 1 to 6) indicate more secrecy.⁴⁹

897 The trial showed that peer support may be favoured compared to treatment as usual on lowering the participants' secrecy related to
 898 mental illness at post-treatment, and at 6 weeks follow-up, but the evidence was very uncertain. At post-intervention (n = 84) and at
 899 6-week follow-up (n = 62), the mean between group differences of change from baseline were -0.44 (95% CI -0.79 to -0.08), and -
 900 0.78 (-1.16 to -0.40) respectively.

901 *Health-related Quality of Life*

902 One RCT (Mulfinger et al.)⁴⁹ reported on participants' HRQoL. The outcome was assessed by KIDSCREEN 10,⁵⁵ a 10-item
 903 questionnaire in which the total score ranges from 10 to 50 with higher scores indicating better quality of life.^{55,56}

904 The results from the trial showed that at post-intervention (n = 84) there may be little-to-no difference in the effect of peer support on
 905 HRQoL compared to treatment as usual, but the evidence was very uncertain and the potential for a difference between groups
 906 cannot be ruled out, due to imprecision. At the 6-week follow-up assessment (n = 62), the results suggested that HOP may be
 907 favoured compared to treatment as usual in improving HRQoL, but this evidence was also very uncertain. The mean between group
 908 difference for change from baseline to 6 week follow up was 3.54 (95% CI, 1.14 to 5.93).

909 *Empowerment*

910 One RCT (Mulfinger et al.)⁴⁹ reported on participants' feeling of empowerment. The outcome was assessed by the Self-esteem (9
 911 items) and the Optimism (4 items) subscales of Empowerment Scale.⁵⁷ A mean score was calculated from the scores of each of the
 912 subscales (range 1 to 4), with higher scores indicating more empowerment.

913 In the self-esteem subscale of the Empowerment Scale, the results from the trial showed that at post-intervention (n = 84),
 914 participants in the HOP group reported a larger improvement in self-esteem compared to those in the TAU group (mean between
 915 group differences for change from baseline = 0.21 [0.04 to 0.39]). At 6-week follow-up (n = 62) there was no significant difference
 916 between the groups. In the optimism subscale, the results showed that there was no significant difference between the groups at
 917 post-intervention or at 6-week follow-up. Overall, we concluded that there may be little-to-no difference in the effect of peer support
 918 on feeling of empowerment compared to treatment as usual at all time-points, however the evidence supporting this conclusion was
 919 of very low certainty.

920 *Social withdrawal*

921 One RCT (Mulfinger et al.)⁴⁹ reported on participants' self-reported assessment of social withdrawal. The outcome was assessed by
 922 the stigma-coping and orientation subscale of the Link's Stigma Scales⁵⁴ (7 items related to withdrawal). Higher mean scores (range
 923 1 to 6) indicate more social withdrawal.⁴⁹

924 The results of the trial suggested that peer support may be favoured compared to treatment as usual on lowering the participants' social withdrawal at post-intervention, but the evidence was very uncertain (mean between group difference for change from baseline = 0.34 [95% CI -0.63 to -0.05], n = 84). At 6 weeks post intervention (n = 62), there was no significant difference between the groups in the change from baseline of mean scores, but again, this evidence is very uncertain and affected by imprecision.

928 Help-seeking

929 One RCT (Mulfinger et al.)⁴⁹ reported on participants' help-seeking behavior. The outcome was assessed by the General Help-Seeking Questionnaire.⁵⁸ In the RCT, an average of scores from items related to family/friends and professionals were reported. Higher scores indicate an increased likelihood for seeking help.⁴⁹ A mean score was calculated from the scores of the subscales (range 1 to 4), with higher scores indicating more empowerment.

933 The results of the trial showed that at post-intervention (n = 84), participants in the HOP group reported increased help-seeking behaviour compared to those in the TAU group (mean between group difference for change from baseline = 0.77 [95% CI 0.36 to 1.17]). At 6-week follow-up (n = 62), however, there was no significant difference between the groups, however this evidence was affected by imprecision. As for seeking help from professionals, participants in HOP group reported significantly higher improvement compared to those in the TAU group at post intervention (mean between group difference for change from baseline = 0.60 [95% CI 0.15 to 1.05]; n = 84) and at 6-week follow up (mean between group difference for change from baseline = 0.82 [95% CI 0.32 to 1.32], n = 62). Overall, we conclude that that peer support may be favoured compared to no peer support in improving help seeking behaviour among youth, but the evidence supporting this conclusion is very uncertain.

941 Hopelessness

942 One RCT (Mulfinger et al.)⁴⁹ reported on participants' feeling of hopelessness. The outcome was assessed by Beck's Hopelessness Scale (brief version)⁵⁹ a 4-item questionnaire (range 4 to 24), with higher scores indicating increased hopelessness.

944 The trial showed that at post-intervention and at 6-week follow-up, there were no significant differences between HOP and TAU groups in change from baseline of mean scores. The mean between group differences for change from baseline were 0.51 (95% CI -1.88 to 0.85) and 1.22 (95% CI -2.68 to 0.24) at post -intervention (n = 84) and at 6-week follow-up (n = 62) respectively. Thus, there may be little-to-no difference in the effect of peer support on feeling of hopelessness compared to treatment as usual, however the evidence supporting this conclusion was very uncertain and affected by imprecision.

949 Stage of Recovery

950 One RCT (Mulfinger et al.)⁴⁹ reported on participants' self-reported stage of recovery. The outcome was assessed by Self-Identified Stage of Recovery Scale,⁶⁰ in which the total score ranges from 4 to 24, higher scores indicating a better recovery process.

952 At post-intervention, the trial indicated that there may be little-to-no difference in the effect of peer support on the stage of recovery compared to treatment as usual, but these findings were very uncertain and affected by imprecision due to small sample size (n = 84). At the 6-week follow-up (n = 62), the results suggested that peer support may be favoured compared to treatment as usual on the stage of recovery (mean between group difference for change from baseline 1.59 (95% CI = 0.10 to 3.07). This evidence was also very uncertain.

957 Anxiety

958 One RCT (Conley et al.)^{39,40} reported on participants' self-reported anxiety symptoms. Anxiety symptoms were assessed using Generalized Anxiety Disorder 7-Item scale^{61,62} (score range 0 to 21), with higher scores indicating increased severity of symptoms.⁶²

960 At post booster (n= 97) and at the 2-month follow-up (n = 55), there was little-to-no difference in self-reported improvement in anxiety symptoms between HOP-C and waitlist groups, but the evidence supporting this conclusion was very uncertain. In the HOP group, the mean scores were 1.66 (SD 0.77), 1.66 (SD 0.75) and 1.57 (SD 0.88) at baseline, post-booster and at 2-month follow-up respectively. In the waitlist control the scores at those time points were 1.92 (SD 0.75), 1.69 (SD 0.90) and 1.77 (0.85) respectively.

964 Depression

965 Two RCTs^{39,40,49} reported on depression symptoms. Self-reported symptoms of depression were measured at post-intervention, post
 966 booster and at follow-up (6 weeks⁴⁹ to 2 months⁴⁰ after core-sessions), using the Center for Epidemiologic Studies Short- Depression
 967 Scale 10 (CESD-10)³⁹ or the Center for Epidemiologic Studies- Depression Scale (CESD)⁴⁹ scales. CESD⁶³ is a 20 item scale to
 968 assess symptoms of depression and to identify at-risk individuals for depression; total scores ranging from 0 to 60.⁶⁴ CESD-10^{65,66} is
 969 a shorter 10-item version of the CESD, in which the scores range from 0 to 30. In both measures, higher scores indicate increasing
 970 severity of symptoms.

971 At post-intervention(n = 84), in one RCT there was little-to-no difference in symptom improvement between HOP and TAU groups
 972 (mean between group difference for change from baseline 1.25 [95% CI = -4.87 to 2.38]).⁴⁹ At post-booster (n = 97), results from the
 973 Conley et al. study³⁹ showed little-to-no difference between HOP-C and waitlist groups in improving symptoms of depression; the
 974 findings for both aforementioned timepoints very uncertain and affected by imprecision. At longest follow-up (6 weeks⁴⁹ to 2 months⁴⁰
 975 after core-sessions, n = 117) the results were heterogenous. Findings from 1 RCT (Mulfinger et al.)⁴⁹ favoured HOP at 6 weeks after
 976 the sessions (mean between group difference for change from baseline 7.25 [95% CI = -10.85 to -3.65] , whereas the Conley et al.
 977 trial⁴⁰ found little-to-no difference between groups at 2 months after the sessions. In the HOP group, the mean scores were 1.74 (SD
 978 .58), and 1.54 (SD 0.70) at baseline and at 2-month follow-up respectively. In the waitlist control the scores at those time points were
 979 1.65 (SD 0.59) and 1.39 (0.77) respectively (p = 0.860); these findings were very uncertain.

980 Healthcare Resource Utilization

981 We did not locate any studies that evaluated or reported on healthcare resource utilization.

982 Social outcomes

983 We did not locate any studies that evaluated or reported on social outcomes.

984 **Question 2: Safety**

985 We identified no relevant studies that provided outcome data regarding the safety of peer support programs compared to
 986 interventions without peer support in the management of mental health concerns among youth.

987 **Table 5: High-Level Overview of Trial Findings and GRADE Assessments**

Outcome	Timepoint	Number of participants (trials)	Certainty of the evidence (reasons)	Conclusion
Personal Recovery Outcomes				
Self-stigma	Post-intervention	191 (2 RCTs ^{39,40,49})	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	The findings for effect of formal peer support vs. control (waitlist/TAU) on self-stigma are inconsistent, and the evidence is very uncertain.
	Post-booster	97 (1 RCT ³⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. control (waitlist/TAU) on self-stigma, but the evidence is very uncertain.

	Longest follow-up	117 (2 RCTs ^{40,49})	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	The findings for effect of formal peer support vs. control (waitlist/TAU) on self-stigma at the longest follow-up are inconsistent, and the evidence is very uncertain.
Stigma stress	Post-intervention	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	Formal peer support may be favoured vs. TAU with respect to stigma stress at post-intervention, but the evidence is very uncertain.
	Longest follow-up	117 (2 RCTs ^{40,49})	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	The findings for effect of formal peer support vs. control (waitlist/TAU) on stigma stress at the longest follow-up are inconsistent, and the evidence is very uncertain.
Self-efficacy related to secrecy or disclosing mental illness	Post-intervention	107 (1 RCT ³⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. waitlist control on self-efficacy about disclosing mental illness post-intervention, but the evidence is very uncertain.
	Post-booster	97 (1 RCT ³⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	Formal peer support may be favoured vs. waitlist control with respect to self-efficacy about disclosing mental illness at post-booster, but the evidence is very uncertain.
	Longest follow-up	55 (1 RCT ⁴⁰)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. waitlist control on self-efficacy about disclosing mental illness at 2 months follow-up, but the evidence is very uncertain.
Attitudes to disclosure	Post-intervention	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	Formal peer support may be favoured vs. TAU with respect to attitudes to disclosure post-intervention, but the evidence is very uncertain.
	Post-booster	No trials were identified	Not applicable	No trials were identified containing data on attitudes to disclosure at post-booster follow-up.
	Longest follow-up	62 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW	Formal peer support may be favoured vs. TAU with respect to attitudes to disclosure at longest follow-up but the evidence is very uncertain.

			(a, b, c, d)	
Disclosure related distress	Post-intervention	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	Formal peer support may be favoured vs. TAU with respect to disclosure related distress post-intervention, but the evidence is very uncertain.
	Post-booster	No trials were identified	Not applicable	No trials were identified containing data on disclosure related distress post-booster follow-up.
	Longest follow-up	62 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	Formal peer support may be favoured vs. TAU with respect to disclosure related distress at longest follow-up, but the evidence is very uncertain.
Secrecy	Post-intervention	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	Formal peer support may be favoured vs. TAU with respects to reducing secrecy post-intervention, but the evidence is very uncertain.
	Post-booster	No trials were identified	Not applicable	No trials were identified containing data on secrecy at post-booster follow-up.
	Longest follow-up	62 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	Formal peer support may be favoured vs. TAU with respects to reducing secrecy at longest follow-up, but the evidence is very uncertain.
Other personal recovery outcomes				
HRQoL	Post-intervention	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. TAU on HRQoL post-intervention, but the evidence is very uncertain.
	Post-booster	No trials were identified	Not applicable	No trials were identified containing data on HRQoL at post-booster follow-up.
	Longest follow-up	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	Formal peer support may be favoured vs. TAU with respect to HRQoL at longest follow-up, but the evidence is very uncertain.

Empowerment	Post-intervention	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. TAU on feeling of empowerment post-intervention, but the evidence is very uncertain.
	Post-booster	No trials were identified	Not applicable	No trials were identified containing data on feeling of empowerment at post-booster follow-up.
	Longest follow-up	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. TAU on feeling of empowerment at longest follow-up, but the evidence is very uncertain.
Social withdrawal	Post-intervention	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	Formal peer support may be favoured vs. TAU with respect to social withdrawal at post-intervention, but the evidence is very uncertain.
	Post-booster	No trials were identified	Not applicable	No trials were identified containing data on social withdrawal at post-booster follow-up.
	Longest follow-up	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. TAU on social withdrawal at longest follow-up, but the evidence is very uncertain.
Help-seeking	Post-intervention	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	Formal peer support may be favoured vs. TAU with respect to help seeking at post-intervention, but the evidence is very uncertain.
	Post-booster	No trials were identified	Not applicable	No trials were identified containing data on help seeking at post-booster follow-up.
	Longest follow-up	62 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	Formal peer support may be favoured vs. TAU with respect to help seeking at 6 weeks follow up, but the evidence is very uncertain.
Hopelessness	Post-intervention	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. TAU on feelings of hopelessness post-intervention, but the evidence is very uncertain.

	Post-booster	No trials were identified	Not applicable	No trials were identified containing data on feelings of hopelessness at post-booster follow-up.
	Longest follow-up	62 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. TAU on feelings of hopelessness at longest follow-up, but the evidence is very uncertain.
Stage of recovery	Post-intervention	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. TAU on self-identified stage of recovery at posttreatment, but the evidence is very uncertain.
	Post-booster	No trials were identified	Not applicable	No trials were identified containing data on self-identified stage of recovery at post-booster follow-up.
	Longest follow-up	62 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	Formal peer support may be favoured vs. TAU with respect to self-identified stage of recovery at follow-up, but the evidence is very uncertain.
Clinical outcomes				
Anxiety	Post-intervention	No trials were identified	Not applicable	No trials were identified containing data on self-reported anxiety symptoms at post-booster follow-up.
	Post-booster	97 (1 RCT ³⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. TAU on self-reported anxiety symptoms post-intervention, but the evidence is very uncertain.
	Longest follow-up	55 (1 RCT ⁴⁰)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. waitlist control on self reported anxiety symptoms at follow-up, but the evidence is very uncertain.
Depression	Post-intervention	84 (1 RCT ⁴⁹)	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	There may be little-to-no difference in the effect of formal peer support vs. TAU on self-reported depressive symptoms at post-intervention, but the evidence is very uncertain.
	Post-booster	97 (1 RCT ³⁹)	⊕⊕⊕⊕ VERY LOW	There may be little-to-no difference in the effect of formal peer support vs. TAU on self-reported depressive

			(a, b, c, d)	symptoms post-booster, but the evidence is very uncertain.
	Longest follow-up	117 (2 RCTs ^{40,49})	⊕⊕⊕⊕ VERY LOW (a, b, c, d)	The findings for effect of formal peer support vs. control (waitlist/TAU) on depressive symptoms at the longest follow-up are inconsistent, and the evidence is very uncertain.
Healthcare Resource Utilization Outcomes				
Healthcare Resource Utilization Outcomes	All time points	No trials were identified	Not applicable	No trials were identified containing data on healthcare resource utilization.
Social Outcomes				
Social Outcomes	All time points	No trials were identified	Not applicable	No trials were identified containing data on social outcomes.
Safety				
Safety	All time points	No trials were identified	Not applicable	No trials were identified containing data on safety of peer support programs.

988 HOP = Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; HRQoL = health-related quality of life; RCT = randomized controlled trial; TAU = treatment as usual
 989 a = risk of bias; b = inconsistency; c = indirectness; d = imprecision.
 990

991 **Limitations**

992 The clinical review is not without limitations. The grassroots origin and organization of peer support services developed to provide an
 993 alternate approach to formal mental health care. This could mean that conventional RCTs and traditional research may not have
 994 been accessible to groups involved with peer support. Peer support services are described as value-based, where the values of peer
 995 support are process and goals oriented. One could argue that conventional evidence synthesis such as a systematic review of RCTs
 996 is not aligned with the values and principles of peer support. Outcomes such as recovery and social connectedness are not
 997 delineated by individual variables and challenging to capture in traditional RCTs. This review is limited to summarizing effectiveness
 998 based on published literature with quantifiable outcomes. However, if peer support is to be integrated into the mainstream health care
 999 system, from the perspective of decision makers, systematic evidence of the benefits and harms of peer support interventions could
 000 be useful. We defined formal peer support programs as structured programs delivered by community or health clinic-based
 001 organizations that offer peer support to youth peer service users by trained peer support workers who share lived experience relating
 002 to mental health. Evidence about peer support programs not fulfilling this definition were not captured in the review but may be
 003 relevant to the broader understanding of the effectiveness and safety of peer support in general. We used this definition to ensure
 004 that findings from this review can inform potential decisions about the adoption and implementation of formal peer support programs
 005 for youth mental health. The main limitation of this review was the sparse evidence base, from which definitive conclusions about

effectiveness could not be drawn due to numerous limitations related to risk of bias, inconsistency, imprecision (small sample size), and indirectness. In addition to locating no studies that reported on the safety of formal peer support (compared to interventions without peer support), we located no studies reporting on healthcare resource utilization or social outcomes, despite these being important to decision-makers and youth. Since only a single program was represented in the included trials (i.e., HOP), and these included homogeneous populations of youth, we were unable to draw conclusions for our a-priori subgroup populations, which were intended to inform considerations about equity.

Summary of Clinical Evidence

The purpose of this clinical systematic review was to assess the clinical effectiveness and safety of peer support programs compared to interventions without peer support for youth mental health. We conducted a systematic search of the literature for primary studies of formal peer support programs (with or without a comparison group who did not have peer support), among youth aged 12 to 25 years with self-identified or formally diagnosed mental health concerns. We identified 2 RCTs^{39,40,49} that assessed the clinical effectiveness of peer support programs compared to interventions without peer support (i.e., waitlist or TAU) for the management of mental health concerns among youth. We did not identify any relevant studies evaluating the clinical safety of peer support programs compared to interventions without peer support for the management of mental health concerns among youth. The included trials were conducted among university students with self-identified mental health concerns,^{39,40} and adolescent psychiatric patients with a high disclosure-related distress.⁴⁹ Both studies evaluated the HOP program⁴⁹ (HOP-C in 1 trial³⁹) which provided peer support through trained youth or young adults with lived experience of mental health concerns. In the HOP trial, a young mental health professional was also present in the session. The personal recovery outcomes considered were stigma (2RCTs),^{39,40,49} secrecy and disclosure of mental illness (1 RCT),^{39,40,49} HRQoL (1 RCT),⁴⁹ stage of recovery (1 RCT),⁴⁹ empowerment (1 RCT),⁴⁹ social withdrawal (1 RCT),⁴⁹ help-seeking behavior (1 RCT),⁴⁹ and hopelessness (1 RCT).⁴⁹ In addition, clinical outcomes such as symptoms of anxiety (1 RCT)^{39,40,49} and that of depression (2 RCTs)^{39,40,49} were also considered in the trials. The trials did not report on healthcare resource utilization or social outcomes. We judged both trials to have a high risk of bias arising from large and imbalanced losses to follow-up (up to 22% in HOP trial and 33% in the HOP-C trial) and measurement of the outcome as all outcomes were self-reported by the study participants who were aware of their treatment allocation. The direction and magnitude of the potential bias is not fully clear, but might favour the peer support group.

We conducted a narrative synthesis of results across the studies for all outcomes at the available time points (post-intervention, post-booster, and longer-term follow-up). The findings suggested that peer support may be favoured over no peer support for some of the outcomes (e.g., attitudes to disclosure, disclosure related distress, secrecy, help-seeking behaviour), whereas for the other outcomes evidence showed that there may be little-to-no difference in the effect of peer support compared to waitlist or TAU without peer support (though it should be noted that the findings were affected by imprecision due to small sample size). However, for all outcomes at all time points, we judged the evidence to be very uncertain, due to serious concerns for risk of bias, inconsistency, indirectness, and imprecision. The very low certainty of evidence suggests that the findings do not provide a reliable indication of the likely treatment effect, and that there is a very high likelihood that the true effect of peer support programs compared to interventions without peer support could be substantially different than what is shown by the 2 included trials.

Across the literature, there are numerous types of peer support programs being studied for young people with mental health concerns. These include informal drop-in spaces for peer support, peer-to-peer communication programs, peer support delivered by volunteers with no lived experience of mental health concerns, and peer-moderated online social forums. This variability in the forms and definitions of peer support has been observed in peer support for adult mental health as well.⁶⁷ We defined formal peer support programs as those formal or structured community or health clinic-based programs that offer peer support to youth peer service users by trained peer support workers who share lived experience relating to mental health. Peer support can be offered on a 1:1 or on a group basis, and may be delivered virtually (e.g., video conferencing, mobile applications, web platforms or on-line chat, phone) or in-person. We used this definition, as formal programs with trained workers may mitigate safety concerns for both peer workers and peer support program users as well as to ensure that the aspects of recovery orientation, empowerment, and trust be highlighted in the relationship between peer support worker and user.¹²

051 During the literature search and study selection process for this systematic review, we excluded several studies in which the
052 interventions did not meet our definition of formal peer support. However, it is possible that, although the excluded studies did not
053 focus on structured formal peer support, the findings could have value for decision makers when considering adopting or
054 implementing peer support programs. Two studies described programs which used the principles of moderated online social therapy
055 program for managing young individuals with mental health concerns.^{68,69} The studies evaluated the feasibility and effectiveness of
056 “Rebound”⁶⁹ and “Horyzon”^{68,70} programs which were multi-component interventions comprising online tailored psychosocial therapy,
057 peer-to-peer online social networking, and expert support and peer moderations. In the Horyzons program for youth following first-
058 episode psychosis, for example, the online social networking component known as the “Café” was led by trained peer workers who
059 had lived experience of mental illness. The peer workers moderated conversations and discussions in the social forum. In the
060 Rebound program, peer moderators with lived experience of mental illness helped moderate and monitor online engagement of the
061 participants. Thus, in these programs, the role of peer support beyond moderating online platforms seems limited. Because the
062 intervention had multiple components including tailored therapy, and due to likely minor role of peer workers, the effectiveness of
063 peer support is challenging to infer. We excluded studies of peer support programs in which the peer support workers did not have a
064 shared lived experience of mental health concerns. It was also not clear whether the findings of those excluded studies could be
065 extrapolated to peer support in general.

066 We also highlighted the importance of including considerations of equity to ensure peer support programs are accessible and
067 relevant to marginalized or disadvantaged youth when thinking about the possibility of designing and implementing peer support
068 programs. We sought to identify specific groups of disadvantaged youth who could experience an inequitable burden of mental
069 health challenges and access to inclusive mental health services. For this process, we used PROGRESS-Plus,²³ information from
070 the available published and grey literature on peer support, and discussions with clinical and content experts. These groups of youth
071 include but are not limited to youth members of the 2SLGBTQ+ community, Indigenous youth, Black youth and youth of Colour,
072 youth members of newcomer communities, youth experiencing homelessness or street involvement, youth with disabilities,
073 and youth living in rural and remote communities. The included trials were conducted among a relatively homogenous population,
074 and no subgroups of interest were identified within the trials. Thus, no evidence regarding the value of considerations of equity in
075 designing and implementing peer support programs for youth mental health was identified, highlighting the evidence gap in this area.
076 Future research focusing on these groups of disadvantaged youth who are likely to experience inequitable barriers to access to care
077 and support are warranted.

Scan of Program Evaluation Methods

Overview

Research Questions

1. What completed evaluations and evaluation method guidelines for peer support programs for youth mental health exist in Canada and internationally?
2. What are the characteristics and components used in these evaluations and method guidelines for peer support programs for youth mental health, and how are they measured?
3. What are the findings of the completed evaluations of peer support programs for youth mental health in Canada?

Key Findings

- We identified 2 published reports with information related to peer support program evaluations for youth mental health in Canada and internationally. We also conducted 7 targeted consultations with Canadian stakeholders. Three additional program evaluation reports were shared with us through consultations.
- Currently, standardized methods or guidelines for the evaluation of peer support programs for youth mental health are lacking. Evaluation practices vary across organizations as they are often tailored to understand and address the needs of the programs, the needs of youth engaging with the program, or the interests of the funders.
- Common concerns across peer support programs include funding considerations and resources required for regular and rigorous program evaluations.
- The collection and analysis of evaluation data vary across organizations and some organizations have accessed external support with data collection and analysis. However, most of the organizations consulted in this study share similar evaluation outcomes, with the majority focusing on recovery-oriented and individual-based outcomes. Program-based and system-level outcomes are also captured by some organizations, but are not the main priority in understanding the impact of peer support use.
- Most organizations include youth in the design and conduct of the evaluation, as a way of ensuring youth engagement and relevancy in the evaluation.
- In addition, evaluation practices of the organizations we consulted with aim for equal participation and fair representation of youth involved in peer support programs to ensure the delivery of safe, inclusive and culturally appropriate programs.

Methods

Study Design

109
110 We conducted an Environmental Scan (ES) to identify and describe program evaluation methods and guidelines in Canada or
111 internationally, program evaluation characteristics and components, and any findings of completed program evaluations in Canada.
112 The findings presented in this ES are based on a limited literature search, and information obtained through targeted stakeholder
113 consultations. We used the limited literature search and targeted stakeholder consultations to inform the decision problem related to
114 understanding how youth peer support programs are evaluated to support the design and implementation of these programs.

115 Literature Search Methods

116 The search for literature describing program evaluation aspects was performed by an information specialist using a peer-reviewed
117 search strategy according to the PRESS Peer Review of Electronic Search Strategies checklist.³¹ The search strategy is available on
118 request.

119
120 Published literature was identified by searching the following bibliographic databases: MEDLINE All (1946–) via Ovid, Embase
121 (1974–) via Ovid, PsycInfo via Ovid, Cochrane Central Register of Controlled Trials via Ovid, Scopus and the Cumulative Index to
122 Nursing and Allied Health Literature (CINAHL) via EBSCO. All Ovid searches, with the exception of Cochrane Central Register of
123 Controlled Trials, were run simultaneously as a multi-file search. Duplicates were removed using Ovid deduplication for multi-file
124 searches, followed by manual deduplication in Endnote. The search strategy was comprised of both controlled vocabulary, such as
125 the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were peer support
126 programs and youth with mental health concerns.

127
128 The search was limited to English and French language documents published between Jan 1, 2006 and Jan 17, 2022. Conference
129 abstracts were excluded from the search results. Regular alerts updated the search until the publication of the final report.

130
131 Grey literature (literature that is not commercially published) was identified by searching sources listed in relevant sections of the
132 Grey Matters: A Practical Tool For Searching Health-Related Grey Literature checklist,³² which includes the websites of regulatory
133 agencies, HTA agencies, clinical guideline repositories, systematic review repositories, patient-related groups, and professional
134 associations. Google was used to search for additional internet-based materials. These searches were supplemented by reviewing
135 bibliographies of key papers and through contacts with experts and industry, as appropriate. See
136

Appendix 1 for more information on the grey literature search strategy.

Screening and Selecting Publications for Inclusion

One author independently screened and retrieved citations using management software DistillerSR (Evidence Partners, Ottawa, Canada). In the first level of screening, the author reviewed the titles and abstracts and retrieved and assessed potentially relevant articles for inclusion. The final selection of full-text articles was based on the inclusion criteria presented in Table 6. Articles that were published in a language other than English or French were excluded. All publication types were eligible. We excluded any articles that did not adhere to the definition of formal peer support programs and did not identify or describe information relevant to program evaluation methodology or outcomes.

Table 6: Components for Literature Screening and Information Gathering

Criteria	Description
Population	Youth (between 12 and 25 years of age) support users with mental health concerns (including but not limited to depression, anxiety, suicidality, eating disorders, post-traumatic stress disorder) either self-identified or formally diagnosed; trained peer support workers
Intervention	Formal peer support programs ^a
Settings	Settings of care including health care facilities and community-based care programs in rural, remote, and urban areas in Canada
Types of Information	<ul style="list-style-type: none"> Information on identified completed program evaluations and guidelines used to inform evaluation methodology in Canada and internationally Information on the description of the components and characteristics of identified program evaluations and method guidelines, including information on evaluation measurements in Canada and internationally Information on the findings of completed program evaluations in Canada

^a Formal peer support programs are those delivered by formal community or health care-based organizations that offer peer support to peer service users by trained peer support workers who share lived experience relating to mental health.

Consultation Methods

We conducted targeted consultations with key informants involved in program evaluation for peer support programs for youth mental health to fill gaps in knowledge and to provide organizational perspectives. We adopted a purposive sampling approach to identify representatives from various organizations across Canada that offered peer support for youth mental health that included some component of program evaluation. We identified stakeholders through CADTH's network of liaison officers situated across Canada or referred through other informants during consultations, and through internet searching. One researcher reached out to stakeholders via email and interviewed those willing or able to participate. The researcher conducted the consultations with each key informant via Zoom using a semi-structured interview format. We developed the interview questions based on the research questions, and included questions related to how program evaluation was conducted within the organization that the informant represented; methods and resources used to inform program evaluation; and outcomes that are captured through evaluation. In addition to understanding the methods of program evaluation, a special interest in how equity was considered in relation to program evaluation was sought during consultations. When possible, representatives shared additional documents and resources to provide examples of what program evaluation efforts look like within their organization and what informs their program evaluation processes.

Six of the consultations followed the same original semi-structured interview guide. Upon analysis of the initial interviews and new emerging insights, the researcher refined the semi-structured interview guide to explore newly identified and targeted information for the remaining consultation (see Appendix 4 for the interview guide). Prior to each consultation, we obtained key informants' consent to participate and informed them how we will use the information in the final report. Consultations were recorded and transcripts of the consultations were generated using Microsoft Word and reviewed by the researcher. Key informants involved in the consultations, and other relevant stakeholders, were also asked to provide feedback after completion of the draft report.

Synthesis Approach

One researcher conducted a descriptive analysis of the literature and consultation transcripts. To do so, the researcher first identified and reported in Microsoft Word completed evaluations and methods guidelines identified in the literature, including article characteristics such as author, year of publication, and country. Relevant characteristics are presented in tabular form in Appendix 6 and narratively summarized in the findings section.

To identify the characteristics and methodology that guide program evaluation, the researcher then examined the identified literature and consultation transcripts to systematically identify and sort information relevant to program evaluation characteristics, methods, outcomes, and equity considerations into relevant categories. The researcher exported the categories to a table in Microsoft Word and shared the table with a second and third researcher for discussion. The three researchers compared and adjusted the categories in regular meetings. The lead researcher then narratively summarized the categories formulating a description of program evaluation methods and characteristics in the findings. Information related to program evaluation characteristics, methods, guiding principles and resources, and outcomes measured are presented in Appendix 8.

Findings

The findings are based on a limited literature search and 7 consultations collected between February 7th and May 20th, 2022. We presented the findings by describing 1) identified evaluations and methodological guidance for evaluating peer support programs for youth mental health in Canada and internationally; 2) principles, methods, and outcomes used in evaluations of peer support programs for youth mental health, and 3) findings of completed evaluations of peer support programs for youth mental health in Canada.

A total of 642 citations were identified in the literature. Following screening of titles and abstracts, we excluded 627 citations and retrieved 15 potentially relevant reports from the electronic search for full-text review. We retrieved 23 potentially relevant publications from the grey literature search for full-text review. Of these potentially relevant articles from the electronic search and grey literature search, 36 publications were excluded for various reasons, and 2 publications met the inclusion criteria and were included in this report. An overview of the included publications is provided in Appendix 6. We retrieved additional program evaluation resources through consultations that included guiding resources and examples of completed program evaluations from different organizations. Relevant information related to the use of these guiding resources, or findings from examples of program evaluations conducted in Canada that were shared have also been included in this report. An overview of the examples of program evaluations that were shared and included in this report are provided in Appendix 7.

We contacted 17 stakeholders via email for consultation. Nine stakeholders responded to this call for consultations, with one refusing consultation as they were not able to provide appropriate expertise on the subject, while one respondent was lost to follow-up after initial consultation contact. We conducted 7 consultations via Zoom with representatives from organizations in British Columbia, Manitoba, Ontario, and New Brunswick. A list of the organizations represented through stakeholder consultations and a brief description of each peer support program from the organizations is provided in Appendix 5.

Identified Evaluations and Methodological Guidance for Evaluating Peer Support Programs for Youth Mental Health in Canada and Internationally

We identified 2 publications^{71,72} that outlined program evaluation methods used to evaluate peer support programs for youth mental health. The first publication⁷¹ outlined the approach used to evaluate the peer support services within the Transitional Aged Youth (TAY) program offered through the Leap of Faith Together community services in Ontario. The TAY program offers services to approximately 800 youth between the age of 14 to 26 and involved peer support services alongside case management, mental health, and housing support services.⁷¹ The authors of this publication describe the implementation of a hybrid realist and participatory approach used in the evaluation of peer support services for youth with mental health, physical health, and substance use challenges.

210 The second identified publication⁷² is an independent evaluation of the Peer Support for Mental Health and Wellbeing Pilot program
 211 offered through the Department for Education in the UK. The aim of the Peer Support for Mental Health and Wellbeing Pilot program
 212 evaluation was to gather evidence related to understanding the set up and delivery of peer support for youth mental health and
 213 wellbeing in schools, colleges, and Children and Young People Community Organizations (CYPCOs).⁷² The evaluation was
 214 designed to address questions related to the program model, implementation, benefits, and outcomes.

215 Representatives from three organizations that were involved in the stakeholder consultations shared examples of evaluations that
 216 were completed with respect to peer support programs for youth mental health. One of the reports is the results of the Peer Support
 217 Integrity, Quality and Impact (PSIQI) survey for the Just Be You program offered through the Centre for Innovation in Peer Support at
 218 Support House.⁷³ The Just Be You program is a youth led group that provides social recreation and peer support for youth aged 15
 219 to 25 who are experiencing mental health and/or addiction issues. This report was completed in 2019 and was part of a system-wide
 220 administration of the PSIQI survey to provide baseline data in the perceived integrity, quality and impact of peer support services
 221 offered through the Just Be You program. The survey included individuals who were, at the time, engaged in peer support or who
 222 had recently engaged in peer support within the last 2 months. The survey used in this report was designed to gain information
 223 related to peer support services integrity, the perceived quality of peer support being offered, and the perceived impact that peer
 224 support had on the individual.⁷³ It should be noted that the PSIQI survey was designed as part of a larger research process, which
 225 included reliability testing and validation, to provide information and measure peer support services. This survey has been used in a
 226 wide variety of contexts including but not limited to the Just Be You program.

227 Another report that was shared focuses on the evaluation of the Foundry Youth Peer Support Curriculum which was offered both in-
 228 person and virtually between October 2019 and May 2020 for peer support workers.⁷⁴ Participants of the evaluation were invited to
 229 complete surveys and participate in focus groups to share feedback on the curriculum. This also served as an opportunity for workers
 230 to understand their roles and training objectives. Based on this evaluation, 5 key recommendations were developed related to
 231 training content, delivery, workbooks, virtual training, and training format.⁷⁴ It is worth noting that Foundry Central Office is currently
 232 undergoing a change in their evaluation practices, so information presented in this report may not align with future Foundry Central
 233 Office methods of evaluation.

234 Finally, representatives from EveryMind Mental Health Services (EveryMind) shared an executive summary of the youth peer support
 235 pilot project, titled the Legacy Report, which was completed in March 2022.⁷⁵ This report outlined the evaluation framework which
 236 includes the evaluation approach and objectives, data collection approaches, and analytic approach. The evaluation was conducted
 237 using an exploratory approach to assess anticipated and unanticipated program outcomes informed by participants and youth peer
 238 support workers.⁷⁵

239 Principles, Methods, and Outcomes Identified in Evaluations of Peer Support Programs for 240 Youth Mental Health

241 Program Evaluation Goals

242 Generally, informants identified that the purpose of engaging in evaluation is to help inform quality improvement efforts of the
 243 program. One informant mentioned that in addition to informing quality improvement efforts for the program, evaluation also offers a
 244 way to establish a level of baseline effectiveness that can be used to promote uptake of peer support services across the
 245 organization. Another informant stated that the aim of engaging in program evaluation was to determine adherence to the program's
 246 recovery-based model of care. The goal of program evaluation can also be oriented towards establishing a level of formality and
 247 homogeneity when youth peer support services are offered across different sites, which is the case for Foundry Central Office.

248 The authors of the publication that evaluated the TAY program specified that there is a lack of evaluative strategies that can be
 249 applied across youth peer support programs.⁷¹ The goal of this evaluation is to provide guidance for researchers implementing a
 250 realist evaluation aimed at describing complex processes to those involved in the evaluation, managing a flexible research approach,
 251 and incorporating a system for consideration of context, mechanism and outcomes.⁷¹ The second publication focused on
 252 understanding set up and delivery of youth peer support, but the goal of the evaluation was to gather evidence to produce a range of
 253 replicable peer support models for different youth environments and contexts.⁷² In addition, evaluation was meant to inform the
 254 design and further development of youth peer support programs in schools and CYPCOs.⁷²

255 Guiding Principles and Practices used in Program Evaluations

256 Informants from 4 organizations identified a recovery-oriented model of care to be the foundation of peer support services. As such,
 257 their program evaluation focused on assessing the fidelity of the program in terms of the individual's relationship with recovery. The
 258 Mental Health Commission of Canada has developed a guideline to support recovery-oriented practice for mental health support
 259 which was referenced by the New Brunswick Department of Health (DoH) and the Centre for Innovation in Peer Support at Support
 260 House.⁷⁶ The guideline for recovery-oriented practice provides a comprehensive Canadian reference document for understanding
 261 recovery and allows for consistent application of recovery principles. The basic principle of recovery-oriented mental health practice
 262 is to support people to define personal goals, exercise capabilities, and use their strength to attain their potential through a
 263 personalized approach in managing their journey to recovery.⁷⁶ In addition, 2 informants outlined the use of the Canadian Personal
 264 Recovery Outcome Measure (C-PROM) tool to be used either in conjunction with their evaluation methods or as a guide to inform
 265 evaluation methods to help collect recovery-oriented data. The C-PROM tool is a measurement tool that provides information of user
 266 health status relative to their quality of life and can be applied to assess mental health recovery.⁷⁷ Despite these organizations
 267 specifying that a recovery-oriented model of care is used as a guiding principle, the practice of recovery is different across
 268 organizations because it is dependent on the user which leads to heterogeneity in how recovery may be evaluated.

269 A major discussion point from stakeholders representing the various peer support programs for youth mental health is a general
 270 sense of heterogeneity and fragmented practices related to program evaluation across organizations and jurisdictions. This
 271 collective sense stems from a lack of standardization either jurisdictionally or nationally for the process of evaluating peer support
 272 programs specifically for youth mental health. From an evaluative standpoint, there is a lack of formal guidance that is consistently
 273 applied for peer support programs specifically for youth mental health. Three informants emphasized that program evaluation efforts
 274 would benefit from having guiding resources that could support the development of program evaluations across organizations. This
 275 challenge prompts programs to develop an individual style approach to program evaluation, which may impact the broader landscape
 276 of evidence needed to support the uptake of peer support programming for youth mental health. For example, an informant from
 277 Foundry Central Office described the challenges of relying on anecdotal based evaluative measurements to inform the need of
 278 programs that offer peer support services. Yet, the informant also described the advantages of recently transitioning to capture more
 279 comprehensive program evaluation measurements which better inform the impact of the program. Because of the heterogeneous
 280 nature of peer support programming and evaluation, applying consistent methods and measurements across organizations may not
 281 be feasible or address the actual needs of the program. Of note, heterogeneity can also be interpreted as valuable in peer support
 282 programming and evaluation because it can provide adaptability based on the individual and program needs.

283 The variability in how peer support is applied in a program contributes to the overall fragmented landscape of program evaluation for
 284 peer support services for youth mental health. One informant highlighted the challenge in understanding how other organizations
 285 interpret the definition of peer support services. For example, Foundry Central Office uses a formal definition of peer support
 286 programs which is a program delivered by formal community or health care-based organizations that offer peer support to peer
 287 service users by trained peer support workers who share lived experience relating to mental health. Yet, other organizations that
 288 Foundry Central Office interacts with may offer selected aspects of peer support (e.g., health systems navigation support). This can
 289 lead to challenges in evaluation because formal program evaluation efforts may not be consistently applied across organizations due
 290 to the discrepancy in what the programs offer. Despite the lack of standardized evaluation guidelines and practices, program
 291 representatives also acknowledge that standardized approaches to evaluation may not be beneficial to the integrity and appeal of
 292 peer support as an informal and flexible intervention to facilitate recovery.

293 Programs, however, do share commonalities in their approach to evaluation. For example, 2 informants specified that practice-based
 294 evidence informs evaluation efforts, which is the process of measuring and tracking real world practice to inform an evaluation that is
 295 tailored to the needs and realities of the program. Another common evaluation practice is the use of co-design, as indicated by four
 296 informants and outlined by the authors of the TAY program evaluation.⁷¹ Co-design is the process of involving service users and
 297 workers to inform the direction and aim of program evaluation. This process allows for a tailored evaluation approach that maximizes
 298 the benefit for individuals involved in the use and delivery of the program. First, it allows for greater involvement of youth in the
 299 program evaluation strategy. This can be done through the involvement of youth-led committees in the evaluation design, or by
 300 gathering information from service users and workers through focus-groups or one-on-one feedback operations to share experiences
 301 and ideas specifically towards evaluation strategies. Second, representatives from some of the organizations highlighted the benefit

302 of youth engagement through co-design as a method of mental health recovery. For example, 1 informant from EveryMind stated that
 303 including youth program users and workers in the program evaluation process can often serve as an additional therapeutic
 304 experience because it allows the opportunity for further reflection on the program and within the individual. Finally, informants from 2
 305 organizations and the authors of the TAY program evaluation⁷¹ also indicated what to consider when involving youth in the program
 306 evaluation process, specifically to help youth feel safe and valued. This includes the importance of favouring the voice and lived
 307 experience from youth lending their perspective over professional or clinical voices. This allows for youth to be more fully engaged
 308 and provides a sense of value without the fear of being overridden when it comes to program evaluation development.

309 Similarly, the authors of the publication that evaluated the TAY program adopted a realist and participatory approach to guide the
 310 evaluation of youth mental health peer support services. The authors defined the realist evaluation strategy as an approach that aims
 311 to address gaps in the design of youth peer support by answering the question of “what works, for whom, how, why and in what
 312 circumstance?”.⁷¹ While the realist evaluation approach does offer insight to how and why youth peer support may be effective, it is
 313 primarily theory driven and lacks evidence related to lived and living experience from people involved in the program. The authors
 314 then integrated a participatory approach in the realist evaluation to actively engage youth in the research process through
 315 involvement in identifying the research focus and methods for data collection.⁷¹ The participatory approach allows for the inclusion of
 316 program users with lived and living experience to facilitate the design and implementation of program contexts and to assess
 317 theoretical assumptions made through the realist approach.⁷¹

318 Data Collection and Analysis in Program Evaluations

319 Program representatives and authors of the identified publications^{71,72} described various methods for data collection and analysis
 320 methods used in the program evaluations. Informants from each organization identified surveys as the primary method of collecting
 321 evaluation data and feedback. The design and development of the surveys used to collect data and feedback was applied differently
 322 across organizations. Two organizations used other pre-existing tools –like the C-PROM tool – to guide the design of their surveys,
 323 while other organizations primarily based their survey and data collection methods on feedback from those engaged within the
 324 program. Informants from two organizations described the design of their surveys to be largely based on previous survey and data
 325 collection efforts used within the program with minimal change. In addition to the use of surveys to collect data, informants from some
 326 organizations and the authors of the identified publications^{71,72} described other methods of data collection which include interviews,
 327 focus groups, and case study visits with individuals involved in the peer support program.

328 Representatives from the Centre for Innovation in Peer Support at Support House described and shared a modified survey tool called
 329 the PSIQI survey which was developed to help organizations providing peer support services gain insight into the experience of peer
 330 support from the perspective of people receiving peer services.⁷⁸ The purpose of this survey is to assess the degree to which peer
 331 support services align with the values of peer support, the quality of service, and the degree to which users believe peer support
 332 impacts their day-to-day lives.⁷⁸ The PSIQI survey includes questions about the users’ experience with a peer support worker, their
 333 experience before starting peer support, their experiences receiving peer support, changes from experiencing peer support, and
 334 demographic information.⁷⁸ The example report shared by the Centre for Innovation in Peer Support at Support House shows how
 335 the PSIQI survey was applied to evaluate the Just Be You Program. The first portion of the evaluation reported information related to
 336 non-identifying demographic information, engagement in the peer support program, and the focus of peer support being received by
 337 the user (e.g., mental health purposes, substance use, harm reduction, and/or housing).⁷³ The second portion of the evaluation
 338 reported on service integrity, service quality, and service impact.⁷³ Service integrity and service impact was assessed using a 5-point
 339 Likert scale on a series of relevant statements, while service quality was assessed using two closed- ended questions and
 340 respondents were given a list of positive and negative emotions to check off how they felt during their experience.⁷³

341 Data collection efforts were not limited only to the experiences of the program user. Informants across each organization described a
 342 need to involve both user and worker feedback within the evaluation process. Foundry Central Office described surveys that are
 343 used to establish youth experience and satisfaction with peer support, and peer support worker experience through collaboration with
 344 youth and parent advisory councils. This was shown in the example report that was shared which focused on the evaluation of the
 345 curriculum and training for peer support workers. The data collection methods used included survey administration before and after
 346 training sessions, focus groups, and key informant interviews.⁷⁴ Similarly, the example report shared by EveryMind included
 347 feedback from peer support workers who received program training.⁷⁵ Data regarding training experience was collected qualitatively

348 by using pre-specified open-ended questions to create a dialogue among several small groups which was described as a “World
349 Café”.

350 The authors of the publication that evaluated the TAY program outlined data collection methods for the realist and participatory
351 approaches used in the evaluation.⁷¹ Mixed methods are recommended within the realist approach so that qualitative methods can
352 be used to understand program processes and theory while quantitative data collection can be used to measure outcome patterns.
353 Additionally, the realist evaluation strategy incorporates the use of a Context-Mechanism-Outcome-Configuration design to assess
354 how and why a program may be effective.⁷¹ The realist approach included an initial exploration of the formal program theory through
355 a review of the literature, program documents, and interviews with key stakeholders. The participatory approach was conducted
356 through a workshop that included peer staff, non-peer staff, and students involved in the TAY program. The workshop focused on the
357 study purpose and background, evaluation principles, and feedback on the initial program design and issues within peer support.⁷¹
358 After the realist and participatory evaluation data was collected and analyzed, a second round of data collection was designed based
359 on findings from the realist and participatory data collection. The second round of data collection involved peer interviews, client
360 online surveys, peer online survey, and knowledge mobilization to present findings and facilitate discussion for decision-making
361 surrounding the findings.

362 Finally, the authors of the publication that evaluated the Peer Support for Mental Health and Wellbeing Pilot program used a mixed
363 methods approach to collect quantitative and qualitative data. This approach included a survey of organizational pilot leads, follow-up
364 qualitative telephone interviews with pilot leads, case study visits with a purposive sample of pilot organizations, participatory
365 research tools for youth to understand experience of peer support, and a pre and post quantitative survey for youth to measure
366 changes to overall wellbeing. The evaluation was designed to incorporate a capacity-building element, with the aim of supporting
367 pilot programs to undertake self-evaluation, and to engage young people in the data collection and analysis. An evaluation toolkit
368 was developed for organizations to use, which was rolled-out with supporting guidance and a training webinar.⁷²

369 The analysis of the evaluation data that is collected is handled differently across organizations. One informant specified that the
370 Canadian Mental Health Association offers yearly assessments of evaluation data. Similarly, 2 informants identified the use of
371 external services to analyze data that have been collected and share that information back to the organization for interpretation.
372 Some organizations specified that data analysis was done independently in an in-house setting. Different organizations described
373 assessing data at various timepoints, including using one timepoint or multiple timepoints to assess change. One informant describes
374 using a pre-post analysis approach and results are aggregated across different programs that include peer support services. Other
375 organizations assessed data on a regular basis or at specified time intervals. Three informants described a process for ongoing
376 evaluation as the program was being carried out, meaning that feedback from individuals involved in the delivery and use of the
377 program is gathered in real time as the program is being offered, while another informant specified that data is collected at program
378 intake up to 9 months after program engagement. Similarly, authors of the evaluation of the Peer Support for Mental Health and
379 Wellbeing Pilot program analyzed quantitative data from survey results from baseline to follow-up responses when possible, while
380 qualitative data were analyzed at follow-up based on themes and codes mapped to the key research questions for the evaluation.⁷²

381 Outcomes Identified in Program Evaluations

382 Each organization described the general outcomes measured through program evaluation. For the purpose of reporting, we
383 categorized the these outcomes as recovery-oriented outcomes, individual outcomes, program outcomes, and system-level
384 outcomes. Informants from 5 organizations reported that recovery-oriented outcomes were measured during program evaluation.
385 Recovery-oriented outcomes consisted of user’s perceptions and experiences of community integration; overall fulfillment; change in
386 emotions and emotional regulation; empowerment; relationship to education, employment, and social connections; attitudes towards
387 personal recovery; overall wellbeing and mental health status; and overall recovery. Individual outcomes shared some overlap with
388 what might be interpreted as recovery-oriented outcomes mainly because recovery shares a relationship with the individual.
389 Informants from 4 organizations outlined individual outcomes that are measured during program evaluations. Individual outcomes
390 identified and measured by these informants consist of user and worker experience, degree to which users felt supported, and
391 various employment related outcomes that were not specified. These individual outcomes may be distinct from recovery-based
392 outcomes because they may not directly impact a person’s recovery. Outcomes related to program operations and use were
393 identified by informants from 3 organizations. Program related outcomes consisted of tracking the number and demographic of

394 program users, duration of user engagement, and assessment of changes implemented within the program. Informants from 3
 395 organizations identified system-level outcomes that are assessed, which consisted of tracking hospitalizations and length of stay
 396 from program users, and use of external services (e.g., psychiatric, or inpatient services) prompted from the use of peer support. One
 397 informant from Foundry Central Office described a shift in outcome measurements from program level output metrics to
 398 understanding the impact of the program itself. This shift in collecting outcome measurements aimed at evaluating the impact of peer
 399 support services to better understand the effectiveness of the programs. This process was described as using health measurements
 400 and repeat measurements based on an outcome rating scale with composite domains focusing on the relationship to recovery.

401 The authors of the publication that evaluated the TAY program described outputs that the realist and participatory approach aimed to
 402 capture. The realist approach aimed to gather information and contextualize initial contexts, mechanisms, and outcomes identified by
 403 key stakeholders to inform refined research questions for additional program evaluation, while the participatory approach collected
 404 feedback on initial design and current issues of interest within peer support.⁷¹ The authors of the publication that evaluated the Peer
 405 Support for Mental Health and Wellbeing Pilot program assessed outcomes related to social and emotional wellbeing and resilience,
 406 personal development, organizational outcomes and capacity building within the programs.⁷²

407 Equity Considerations in Program Evaluations

408 Equity considerations within program evaluation are of special interest within the scope of this report. For that reason, questions
 409 within the consultations related to each organization's efforts to consider equity as a component of program evaluations were
 410 presented to each representative. The importance of offering youth an experience that is rooted in equity is well-established among
 411 programs. Multiple representatives from organizations involved in the consultations were able to speak to the way in which equity is
 412 considered both within the program as a whole and specifically within program evaluation. Equity considerations were not identified
 413 within publications included in this report, and therefore only equity considerations captured through the consultations are presented.

414 Informants presented multiple examples of ensuring equity was considered within the program evaluation process. These
 415 considerations include using multiple methods of data collection to minimize barriers to provide feedback; ensuring that all
 416 evaluations are anonymous and data collection is confidential to ensure participant safety; providing transparency in the evaluation
 417 process to all users by explaining methods and reasoning for data collection; and making efforts to identify potential inequities during
 418 participant intake to help address barriers to participation. Additionally, all evaluation and feedback participation are kept optional to
 419 alleviate any pressure for those involved in the program, and within the program evaluation process there is an emphasis to shift
 420 away from using clinical language to minimize stigmatization. Informants from EveryMind also discussed the importance of providing
 421 adequate compensation for those involved in the evaluation process as an acknowledgement of the potential effort endured during
 422 the evaluation process. Foundry Central Office has also implemented a virtual care program which offers increased access to peer
 423 support programming and evaluation by promoting access to care and evaluation capabilities for rural and remote youth.

424 One overarching sentiment shared from representatives from 4 of the consulted organizations was the idea that evaluation efforts
 425 should focus on the needs of and include the perspectives of the youth involved in the program. The informant from the New
 426 Brunswick DoH stated that within their program evaluation process, a client-led approach was adopted to include user perspectives
 427 and may allow for appropriate representation within the evaluation process. Furthermore, informants from EveryMind emphasized
 428 that efforts for including diverse perspectives to inform evaluative processes is key to ensuring appropriate representation yet stated
 429 that demographic specific data collection or attempts to measure individual identifiers are not used within the evaluation as an
 430 additional layer of participant safety.

431 Evaluation efforts aimed at involving and adhering to the needs of youth engaging with the program have contributed to heighten the
 432 awareness of providing appropriate and safe care for marginalized, racialized, and Indigenous youth. Informants from the Centre for
 433 Innovation in Peer Support at Support House, EveryMind and Foundry Central Office described fostering a relationship with youth
 434 who are engaged in the peer support programs and who can provide feedback regarding the evaluation process in a way that holds
 435 the organization accountable to provide appropriate care in a culturally competent manner. Foundry Central Office outlined the
 436 ongoing efforts to incorporate a learning management system that involves the implementation of an Indigenous lens and autism
 437 spectrum disorder module for youth peer support training evaluation. Additionally, they described an organizational responsibility to
 438 capture Indigenous focused data collection and evaluate in a culturally competent manner.

439 Furthermore, Foundry Central Office described the challenges with implementing equitable processes within their program evaluation
 440 but understanding that these processes can often take time to ensure that the appropriate path is taken to prioritize youth's safety in
 441 a culturally sensitive way. This also means developing and maintaining a continual relationship with communities that are engaging
 442 with the organization's peer support services. In some cases, while equity considerations within the evaluation process were not
 443 explicitly outlined, organizations highlighted how the evaluations helped identify gaps in program uptake among those using peer
 444 support and those living in the community. In addition, some informants also emphasized a general lack in equity considerations
 445 within the peer support services that are offered but expressed the intention to incorporate equity considerations as program
 446 evaluation becomes consistently applied with greater program uptake.

447 Finally, representatives from some organizations also shared ways in which youth engage with their individual mental health recovery
 448 through program self-selection. As a result, there is a responsibility from organizations to be able to offer programs that can fit the
 449 needs of youth. This is often informed through program evaluation, and for that reason there needs to be consideration of ensuring
 450 that an effort is made to create equitable programs that reflect the user.

451 Funding Considerations for Program Evaluation

452 During the consultations, key informants highlighted that funding considerations can affect how they carry out their program
 453 evaluations, as program funders have the ability to shape the evaluation process through the criteria to access and hold funding. For
 454 example, program funders may request that certain metrics be captured to show that programs have a certain level of uptake and are
 455 effective. For other organizations, the availability of external funding specifically for evaluation prompted a shift in the aims of their
 456 evaluation. Rather than collecting program output data that can give a brief snapshot of program use, they aim to understand the
 457 impacts of the programs on peer support users (i.e., demonstrate how peer support may be effective).

458 One informant highlighted the importance of flexibility when working with the funder's needs to collect data while being mindful of the
 459 potential impacts on program users or workers. For example, a funder may request information that is sensitive in nature so
 460 questions should be asked in a mindful manner with an emphasis on minimizing harmful language that may make the individual
 461 uncomfortable or cause further harm.

462 Finally, program evaluation may also be constricted by resource availability. One informant described the challenges associated with
 463 the de-prioritization of program evaluation due to costs. When cost and resourcing are considerations for organizations that are
 464 funding peer support programs, program evaluation may be cut to save on program costs or may not be accounted for in funding
 465 allocated to the program. The inability or limited resources to conduct evaluations has direct impacts on programs' functionality and
 466 ability to offer tailored programs to fit the needs of the users.

467 Findings of Evaluations - Peer Support Programs for Youth Mental Health in Canada

468 The one identified Canadian publication that provided information related to the evaluation of the TAY program reviewed the
 469 methodological guiding principles and information related to the characteristics, outcomes and measures used in the evaluation;
 470 however, the findings of the evaluation were not presented in the publication and therefore cannot be extracted for the purpose of
 471 this ES. Furthermore, the examples of the completed evaluations shared by the Centre for Innovation in Peer Support at Support
 472 House and Foundry Central Office during the consultations are not publicly available, and therefore cannot be presented in this ES.

473 The example of the completed evaluation provided by EveryMind is publicly available and reports findings of their Youth Peer
 474 Support Pilot Project. The objective of this evaluation was to assess peer support worker training and program implementation
 475 process related questions (i.e., how the peer support worker training and program were implemented and if they were implemented
 476 as intended) and outcome related questions (i.e., changes that may have occurred as a result of the training and program).⁷⁵ The
 477 findings of the evaluation were grouped in peer support worker recruitment and training findings and program implementation
 478 findings.⁷⁵ The overall findings of this evaluation informed a set of recommendations related to practices for future programming of
 479 peer support programs for youth mental health. The evaluators collected and analyzed qualitative and quantitative data to assess
 480 process and outcome related questions, and qualitative data to capture the experiences of peer support users and workers. Program
 481 indicators were collected to capture information related to the process evaluation questions by assessing youth's answers to content-
 482 based and demographic questions from the peer support training, and gathering attendance data, information on program access

483 (i.e., training, group sessions, 1-to-1 sessions), and information on session topics. Peer support worker recruitment and training
 484 findings were informed by 31 participants, while program implementation findings were informed by 23 participants. Data collection
 485 for this evaluation was completed in March 2021.

486 **Peer support worker training recruitment findings**

487 The report outlined that the majority of the youth learned about peer support training through friends or peers (29% of respondents)
 488 which indicates that a variety of forums and media need to be used to reach youth and to publicize youth peer support training.⁷⁵
 489 Youth also likely have competing demands that need to be considered when engaging youth in the recruitment process.⁷⁵ For
 490 example, the majority of the youth included in the evaluation identified as being full time students (35% of respondents).⁷⁵ In addition,
 491 the majority of youth included in the evaluation indicated they had previous experience participating in peer support (73% of
 492 respondents).⁷⁵ Youth peer support training applicants often have previous experience either through providing or receiving peer
 493 support that need to be considered and implemented in the recruitment process, and youth interests can often inform their
 494 experience in supporting peers in their recovery journey.⁷⁵

495 **Peer support worker training findings**

496 Overall, there was positive participant feedback regarding youth peer support training for this pilot project, showing that the training
 497 learning objectives were met with rating averages between 82% and 97% for agreement with statements about training benefits.⁷⁵
 498 The report outlined that some of the key benefits of youth peer support training included increased knowledge and understanding of
 499 youth peer support, personal growth, and a positive learning environment.⁷⁵ In addition, it was noted that youth peer support workers
 500 may be able to provide insights and mentorship to address stigma, promote outreach, provide support for family dynamics and
 501 unique cultural experience, managing life transitions, and stress management.⁷⁵

502 **Peer support program implementation findings**

503 Implementation findings focused on the experience of the peer support users and workers. It was noted that interest in accessing
 504 youth peer support was consistent across participant age (between 14 years and 25 years).⁷⁵ Peer support users were able to
 505 develop strategies to manage difficult situations and experienced a sense of connection, space to share, and personal growth.⁷⁵ Peer
 506 support users and workers experienced reciprocity, meaning they were able to learn and benefit from each other.⁷⁵ Both group
 507 components and 1-to-1 components of peer support received positive feedback. In addition, it was reported that youth valued being
 508 included in all phases of the program, from planning to implementation and that it is important to provide financial compensation for
 509 youth support workers to reflect their contributions.⁷⁵

510 Finally, evaluators developed recommendations for future programming based on the findings and lessons learned. The
 511 recommendations are:

- 512 • Youth peer support needs to be offered as part of the core service system throughout the service process, including
 513 bridging for adult mental health service and ensuring feedback is integrated as part of the service process.
- 514 • Ensure effective co-design as the foundation for youth peer support models by using principles of youth engagement and
 515 being responsive to youth feedback throughout the process.
- 516 • To develop and implement a youth-need-based program, support and buy-in from all levels of involvement (senior
 517 leadership, management, staff, and youth) is needed.
- 518 • Implementing and sustaining youth peer support services needs careful consideration for the necessary supports and
 519 resources, including compensation for youth peer support workers, pay equity, and allotted time per work schedule.
- 520 • Youth peer support training should be offered annually to young adults with lived experience. Training can help build
 521 resilience, leadership skills, increase formal knowledge of peer support, and build community capacity.
- 522 • Strategies to engage youth with lived experience and knowledge of the system need to be developed by system leaders.
 523 This should include meaningful professional development and employment opportunities.

524 Limitations

525 The findings are based on a literature search and targeted stakeholder consultations. The consultations included representatives
 526 from 7 organizations identified by CADTH in British Columbia, Manitoba, Ontario, and New Brunswick. Since the stakeholders were
 527 identified by CADTH or through referral from others involved in consultations, it is likely that not all relevant stakeholders were
 528 identified and contacted. While our focus is on peer support program evaluation for youth mental health within Canada, future
 529 research should aim to include exploring completed evaluations in detail through consultations from other countries. The results of
 530 the consultations are based on a small sample of stakeholders that is not representative of all stakeholders across Canadian
 531 jurisdictions. Additionally, despite their expertise in program evaluation and peer support services, stakeholders were only able to
 532 speak to the organizations that they represented. The responses may not reflect all peer support programs and evaluation processes
 533 available in Canada. Program users or workers were not contacted for consultation, and therefore results are only representative of
 534 people involved at the organizational level. However, program user and worker insights on peer support programs for youth mental
 535 health were explored in the Peer Support Youth Advisors' Experiences component of this HTA which also highlighted some user and
 536 worker perspectives on program evaluation. Information on the clinical evidence supporting peer support programs for youth mental
 537 health was not collected as part of this ES. The clinical evidence supporting peer support programs for youth mental health was
 538 evaluated in the Clinical Review component of this HTA.

539 The limited literature search identified 2 reports that outlined evaluations for peer support program for youth mental health. One of
 540 the identified reports was based in Canada; however, it did not provide details regarding the evaluation findings and instead focused
 541 on the methods used for program evaluation. Additionally, the second identified report did provide findings of the program evaluation,
 542 but since this report was based in the UK these findings are not of interest for this ES.

543 Considering these limitations, not all peer support program evaluations for youth mental health that are available in Canada were
 544 identified by this ES. As a result, it is likely that the information presented is not comprehensive and representative of all
 545 organizations that offer peer support services for youth mental health in Canada. Further research would be required to have a
 546 complete working knowledge of all program evaluation considerations for peer support programs across Canada.

547 Summary of Program Evaluation Methods

548 The purpose of this ES is to address decision makers' need for information around how to evaluate peer support programs for youth
 549 mental health in Canada. To help inform these needs, we conducted a limited literature search and targeted stakeholder
 550 consultations to collect information related to understanding the characteristics, methods, and findings of completed evaluations in
 551 Canada. We identified 2 reports from the literature search were identified, and conducted 7 stakeholder consultations which included
 552 representatives from organizations that offer peer support programs for youth mental health in British Columbia, Manitoba, Ontario,
 553 and New Brunswick. The consultations were conducted with individuals that represent various organizations across Canada that
 554 offer peer support services for youth mental health.

555 The findings from the literature and stakeholder consultations outline how evaluation of peer support programs in Canada is
 556 heterogenous mainly due to a lack of formal guidance and diversity stemming from adapting practices that meet the needs of the
 557 individuals and program contexts. However, across programs, we identified some commonalities in the methods and approaches
 558 used to conduct evaluations. These commonalities include the principle of practice-based evidence (i.e., the process of measuring
 559 and tracking real world practice to inform an evaluation that is tailored to the needs and realities of the program) ; a focus on
 560 evaluation that adheres to a recovery-model of care; involving youth in the design and conduct of evaluation (co-design approach);
 561 and addressing the needs of the youth involved in the program through evaluation.

562 We found various methods of data collection and analysis in the literature and through consultations. The most common approach for
 563 data collection is through surveys, either designed on an individual basis or shaped after other guiding resources like the C-PROM.
 564 In addition, findings from the literature and some consultations highlighted other methods used for data collection like one-on-one
 565 interviews, focus groups, and follow-up case studies. Some programs from the consultations identified the need for external

566 resourcing for data analysis and interpretation. Analysis of the evaluation data to determine the impact of the program was completed
567 either by collecting and assessing data at one timepoint or at multiple timepoints.

568 We identified and categorized a number of program evaluation outcomes. These include recovery-oriented, individual outcomes,
569 program outcomes, and system-level outcomes. There was a large amount of overlap between recovery-oriented outcomes and
570 individual outcomes. A few programs measured outcomes related to the program itself or the system (e.g., health care resource use).
571 These latter outcomes are often measured to address the priorities of program decision makers or funders, which might not always
572 align with the those of the programs. This divergence highlighted the competing objectives of program evaluation as a tool to address
573 the needs of the youth, the program and organization, and the funders.

574 Considerations for equity within program evaluations for youth peer support program were sought during consultations.
575 Representatives from across organizations were able to share if and/or how equity is considered during program evaluations. It is
576 evident that there is a special interest in providing an experience for youth that is rooted in equity. Representatives shared examples
577 of how equity may be considered, such as providing transparency in the data collection and methods used in program evaluation,
578 ensuring safety of the individuals by removing potential identifiers within the evaluation, ensuring that participation in evaluation is
579 optional, and prioritizing the voice of the youth involved in the program to help guide evaluation. It was also noted that building a
580 process for equitable resourcing in programs and evaluation must be done through a continual relationship with communities which
581 demands proper time allocation and resourcing.

582 Finally, we presented findings from one completed program evaluation that was shared through consultations. These findings were
583 related to the evaluation of peer support workers recruitment and training, and implementation of a youth peer support pilot project,
584 and included recommendations for future programming that were informed by the evaluation.⁷⁵ Findings from the limited literature
585 search and other resources shared through consultations cannot be presented because they were either unavailable or out of scope.

586

Discussion

587

588 When considering adopting or implementing peer support programs for youth mental health, decision makers requested evidence of
589 the effectiveness and safety of peer support for youth mental health. This included interest in evidence on the impact of peer support
590 on health care service utilization.

591 We conducted a systematic review to assess the clinical effectiveness and safety of formal peer support programs for youth mental
592 health to address these needs. Our main finding is that, based on the available evidence, the comparative clinical benefits and harms
593 of peer support programs for youth's mental health are uncertain due to serious concerns about risk of bias, inconsistency (or lack of
594 evidence of consistency), indirectness, and imprecision. We identified 2 RCTs and found that peer support may be favoured over no
595 peer support in improving one's attitudes to disclosure of mental illness, distress related to that disclosure, and help-seeking
596 behaviour; however, due to the limited quantity and quality of evidence, the evidence does not provide a reliable indication of the
597 likely treatment effect. We did not identify any relevant clinical literature describing the safety of peer support programs compared to
598 interventions without peer support.

599 As peer support is based on a recovery-oriented model of mental health,^{3,13} we prioritized recovery-oriented outcomes. Recovery is
600 an ongoing process to regain a meaningful life even with persisting symptoms, is unique for each individual and depends on one's
601 family and community connections, social and economic circumstances, and on their individual identity. Outcomes that measure
602 recovery focus on a holistic improvement in an individual's quality of life through increased social connections and emphasize
603 resilience and control over one's own life.⁷⁹ Recovery was consistently brought up as the most important outcome or goal of peer
604 support by program representatives and peer support youth advisors. The peer support youth advisors we spoke with all agreed that
605 recovery-oriented outcomes [i.e., peer journey and relationship to recovery (e.g., community integration, overall fulfillment, emotional
606 regulation, empowerment, education, employment, and social connections)] were central to their experiences with peer support.
607 Additionally, they explained that recovery is not a finite outcome, rather, it is a subjective or personal journey whereby they
608 continuously make positive movements in their own life. One advisor shared that youth are accepting that they may reach a point
609 where they are not getting better or worse, but rather, are maintaining their mental health through peer support. Moreover, as
610 recovery is a process, it points to the benefits of outcomes being measured over time (i.e., not at a single point).

611 In our systematic review, we considered recovery-oriented outcomes including self-efficacy, HRQoL, personal empowerment as well
612 as reduction of self-stigma. The HOP and HOP-C programs studied in the included RCTs were designed to help lower participants'
613 self-stigma about mental illness and to help them make decisions about disclosing their mental health condition. Through peer
614 support workers with lived experience of mental health challenges, participants received guidance and tools for navigating self-
615 stigma and distress. The peer support youth advisors we spoke to similarly emphasized how stigma is very important and tied to
616 personal recovery.

617 Formal peer support programs can focus on or support different aspects of recovery, whether reducing stigma, improving access to
618 other mental health care, or transitioning to community living

619 Our systematic review did not find any information relating to the safety of peer support programs for youth peer support users.
620 However, issues related to safety were raised by our peer support youth advisors who had experiences as workers. They spoke of
621 the importance of setting professional boundaries between peer support service users and workers, for example, finding a balance
622 between being easily accessible to service users via their professional phone and being able to turn it off. They also spoke about the
623 need for a space where they can connect and have an opportunity to reaffirm that they know what they are doing. "The infrastructure
624 of peer support is often an afterthought about how it will help someone coming into this role – what are their needs going to be? How
625 will this peer have a community of like peers so they're not isolated? How are we building community? Supervision? A processing
626 space? A place for them to ask questions? A place to say 'I'm not doing well?'" This points to the need for sustained recognition that
627 youth peer support workers are themselves in recovery and may need support themselves. There are potential risks to youth peer
628 support users and workers if appropriate training and supports are not carefully considered, developed, and integrated in advance
629 into the peer support program, including the delivery of safe care. These risks can potentially lead to staff burnout and inadvertently

630 affect the youth who use the service. Taken as a whole, it highlights the benefits of formal, structured, peer support programs that
631 involve trained peer support workers and an organization that supports them.

632 Recognizing that our review found that the overall treatment effect of peer support is uncertain, our peer support youth advisors
633 described the benefits of peer support programs in terms of providing accessible mental health support. They expressed that peer
634 support can be a first point of contact for a lot of youth, and it can be easier to approach peers and ask where to be referred.
635 Moreover, peer support services are perceived as convenient and accessible, and offer a low barrier, low commitment service.
636 Importantly, peer support provides an environment where youth peer support advisors described feeling safe and comfortable.

637 They shared that it was easier opening up to and speaking with peers about their mental health because of their shared lived
638 experience. For the peer support youth advisors we spoke with, this meant that they felt the peer support workers had similar
639 experiences to them, which made it easier for them to relate and understand where they were coming from. This ability to relate and
640 normalize lived experiences with mental health challenges and reduced stigma. They noted that it was not as easy to open up to
641 clinical therapists. One said that some youth have had bad experiences in the psychiatry sector, so peer support may feel safer for
642 them. Similarly, many program representatives noted that youth are more likely to engage with mental health care through informal
643 practices like peer support, rather than those offered in a clinical setting like formal psychology. One advisor described how they did
644 not feel comfortable discussing suicidal ideation openly in a clinical setting, for fear that it might be alarming to their care provider,
645 but felt comfortable doing so with a peer who was candid about their own experiences and who normalized them. Youth peer
646 support advisors we spoke with consistently articulated how much they valued peer support and how it played an important role in
647 their recovery.

648 While our review did not evaluate different modalities of delivering peer support, one youth peer support advisor explained that in
649 rural communities, youth seeking in-person support may know people working in centres. As a result, they may not feel comfortable
650 sharing sensitive information about themselves for fear of it getting back to their parents or others in their small community. While
651 this may lead them to not use in-person services, it can also mean they may prefer to access virtual services that are removed from
652 their community. Some spoke about the convenience of virtual services and how it facilitates the sharing of resources electronically.
653 Similarly, it allows some programs to broaden their reach and provide access to youth who live in rural or remote areas. However, it
654 is not without its limitations, as individuals without access to Internet cannot access some peer support services. In-person support
655 can help bridge that gap: peer support youth advisors spoke about peer support workers meeting youth in person (e.g., drop-in, by
656 appointment, or meeting in the community), and the value in being reachable via a cell phone provided by the peer support program.

657 There may be a role for peer support in reducing inappropriate mental health care, but it may also result in increased access to
658 appropriate mental health care, which in some contexts may include emergency department visits and hospitalizations. Increased
659 health care resource use may be an indicator that peer support is working (i.e., youth are seeking treatment of underlying mental
660 health conditions due to reduced stigma and increased self-efficacy). Indeed, our stakeholder engagements and consultations with
661 peer support youth advisors similarly highlighted the significance of contextualizing resource utilization outcomes in light of the
662 overarching recovery-oriented aims of peer support. Studies looking at peer support for adult mental health often include a reduction
663 in emergency department use or hospitalizations as evidence of the effectiveness of peer support.²⁹ This is premised on individuals
664 becoming engaged in the process of recovery and improving their ability to cope, through peer support, resulting in less need to
665 access crisis mental health care (ED visits), or experiencing less severe symptoms leading to fewer inpatient stays (hospitalizations).
666 The ED is typically recognized as an inappropriate setting for mental health care, particularly when used repeatedly.^{80,81} However,
667 with the fragmentation of mental health services in many parts of Canada,^{82,83} it may be the only accessible point of contact for some
668 youth in crisis. Thus, careful interpretation is required when considering the complicated relationship between peer support programs
669 and health care resource use.

670 To inform decisions around designing evaluations of peer support programs, we conducted a scan of methods for and evaluations of
671 peer support programs. Among our key findings is that despite some shared methods and practices across organizations, overall, the
672 field is diverse with a lack of standardization and formal guidance for methods for evaluating peer support. Organizations often draw
673 on the principles of recovery and involve youth (both peer workers and peer users) in their evaluations, but they often design them
674 independently, contributing to variation across evaluations. It is good practice for evaluations to take the local program context into
675 account – this includes the aims of the evaluation, the youth involved, and the needs of the local program.

676 Several program representatives described how they sought to balance the benefits of formalizing and standardizing peer support
677 programs and their evaluation with the informal and flexible nature of peer support which is central to its integrity as an intervention.
678 While our respondents were all representatives of formal peer support programs, they expressed worries that increasing pressures
679 to formalize programs and evaluation could impact the fidelity of the peer support being delivered. However, these risks appear to be
680 outweighed by the positive dimensions of standardizing some aspects of peer support (through program design including training of
681 peer support workers).

682 Despite the lack of standardization and reasons why it may not be beneficial, evaluations could rely on and aim to refine best
683 practices that are common across program evaluation efforts. These include evaluating programs based on the recovery model,
684 designing and implementing evaluation through co-design processes involving youth, addressing the needs of the program's youth,
685 and ensuring participant safety through transparency.

686 Amongst the program representatives we spoke with, a shared principle guiding evaluations of peer support programs was adhering
687 to a recovery-oriented model of care. This meant that most evaluations included some form of recovery-oriented outcomes and
688 looked at how a program supported a youth's recovery. Program representatives highlighted that recovery, being unique to the
689 individual and occurring in the context of a program's specific set of aims or objectives, can be evaluated in different ways and thus
690 can vary across programs. Based on this, it is important for evaluations of peer support programs for youth mental health to select
691 appropriate evaluation aims and outcomes based on their program's specific aims, objectives, and youth. Repeated measurements
692 over time (longitudinal measurements), and possibly adjusting the evaluation according to changes in recovery over time could help
693 to understand the impact that programs may have on individual recovery. As a flexible and tailorable intervention, the context matters
694 in assessing its impact, highlighting the need for context-specific evaluations and selecting recovery-oriented outcomes that are
695 consistent with the aims of the program.

696 In addition to understanding the needs of those who are engaged with the program through evaluation, a process for program
697 evaluation co-design is also encouraged. This allows participants to be involved in the design of the program evaluation to ensure
698 that the data being captured is relevant to the needs of the youth involved and can contribute to the recovery-model. This can also
699 serve to highlight or capture equity considerations within the program and evaluation process and to ensure safety and appropriate
700 cultural competency that fits the needs of the youth involved in the program. Involving youth with lived experience of peer support in
701 the co-design of the program evaluation can inform the needs of the program, to better align with and reflect the needs and identities
702 of its users. One youth peer support advisor described the role of youth involved in an evaluation as helping staff bridge to youth, by
703 ensuring the research is explained in plain language. The same advisor shared that this involvement was especially important when
704 working with an outside evaluator who did not know how the program functions, or the language used by a program.

705 Unsurprisingly, given the importance of local context, we found that organizations and programs vary in the aims and objectives of
706 their evaluations. Some programs use evaluation as an opportunity to better understand how peer support "works" (i.e., leads to
707 short and long-term improvements in youth's recovery, contributes to improved access to mental health care, and reduces
708 inappropriate mental health care). But for many programs, evaluation is used to ensure that the program is meeting the needs of the
709 youth (peer users and peer workers) and as a way of ensuring the integrity or the fidelity of the program. These evaluations often
710 focus on the experience and feedback from those involved in the program for the purpose of quality improvement, and are designed
711 for the specific purpose of the program evaluation. At the same time, evaluation is an opportunity to build an evidence-base around
712 the use of peer support for youth mental health. Regardless of the specific aim or objective of the evaluation, youth peer support
713 advisors we spoke with shared that transparency of why the evaluation was being conducted and what was being done with their
714 data were essential for their buy-in to the evaluation, again highlighting the benefits of a co-design approach to evaluation.

715 In addition to having multiple aims, programs often must balance program needs, identified needs of youth, and sometimes those of
716 the larger organization or funders. Our consultations also highlighted the challenges that may arise when the program needs do not
717 fully align with those of the larger organization or funders. In order to secure funding, program evaluation may be tailored in a way
718 that highlights the use of program outputs (e.g., number of contacts); however, this may not capture how the programs support the
719 individuals involved (i.e., quality improvement) or for understanding the mechanisms and context in which peer support works.
720 Program representatives spoke about the importance of flexibility and understanding that evaluation should primarily focus on the
721 needs of the individuals engaged in the program. Programs vary in their capacity to design and conduct evaluations of peer support
722 programs for youth, this includes methods support (e.g., data collection, analysis) and funding. Accounting for the resources needed

723 to conduct evaluations in funding agreements is another avenue that can be used to support advancements in evaluating peer
724 support programs.

725 Equity in peer support programs requires recognizing the existing inequitable distribution of poor mental health amongst youth who
726 are systematically disadvantaged,⁶ and the need for equitable access to inclusive and desirable peer support programs for these
727 youth.⁸⁴ In our clinical systematic review, we aimed to identify specific groups of disadvantaged youth who experience an inequitable
728 burden of mental health challenges and access to inclusive mental health services using [PROGRESS-Plus](#),²³ the available published
729 and grey literature on peer support, discussions with clinical and content experts, and through existing descriptions of peer support
730 programs explicitly designed to target or serve disadvantaged youth. These groups of youth include but are not
731 limited to youth members of the 2SLGBTQ+ community, Metis and Indigenous youth, Black youth and youth of Colour, youth
732 members of newcomer communities, youth experiencing homelessness or street involvement, youth with disabilities, and youth living
733 in rural and remote communities. The trials included in the systematic review of clinical effectiveness were predominantly conducted
734 among white, heterosexual, female young individuals. We did not identify any information on subgroups based on PROGRESS-Plus
735 factors.

736 While our systematic review could not contribute to our understanding about the role of equity in peer support in terms of
737 effectiveness and safety, our engagement with youth peer support advisors pointed to some ways equity might impact the
738 effectiveness and safety of peer support programs. One peer support advisor described how a lack of shared lived experience or
739 understanding of racism and discrimination is a barrier to peer support: “They don’t understand anything I’m going through. I need to
740 explain this whole backstory about colourism and racism. If they don’t understand that, it sometimes feels like it’s not even worth the
741 effort to go see them.”

742 During recruitment and training of youth peer support workers, programs have the opportunity to ensure they can meet the needs of
743 youth and provide culturally competent support to positively influence the experience of the peer support user. One example of this
744 was outlined during consultation with Foundry Central Office, where a process for developing and including a justice, equity, diversity,
745 and inclusion (JEDI) lens across the organization was described.

746 Equity was raised as a concern in most peer support programs and in their evaluation processes, even as the definitions and
747 approaches used varied. Youth peer support advisors and program representatives shared that equity ensures that all youth are able
748 to access the service. Peer support youth advisors expressed wanting to see peer supporters who are chronically ill or disabled, who
749 are part of the 2SLGBTQ+ community, who have experienced homelessness, and others from marginalized or disadvantaged
750 populations. “There are so many intersections, that often, some are missed.” They desired to see representation in all aspects of
751 peer support programs, including involving youth in the design and evaluation of peer support programs.

752 As equity is an integral concept to peer support programs, it also needs to be integral to the evaluation approach and cannot be
753 an add-on at the point of evaluation. Involving youth with lived experience of peer support in the co-design of the program evaluation
754 can inform the needs of the program and to better align with and reflect the needs and identities of its users. Instead of seeking only
755 the perspectives of professionals, through evaluation co-design, programmers can also rely on the voice of the youth involved to
756 identify and address gaps in equity. For programs to address equity concerns and be culturally competent, program leaders and staff
757 should aim to prioritize the appropriate resources and time and continuously build on-going relationships with communities.

758 **Conclusions and Implications for Decision- or Policy-Making**

759 The findings of this review highlight opportunities to build an evidence base around peer support programs for youth mental health. In
760 this process, youth should be engaged, drawing on the principles of co-design. Peer support is context-dependent and programs
761 often need to balance broader organizational aims with the needs of the local youth they are serving. Further, peer support is often
762 one of many services offered by organizations and programs, and thus needs to be evaluated in light of a multicomponent
763 intervention. Evaluation designs need to consider recovery-oriented outcomes that align with the program’s objectives measured
764 over time. Developing an evidence ecosystem around peer support for youth mental health care could be achieved by further
765 strategic investments in pilot programs and their evaluations, funding arrangements that incentivize evaluation, and encouraging on-
766 going collaboration across the sector and with the academic and non-for-profit research community.

767 With investments being made in youth mental health, peer support could be an option for improving access to mental health care for
768 youth despite the limited evidence of its clinical effectiveness and safety. Formal programs with trained and supported peer support
769 workers may mitigate some safety concerns (for both peer support users and peer support workers) and maximize the mechanism
770 upon which peer support is theorized as working. Peer support is placed to be an intervention that improves access to mental health
771 services by being informal, flexible and portable, and addresses some of the barriers that typically face youth when trying to access
772 mental health care. In order for programs to be inclusive, that is, accessible to and effective in supporting the recovery of
773 disadvantaged youth, training and recruitment of diverse and disadvantaged youth is necessary. Equity cannot be an ad hoc effort or
774 an add-on to a program service, but is best integrated into peer support programs and requires time and commitment. e.
775 Opportunities for engaging youth can advance equity, diversity and inclusion initiatives.

DRAFT

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979
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981 **Appendix 1: Literature Search Strategy**

982

983 **Clinical Literature Search**

984 **Overview**

985 **Interface:** Ovid

986 **Databases**

- 987 ▪ MEDLINE All (1946-present)
- 988 ▪ Embase (1974-present)
- 989 ▪ PsycInfo (1806-present)

990 Note: Subject headings and search fields have been customized for each database. Duplicates between databases were
991 removed in Ovid.

992 **Date of search:** December 17, 2021

993 **Alerts:** Biweekly search updates until project completion

994 **Search filters applied:** Systematic reviews; meta-analyses; network meta-analyses; health technology assessments; overview of
995 reviews; randomized controlled trials; controlled clinical trials; observational studies.

996 **Limits**

- 997 ▪ Publication date limit: 2006-present
- 998 ▪ Language limit: English- and French-language
- 999 ▪ Conference abstracts: excluded

2000 **Table 7: Syntax Guide**

Syntax	Description
/	At the end of a phrase, searches the phrase as a subject heading
MeSH	Medical Subject Heading
.fs	Floating subheading
exp	Explode a subject heading
*	Before a word, indicates that the marked subject heading is a primary topic; or, after a word, a truncation symbol (wildcard) to retrieve plurals or varying endings
#	Truncation symbol for one character
?	Truncation symbol for one or no characters only
adj#	Requires terms to be adjacent to each other within # number of words (in any order)
.ti	Title
.ot	Original title

Syntax	Description
.ab	Abstract
.hw	Heading word; usually includes subject headings and controlled vocabulary
.kf	Keyword heading word
.dq	Candidate term word (Embase)
.pt	Publication type
.mp	Mapped term
.rn	Registry number
.nm	Name of substance word (MEDLINE)
.yr	Publication year
.jw	Journal title word (MEDLINE)
.jx	Journal title word (Embase)
freq=#	Requires terms to occur # number of times in the specified fields
medall	Ovid database code: MEDLINE All, 1946 to present, updated daily
oomezd	Ovid database code; Embase, 1974 to present, updated daily
psyh	Ovid database code; APA PsycInfo, 1806 to present, updated daily

Multi-Database Strategy

Searches

1 Peer group/

2 ((Peer* or mentor*) adj2 (support* or relationship* or help* or intervention* or network* or discussion* or service* or program* or club* or based or coach* or counsel* or exchange* or guide* or group* or influence* or led or deliver* or education or involve* or advocate* or communication* or center* or centre* or lead* or model* or worker* or specialist* or run or partner* or provided or role* or interaction* or driven or advice or assistance or facilitat* or consult*)).ti,kf,dq.

3 ((Peer* or mentor*) adj1 (support* or relationship* or help* or intervention* or network* or discussion* or service* or program* or club* or based or coach* or counsel* or exchange* or guide* or group* or influence* or led or deliver* or education or involve* or advocate* or communication* or center* or centre* or lead* or model* or worker* or specialist* or run or partner* or provided or role* or interaction* or driven or advice or assistance or facilitat* or consult*)).ab. /freq=2

4 Peer* support*.ab,dq.

5 (peer* to peer* or peer mentor*).ti,ab,kf,dq.

- 2015 6 ((individual* or peer* or mentor*) adj4 lived experience*).ti,ab,kf,dq.
- 2016 7 or/1-6
- 2017 8 mental health care/ or mental health service/ or mental health/ or mental disease/ or adjustment disorder/ or alexithymia/ or
 2018 exp anxiety disorder/ or complicated grief/ or exp dissociative disorder/ or exp emotional disorder/ or exp experimental
 2019 mental disease/ or hikikomori/ or exp mental deficiency/ or mental infantilism/ or mental instability/ or mental
 2020 overstimulation/ or exp mood disorder/ or exp neurosis/ or organic brain syndrome/ or organic psychosyndrome/ or exp
 2021 personality disorder/ or psychiatric complication/ or exp psychosexual disorder/ or exp psychosis/ or exp psychosomatic
 2022 disorder/ or exp psychotrauma/ or exp schizophrenia spectrum disorder/ or stupor/ or exp suicidal behavior/ or exp eating
 2023 disorder/
- 2024 9 (mental disorder* or mental health or mental disease* or mental illness* or posttraumatic or PTSD or PTD or trauma* or
 2025 psychiatric illness* or psychiatric disease* or psychiatric disorder* or psychotic disorder* or psychiatric diagnos?s or behavio?r
 2026 disorder* or mood disorder* or affective disorder* or psychological disorder* or psychological disease* or psychological illness*
 2027 or psychological diagnos?s).ti,ab,kf,dq.
- 2028 10 (anxiety or depress* or panic disorder* or neuroses or neurosis or neurotic or bipolar or schizophreni* or personality disorder*
 2029 or psychosis or anorexia or eating disorder* or bulimia).ti,ab,kf,dq.
- 2030 11 (suicid* or parasuicid*).ti,ab,kf,dq.
- 2031 12 (self adj2 (injur* or mutilat* or inflict* or wound* or harm* or cut* or hurt* or destruct* or wound*)).ti,ab,kf,dq.
- 2032 13 or/8-12
- 2033 14 Young adult/
- 2034 15 Juvenile/
- 2035 16 Adolescent/
- 2036 17 (child* or paediatric* or pediatric* or girl* or boy* or kid* or teen* or tween* or youngster* or youth* or preteen* or adolescen*
 2037 or school age* or preadolescenc* or juvenile* or young adult* or young people* or young person* or student* or early adult* or
 2038 emerging adult* or college* or universit* or high school* or post secondary or postsecondary or classmate* or class
 2039 mate*).ti,ab,kf,dq.
- 2040 18 young.ti,kf.
- 2041 19 or/14-18
- 2042 20 7 and 13 and 19
- 2043 21 (Peer* and mental*).ti.
- 2044 22 20 or 21
- 2045 23 22 not (conference abstract or conference review).pt.
- 2046 24 23 use oemezd
- 2047 25 exp Peer group/
- 2048 26 ((Peer* or mentor*) adj2 (support* or relationship* or help* or intervention* or network* or discussion* or service* or
 2049 program* or club* or based or coach* or counsel* or exchange* or guide* or group* or influence* or led or deliver* or education

- 2050 or involve* or advocate* or communication* or center* or centre* or lead* or model* or worker* or specialist* or run or partner*
 2051 or provided or role* or interaction* or driven or advice or assistance or facilitat* or consult*).ti,kf.
- 2052 27 ((Peer* or mentor*) adj1 (support* or relationship* or help* or intervention* or network* or discussion* or service* or
 2053 program* or club* or based or coach* or counsel* or exchange* or guide* or group* or influence* or led or deliver* or education
 2054 or involve* or advocate* or communication* or center* or centre* or lead* or model* or worker* or specialist* or run or partner*
 2055 or provided or role* or interaction* or driven or advice or assistance or facilitat* or consult*).ab. /freq=2
- 2056 28 Peer* support*.ab.
- 2057 29 (peer* to peer* or peer mentor*).ti,ab,kf.
- 2058 30 ((individual* or peer* or mentor*) adj4 lived experience*).ti,ab,kf.
- 2059 31 or/25-30
- 2060 32 Mental health/ or exp Mental health services/ or exp Community Mental Health Centers/ or Mental health recovery/ or Mentally
 2061 Ill Persons/
- 2062 33 mental disorders/ or exp anxiety disorders/ or exp "bipolar and related disorders"/ or exp "disruptive, impulse control, and
 2063 conduct disorders"/ or exp dissociative disorders/ or exp elimination disorders/ or exp "feeding and eating disorders"/ or exp
 2064 mood disorders/ or motor disorders/ or neurotic disorders/ or exp paraphilic disorders/ or exp personality disorders/ or exp
 2065 "schizophrenia spectrum and other psychotic disorders"/ or exp sexual dysfunctions, psychological/ or exp sleep wake
 2066 disorders/ or exp somatoform disorders/ or exp "trauma and stressor related disorders"/ or depression/ or Schizophrenia,
 2067 Childhood/ or Anxiety, Separation/ or exp Self-Injurious Behavior/
- 2068 34 (mental disorder* or mental health or mental disease* or mental illness* or posttraumatic or PTSD or PTD or trauma* or
 2069 psychiatric illness* or psychiatric disease* or psychiatric disorder* or psychotic disorder* or psychiatric diagnos?s or behavio?r
 2070 disorder* or mood disorder* or affective disorder* or psychological disorder* or psychological disease* or psychological illness*
 2071 or psychological diagnos?s).ti,ab,kf.
- 2072 35 (anxiety or depress* or panic disorder* or neuroses or neurosis or neurotic or bipolar or schizophreni* or personality disorder*
 2073 or psychosis or anorexia or eating disorder* or bulimia).ti,ab,kf.
- 2074 36 (suicid* or parasuicid*).ti,ab,kf.
- 2075 37 (self adj2 (injur* or mutilat* or inflict* or wound* or harm* or cut* or hurt* or destruct* or wound*).ti,ab,kf.
- 2076 38 or/32-37
- 2077 39 Adolescent/ or Young adult/ or Pediatrics/
- 2078 40 (child* or paediatric* or pediatric* or girl* or boy* or kid* or teen* or tween* or youngster* or youth* or preteen* or adolescen*
 2079 or school age* or preadolescenc* or juvenile* or young adult* or young people* or young person* or student* or early adult* or
 2080 emerging adult* or college* or universit* or high school* or post secondary or postsecondary or classmate* or class
 2081 mate*).ti,ab,kf.
- 2082 41 young.ti,kf.
- 2083 42 or/39-41
- 2084 43 31 and 38 and 42
- 2085 44 (Peer* and mental*).ti.
- 2086 45 43 or 44

- 2087 46 45 use medall
- 2088 47 Peers/
- 2089 48 Peer counseling/
- 2090 49 Peer relations/
- 2091 50 ((Peer* or mentor*) adj2 (support* or relationship* or help* or intervention* or network* or discussion* or service* or
2092 program* or club* or based or coach* or counsel* or exchange* or guide* or group* or influence* or led or deliver* or education
2093 or involve* or advocate* or communication* or center* or centre* or lead* or model* or worker* or specialist* or run or partner*
2094 or provided or role* or interaction* or driven or advice or assistance or facilitat* or consult*)).ti,id.
- 2095 51 ((Peer* or mentor*) adj1 (support* or relationship* or help* or intervention* or network* or discussion* or service* or
2096 program* or club* or based or coach* or counsel* or exchange* or guide* or group* or influence* or led or deliver* or education
2097 or involve* or advocate* or communication* or center* or centre* or lead* or model* or worker* or specialist* or run or partner*
2098 or provided or role* or interaction* or driven or advice or assistance or facilitat* or consult*)).ab. /freq=2
- 2099 52 Peer* support*.ab.
- 2100 53 (peer* to peer* or peer mentor*).ti,ab,id.
- 2101 54 ((individual* or peer* or mentor*) adj4 lived experience*).ti,ab,id.
- 2102 55 or/47-54
- 2103 56 exp Mental health/
- 2104 57 exp Mental health services/
- 2105 58 mental disorders/ or exp affective disorders/ or exp anxiety disorders/ or exp bipolar disorder/ or borderline states/ or exp
2106 chronic mental illness/ or exp dissociative disorders/ or exp eating disorders/ or gender dysphoria/ or mental disorders due to
2107 general medical conditions/ or exp neurosis/ or exp paraphilias/ or exp personality disorders/ or exp psychosis/ or serious
2108 mental illness/ or exp sleep wake disorders/ or exp somatoform disorders/ or exp "stress and trauma related disorders"/ or exp
2109 thought disturbances/
- 2110 59 exp suicide/
- 2111 60 Suicidal ideation/
- 2112 61 exp Self-Injurious Behavior/
- 2113 62 (mental disorder* or mental health or mental disease* or mental illness* or posttraumatic or PTSD or PTD or trauma* or
2114 psychiatric illness* or psychiatric disease* or psychiatric disorder* or psychotic disorder* or psychiatric diagnos?s or behavio?r
2115 disorder* or mood disorder* or affective disorder* or psychological disorder* or psychological disease* or psychological illness*
2116 or psychological diagnos?s).ti,ab,id.
- 2117 63 (anxiety or depress* or panic disorder* or neuroses or neurosis or neurotic or bipolar or schizophreni* or personality disorder*
2118 or psychosis or anorexia or eating disorder* or bulimia).ti,ab,id.
- 2119 64 (suicid* or parasuicid*).ti,ab,id.
- 2120 65 (self adj2 (injur* or mutilat* or inflict* or wound* or harm* or cut* or hurt* or destruct* or wound*)).ti,ab,id.
- 2121 66 or/56-65

- 2122 67 ("200" or "320").ag.
- 2123 68 Adolescent Attitudes/ or Adolescent Behavior/ or Adolescent Health/ or Adolescent Development/ or Adolescent Psychology/
2124 or Early Adolescence/ or Adolescent Psychiatry/ or Adolescent Psychotherapy/ or Adolescent psychopathology/ or Emerging
2125 adulthood/ or Childhood development/
- 2126 69 (child* or paediatric* or pediatric* or girl* or boy* or kid* or teen* or tween* or youngster* or youth* or preteen* or adolescen*
2127 or school age* or preadolescen* or juvenile* or young adult* or young people* or young person* or student* or early adult* or
2128 emerging adult* or college* or universit* or high school* or post secondary or postsecondary or classmate* or class
2129 mate*).ti,ab,id.
- 2130 70 young.ti,id.
- 2131 71 or/67-70
- 2132 72 55 and 66 and 71
- 2133 73 (Peer* and mental*).ti.
- 2134 74 72 or 73
- 2135 75 74 use psych
- 2136 76 24 or 46 or 75
- 2137 77 (systematic review or meta-analysis).pt.
- 2138 78 meta-analysis/ or systematic review/ or systematic reviews as topic/ or meta-analysis as topic/ or "meta analysis (topic)" / or
2139 "systematic review (topic)" / or exp technology assessment, biomedical/ or network meta-analysis/
- 2140 79 ((systematic* adj3 (review* or overview*)) or (methodologic* adj3 (review* or overview*))).ti,ab,kf.
- 2141 80 ((quantitative adj3 (review* or overview* or synthes*)) or (research adj3 (integrati* or overview*))).ti,ab,kf.
- 2142 81 ((integrative adj3 (review* or overview*)) or (collaborative adj3 (review* or overview*)) or (pool* adj3 analy*).ti,ab,kf.
- 2143 82 (data synthes* or data extraction* or data abstraction*).ti,ab,kf.
- 2144 83 (handsearch* or hand search*).ti,ab,kf.
- 2145 84 (mantel haenszel or peto or der simonian or dersimonian or fixed effect* or latin square*).ti,ab,kf.
- 2146 85 (met analy* or metanaly* or technology assessment* or HTA or HTAs or technology overview* or technology appraisal*).ti,ab,kf.
- 2147 86 (meta regression* or metaregression*).ti,ab,kf.
- 2148 87 (meta-analy* or metaanaly* or systematic review* or biomedical technology assessment* or bio-medical technology
2149 assessment*).mp,hw.
- 2150 88 (medline or cochrane or pubmed or medlars or embase or cinahl).ti,ab,hw.
- 2151 89 (cochrane or (health adj2 technology assessment) or evidence report).jw.
- 2152 90 (comparative adj3 (efficacy or effectiveness)).ti,ab,kf.
- 2153 91 (outcomes research or relative effectiveness).ti,ab,kf.
- 2154 92 ((indirect or indirect treatment or mixed-treatment or bayesian) adj3 comparison*).ti,ab,kf.

- 2155 93 (meta-analysis or systematic review).md.
- 2156 94 (multi* adj3 treatment adj3 comparison*).ti,ab,kf.
- 2157 95 (mixed adj3 treatment adj3 (meta-analy* or metaanaly*).ti,ab,kf.
- 2158 96 umbrella review*.ti,ab,kf.
- 2159 97 (multi* adj2 paramet* adj2 evidence adj2 synthesis).ti,ab,kf.
- 2160 98 (multiparamet* adj2 evidence adj2 synthesis).ti,ab,kf.
- 2161 99 (multi-paramet* adj2 evidence adj2 synthesis).ti,ab,kf.
- 2162 100 or/77-99
- 2163 101 epidemiologic methods.sh.
- 2164 102 epidemiologic studies.sh.
- 2165 103 observational study/
- 2166 104 observational studies as topic/
- 2167 105 clinical studies as topic/
- 2168 106 controlled before-after studies/
- 2169 107 cross-sectional studies/
- 2170 108 historically controlled study/
- 2171 109 interrupted time series analysis/
- 2172 110 exp seroepidemiologic studies/
- 2173 111 national longitudinal study of adolescent health/
- 2174 112 cohort studies/
- 2175 113 cohort analysis/
- 2176 114 longitudinal studies/
- 2177 115 longitudinal study/
- 2178 116 prospective studies/
- 2179 117 prospective study/
- 2180 118 follow-up studies/
- 2181 119 follow up/
- 2182 120 followup studies/
- 2183 121 retrospective studies/
- 2184 122 retrospective study/

- 2185 123 case-control studies/
- 2186 124 exp case control study/
- 2187 125 cross-sectional study/
- 2188 126 observational study/
- 2189 127 quasi experimental methods/
- 2190 128 quasi experimental study/
- 2191 129 single-case studies as topic/
- 2192 130 (observational study or validation studies or clinical study).pt.
- 2193 131 (observational adj3 (study or studies or design or analysis or analyses)).ti,ab,kf,kw.
- 2194 132 cohort*.ti,ab,kf,kw.
- 2195 133 (prospective adj7 (study or studies or design or analysis or analyses)).ti,ab,kf,kw.
- 2196 134 ((follow up or followup) adj7 (study or studies or design or analysis or analyses)).ti,ab,kf,kw.
- 2197 135 ((longitudinal or longterm or (long adj term)) adj7 (study or studies or design or analysis or analyses or data)).ti,ab,kf,kw.
- 2198 136 (retrospective adj7 (study or studies or design or analysis or analyses or data or review)).ti,ab,kf,kw.
- 2199 137 ((case adj control) or (case adj comparison) or (case adj controlled)).ti,ab,kf,kw.
- 2200 138 (case-referent adj3 (study or studies or design or analysis or analyses)).ti,ab,kf,kw.
- 2201 139 (population adj3 (study or studies or analysis or analyses)).ti,ab,kf,kw.
- 2202 140 (descriptive adj3 (study or studies or design or analysis or analyses)).ti,ab,kf,kw.
- 2203 141 ((multidimensional or (multi adj dimensional)) adj3 (study or studies or design or analysis or analyses)).ti,ab,kf,kw.
- 2204 142 (cross adj sectional adj7 (study or studies or design or research or analysis or analyses or survey or findings)).ti,ab,kf,kw.
- 2205 143 ((natural adj experiment) or (natural adj experiments)).ti,ab,kf,kw.
- 2206 144 (quasi adj (experiment or experiments or experimental)).ti,ab,kf,kw.
- 2207 145 ((non experiment or nonexperiment or non experimental or nonexperimental) adj3 (study or studies or design or analysis or analyses)).ti,ab,kf,kw.
- 2208
- 2209 146 (prevalence adj3 (study or studies or analysis or analyses)).ti,ab,kf,kw.
- 2210 147 or/101-146
- 2211 148 (Randomized Controlled Trial or Controlled Clinical Trial or Pragmatic Clinical Trial or Clinical Study or Adaptive Clinical Trial
- 2212 or Equivalence Trial).pt.
- 2213 149 (Clinical Trial or Clinical Trial, Phase I or Clinical Trial, Phase II or Clinical Trial, Phase III or Clinical Trial, Phase IV or Clinical
- 2214 Trial Protocol).pt.
- 2215 150 Multicenter Study.pt.

- 2216 151 Clinical Studies as Topic/
 2217 152 exp Clinical Trial/ or exp Clinical Trials as Topic/ or Clinical Trial Protocol/ or Clinical Trial Protocols as Topic/ or exp "Clinical
 2218 Trial (topic)"/
 2219 153 Multicenter Study/ or Multicenter Studies as Topic/ or "Multicenter Study (topic)"/
 2220 154 Randomization/
 2221 155 Random Allocation/
 2222 156 Double-Blind Method/
 2223 157 Double Blind Procedure/
 2224 158 Double-Blind Studies/
 2225 159 Single-Blind Method/
 2226 160 Single Blind Procedure/
 2227 161 Single-Blind Studies/
 2228 162 Placebos/
 2229 163 Placebo/
 2230 164 Control Groups/
 2231 165 Control Group/
 2232 166 Cross-Over Studies/ or Crossover Procedure/
 2233 167 (random* or sham or placebo*).ti,ab,hw,kf,kw.
 2234 168 ((singl* or doubl*) adj (blind* or dumm* or mask*)).ti,ab,hw,kf,kw.
 2235 169 ((tripl* or trebl*) adj (blind* or dumm* or mask*)).ti,ab,hw,kf,kw.
 2236 170 (control* adj3 (study or studies or trial* or group*)).ti,ab,hw,kf,kw.
 2237 171 (clinical adj3 (study or studies or trial*)).ti,ab,hw,kf,kw.
 2238 172 (Nonrandom* or non random* or non-random* or quasi-random* or quasirandom*).ti,ab,hw,kf,kw.
 2239 173 (phase adj3 (study or studies or trial*)).ti,ab,hw,kf,kw.
 2240 174 ((crossover or cross-over) adj3 (study or studies or trial*)).ti,ab,hw,kf,kw.
 2241 175 ((multicent* or multi-cent*) adj3 (study or studies or trial*)).ti,ab,hw,kf,kw.
 2242 176 allocated.ti,ab,hw.
 2243 177 ((open label or open-label) adj5 (study or studies or trial*)).ti,ab,hw,kf,kw.
 2244 178 ((equivalence or superiority or non-inferiority or noninferiority) adj3 (study or studies or trial*)).ti,ab,hw,kf,kw.
 2245 179 (pragmatic study or pragmatic studies).ti,ab,hw,kf,kw.

- 2246 180 ((pragmatic or practical) adj3 trial*).ti,ab,hw,kf,kw.
- 2247 181 ((quasiexperimental or quasi-experimental) adj3 (study or studies or trial*)).ti,ab,hw,kf,kw.
- 2248 182 trial.ti,kf,kw.
- 2249 183 or/148-182
- 2250 184 exp animals/
- 2251 185 exp animal experimentation/
- 2252 186 exp models animal/
- 2253 187 exp animal experiment/
- 2254 188 nonhuman/
- 2255 189 exp vertebrate/
- 2256 190 animal.po.
- 2257 191 or/184-190
- 2258 192 exp humans/
- 2259 193 exp human experiment/
- 2260 194 human.po.
- 2261 195 or/192-194
- 2262 196 191 not 195
- 2263 197 183 not 196
- 2264 198 100 or 147 or 197
- 2265 199 76 and 198
- 2266 200 limit 199 to (english or french)
- 2267 201 limit 200 to yr="2006 -Current"
- 2268 202 limit 201 to yr="2006 -2014"
- 2269 203 remove duplicates from 202
- 2270 204 limit 201 to yr="2015 -current"
- 2271 205 remove duplicates from 204
- 2272 206 203 or 205

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2274 Other Databases

2275 *Cochrane Central Register of Controlled Trials*

2276 Same MeSH, keywords, and limits used as per MEDLINE search, excluding study types and human restrictions. Syntax
 2277 adjusted for Wiley platform. The search strategy is available on request.

2278 *CINAHL*

2279 Same MeSH, keywords, and limits used as per MEDLINE search, excluding study types and human restrictions. Syntax
 2280 adjusted for EBSCO platform, including the addition of CINAHL headings. The search strategy is available on request.

2281 *Scopus*

2282 Same MeSH, keywords, and limits used as per MEDLINE search, excluding study types and human restrictions. Syntax
 2283 adjusted for Scopus platform. The search strategy is available on request.
 2284

2285 **Grey Literature**

2286 **Search dates:** Jan 12 – Jan 21, 2022

2287 **Keywords:** Same MeSH, keywords, and limits used as per MEDLINE search

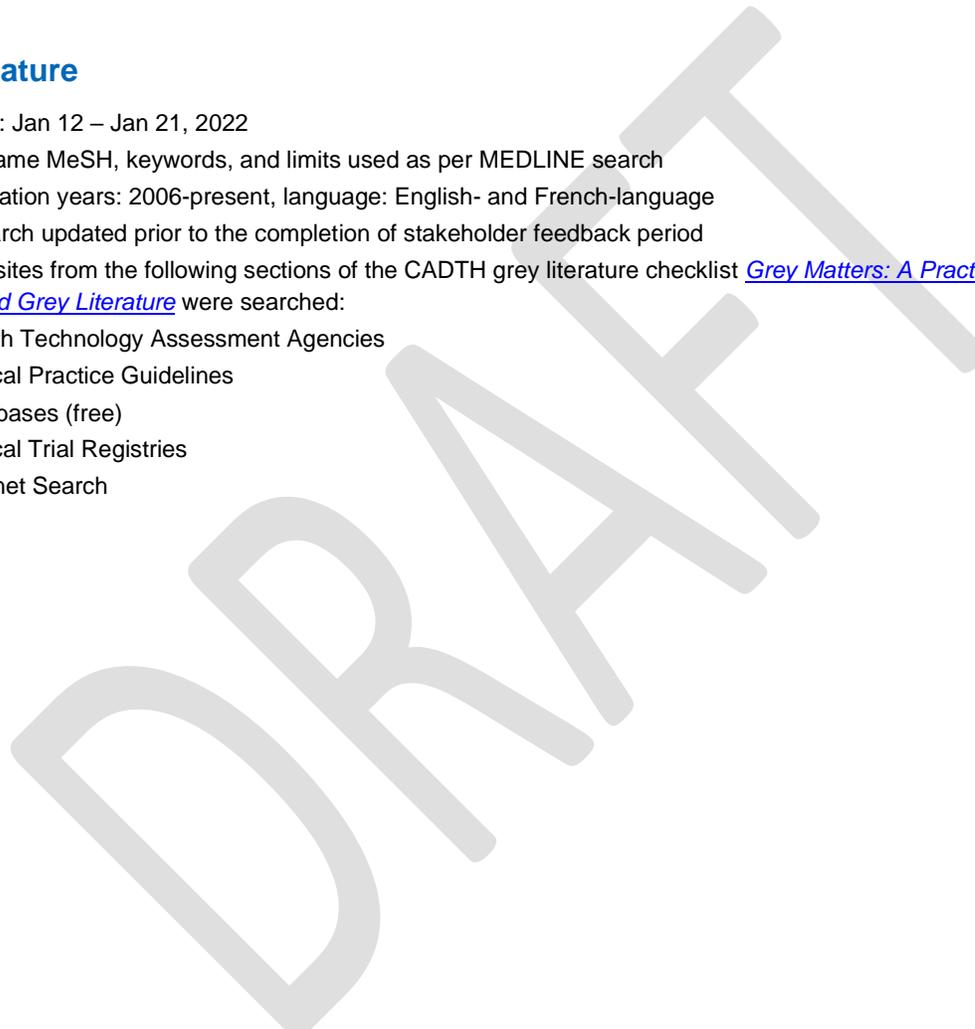
2288 **Limits:** Publication years: 2006-present, language: English- and French-language

2289 **Updated:** Search updated prior to the completion of stakeholder feedback period

2290 Relevant websites from the following sections of the CADTH grey literature checklist [Grey Matters: A Practical Tool for Searching](#)
 2291 [Health-Related Grey Literature](#) were searched:

- 2292 • Health Technology Assessment Agencies
- 2293 • Clinical Practice Guidelines
- 2294 • Databases (free)
- 2295 • Clinical Trial Registries
- 2296 • Internet Search

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 2298



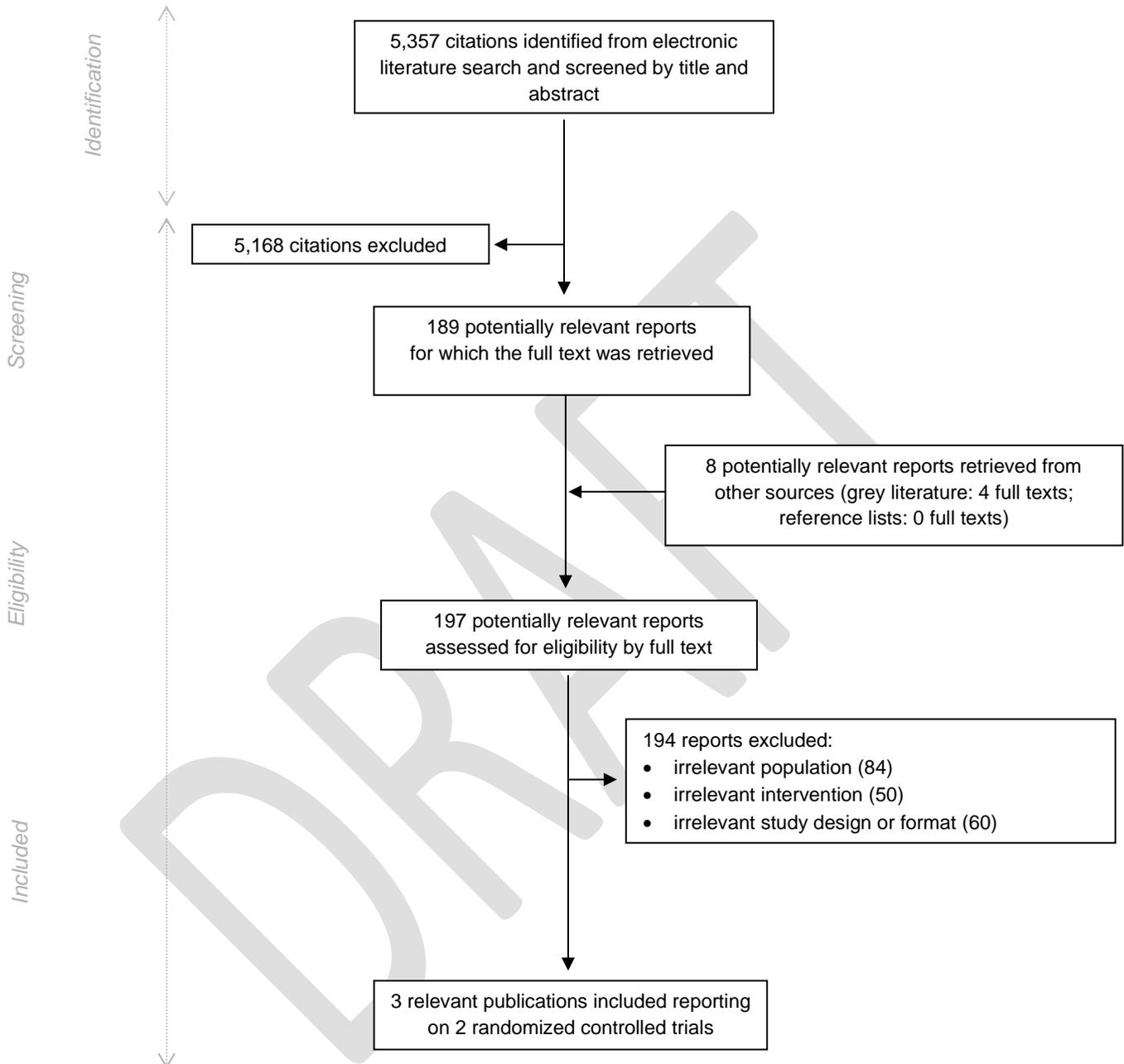
Appendix 2: Tables and Figures

Figure 1: Flowchart of Records through the Selection Process – Clinical Review

Alt text: 5,357 citations were identified in the electronic search. Following screening of titles and abstracts, 5,168 citations were excluded, and 189 potentially relevant reports were retrieved for full-text review. Eight additional reports from the grey literature were retrieved for full-text scrutiny. 194 records were excluded for various reasons while 3 publications (reporting results from 2 RCTs) are included in the review.

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2329 **Characteristics of Included Primary Trials — Clinical Review**

2330 **Table 8: Detailed Characteristics of the Included Trials**

First Author (Publication Year) ^a , Country, Source of Funding	Study design and Setting	Participant Characteristics	Intervention and Comparator	Clinical Outcomes, Length of Follow-Up
<p>Conley et al. (2020)³⁹</p> <p>Associated: Hundert et al. (2021)⁴⁰ provided a 2-month follow-up of a subset of participants (n = 55)</p> <p>United States</p> <p>Source of funding: Not reported</p>	<p><u>Study design:</u> Open-label RCT</p> <p><u>Setting:</u> Three university campuses. Participants were identified through flyers, emails, social media posts, student services offices, manned informational displays at campus</p>	<p><u>Inclusion criteria:</u> University students of age ≥ 18 years, who self-identify as having a mental health concern.</p> <p><u>Exclusion criteria:</u> None reported</p> <p><u>Study participants:</u> Number of participants, N = 118; HOP-C group, n = 63, control group, n = 55.</p> <p>% Female: 82.2%</p> <p>Mean (SD) age: HOP-C group = 20.24 (2.87) y control group = 21.35 (6.62) y</p> <p>% Race, white: 68.6%</p> <p>% Heterosexual: 66.9%</p> <p>% Clinically elevated depression: 85.5%</p>	<p><u>Intervention:</u> 'Honest, Open, Proud-College' (HOP-C), a peer-led in-person group intervention developed to empower participants with self-stigma, disclosing their mental health concerns, and to reduce mental-illness related self-stigma. The intervention comprised 2-hour core sessions weekly for 3 weeks and a booster workshop 2 to 3 weeks later.⁵⁰</p> <p>Peer facilitators were trained students who identify as living with mental health concerns. A 2-day training was provided to the peer facilitators. A manual for conducting the sessions were available to the facilitators.⁵¹</p>	<p>Self-stigma (SSMIS-SF); Stress and coping (Stigma Stress Scale); self-efficacy about disclosure (single item); depression symptoms (CESD 10); anxiety symptoms (GAD-7); no safety outcomes were reported</p> <p>Effectiveness outcomes were assessed at baseline (T0), after core sessions (post-intervention, T1), and after the booster session (post-booster, T2).³⁹ An additional assessment 5 weeks after the booster session (2 months after core sessions) was conducted in a subset of participants for the follow-up analysis.⁴⁰</p>

First Author (Publication Year) ^a , Country, Source of Funding	Study design and Setting	Participant Characteristics	Intervention and Comparator	Clinical Outcomes, Length of Follow-Up
		<p>% Clinically elevated anxiety: 69.2 %</p>	<p><u>Comparator:</u> Waitlist control</p>	
<p>Mulfinger et al. (2018)⁴⁹</p> <p>Germany</p> <p>Source of funding: Nachwuchsakademie Versorgungsforschung Baden-Württemberg and the Otto-Kreassbohrer Foundation</p>	<p><u>Study design:</u> Open-label RCT</p> <p><u>Setting:</u> Participants recruited from 4 sites: 3 departments of child and adolescent psychiatry (in patient wards, day clinics and outpatient clinics) and an independent psychiatry outpatient clinic. Recruitment period May 2016 to February 2017.</p>	<p><u>Inclusion criteria:</u> Adolescents aged 13 to 18 years with at least one self-reported current axis-I or axis-II disorder, and a moderate (or severe) level of self-reported disclosure-related distress.</p> <p><u>Exclusion criteria:</u> Intellectual disability, diagnosis of substance or alcohol disorder in the absence of a non-substance related psychiatric disorder, organic disorder</p> <p><u>Study participants:</u> Number of participants, N = 98; HOP group, n =49; Control group, n =49</p> <p>% female: 67% (HOP group), 71% (control group)</p>	<p>Intervention: Peer led 'Honest, Open, Proud' (HOP) program aimed to empower participants with disclosing their mental illness in different settings + treatment as usual. The intervention comprised 2-hour core sessions per week for 3 weeks. Sessions were facilitated by peer supporters and young mental health professionals.</p> <p>Peer facilitators were young adults with lived experience of a mental illness. Training was provided to the peer and clinical facilitators. A young mental health professional was also present in the sessions. A manual for conducting the sessions was available to the facilitators.⁵¹</p>	<p>Stigma stress (Stigma Stress Scale); HRQoL (KIDSCREEN-10 index); empowerment (Empowerment Scale); disclosure-related distress (by a 4-item questionnaire); hopelessness (Beck's Hopelessness Scale); self-stigma (ISMI-SF and SSMIS-SF); help seeking (General Help Seeking Questionnaire), recovery (Self-Identified Stage of Recovery Scale); secrecy and social withdrawal (Link's Stigma Coping Orientation Scales); depressive symptoms (CESD); no safety outcomes were reported</p> <p>Efficacy outcomes were assessed baseline (T0), after core sessions (post-intervention, T1), and follow up 6 weeks after baseline (T2).</p>

First Author (Publication Year) ^a , Country, Source of Funding	Study design and Setting	Participant Characteristics	Intervention and Comparator	Clinical Outcomes, Length of Follow-Up
		Mean (SD) age: HOP group = 15.8 (1.2) y Control group = 15.7 (1.1) y % Clinical depression: 59.1% % Clinical anxiety: 17.3%	Comparator: Treatment as usual	

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^a Publications are organized in reverse chronological order according to date of publication.

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CESD = Center for Epidemiologic Studies Short- Depression Scale; CES-D 10 = Center for Epidemiologic Studies Short- Depression Scale 10; GAD = Generalized Anxiety Disorder 7-Item scale; HOP = Honest, Open, Proud; HOP-C = Honest, Open, Proud- college; ISMI-SF = Internalized Stigma of Mental Illness-Short Form; N = number of participants; RCT = randomized controlled trial; SD = standard deviation; SSMIS-SF = Self-Stigma of Mental Illness Scale–Short Form.

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Critical Appraisal of Included Primary Studies — Clinical Review

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Table 9: Risk of Bias in the Included Randomized Controlled Trials Assessed Using RoB 2 (effect of assignment to the intervention)

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Study citation	Bias arising from the randomization process	Bias due to deviations from intended interventions	Bias due to missing outcome data	Bias in measurement of the outcome	Bias in selection of the reported result	Overall risk of bias
Conley et al. (2020) ³⁹ ; Hundert et al. (2021) ⁴⁰	All outcomes: Some concerns [?] 1.1 (PY). Allocation sequence was random (participants were assigned via simple randomization methods such as	All outcomes: low risk 2.1 (Y). Participants were aware of their assigned intervention.	All outcomes: High risk [?] 3.1 (N) Across all outcomes. Data were not available for all randomized participants.	All outcomes: High risk [+] 4.1 (PN; Y for self efficacy) Across all outcomes except self-efficacy, the methods of measurement were probably	All outcomes: Some concerns [ND] 5.1 (NI). There was no information available to judge whether the data that produced the results were analyzed in accordance with a	All outcomes: High risk [?]

	<p>coin toss, blindly shuffled pieces of paper, and online random number generator)</p> <p>1.2 (NI). No information about whether the allocation sequence was concealed until participants were enrolled and assigned to interventions.</p> <p>1.3 (N). There were no important differences between the groups at baseline that would suggest major problems in the randomization process.</p>	<p>2.2 (Y). Carers and people delivering the intervention were aware of the participants' assigned intervention during the trial.</p> <p>2.3 (N). There were no reported deviations from the intended intervention.</p> <p>2.6 (Y). Appropriate analyses were used to estimate the effect of assignment to intervention (mITT analysis) All participants with assessment data irrespective of attending the sessions were included in the analysis.</p>	<p>Attrition rates were as below: At post-intervention, n (%) HOP: 10 (15%), control: 0 At post-boost, n (%) HOP: 14 (22%), control 5 (9.2%) At long-term follow-up, n (%): HOP: 13 (33%), control: 7 (19%)</p> <p>3.2 (N). There was no evidence (e.g., sensitivity analyses) to indicate that the results were not biased by missing outcome data</p> <p>3.3 (PY) it is possible that missingness in the outcome depended on its true value</p> <p>3.4 (PY) it is possible that missingness in the outcome depended on its true value. Relatively high losses in the HOP group compared to control group</p>	<p>appropriate. Self-efficacy was measured with a single item, whose validity was unclear.</p> <p>4.2 (PN). It is not likely that the measurement or ascertainment of the outcome differed between intervention groups</p> <p>4.3 (Y). Outcome assessors were aware of the intervention received by study participants.</p> <p>4.4 (Y) The assessment of the outcome could have been influenced by knowledge of the intervention received. All outcomes were self-reported.</p> <p>4.5 (PY). Across all outcomes, it is likely that assessment of outcomes was influenced by knowledge of the intervention received.</p>	<p>prespecified analysis plan. (i.e., there was no mention of a trial protocol).</p> <p>5.2 (NI). There was no information available to judge if the numerical results being assessed were likely to have been selected based on results from multiple eligible outcome measurements within the outcome domains.</p> <p>5.3 (NI). There was no information available to judge if the numerical results being assessed were likely to have been selected based on the results from multiple eligible analyses of the data.</p>	
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			could be due to perceived lack of efficacy.			
Mulfinger et al. (2018) ⁴⁹	<p>All outcomes: Low risk</p> <p>1.1 (PY). Allocation sequence was random (participants were assigned via block randomization at each site)</p> <p>1.2 (PY) Allocation sequence was concealed until participants were enrolled and assigned to intervention. However, it was unclear whether the closed envelopes used were opaque, sequentially numbered, sealed and opened after assignment.</p> <p>1.3 1.3 (N). There were no important differences between the groups at baseline. There were likely no problems in the randomization process.</p>	<p>All outcomes: Low risk</p> <p>2.1 (Y). Participants were aware of their assigned intervention.</p> <p>2.2 (Y). Carers and people delivering the intervention were aware of the participants' assigned intervention during the trial.</p> <p>2.3 (N). There were no reported deviations from the intended intervention.</p> <p>2.6 (Y). Appropriate analyses were used to estimate the effect of assignment to intervention (an intention to treat analysis was conducted)</p>	<p>All outcomes: High risk [?]</p> <p>3.1 (N) Across all outcomes. Data were not available for all randomized participants. The attrition rates were 22% in both groups.</p> <p>3.2 (N). There was no evidence (e.g., sensitivity analyses) to indicate that the results were not biased by missing outcome data.</p> <p>3.3 (PY) it is possible that missingness in the outcome depended on its true value</p> <p>3.4 (PY) it is possible that missingness in the outcome depended on its true value.</p>	<p>All outcomes: High risk [+]</p> <p>4.1 (PN; PY for disclosure related distress) Across all outcomes except disclosure related distress, the methods of measurement were probably appropriate. Disclosure related distress was measured with 4-item questionnaire, whose validity was unclear.</p> <p>4.2 (PN). It is not likely that the measurement or ascertainment of the outcome differed between intervention groups</p> <p>4.3 (Y). Outcome assessors were aware of the intervention received by study participants.</p> <p>4.4 (Y) The assessment of the outcome could have been influenced by knowledge of the intervention</p>	<p>All outcomes: Some concerns [ND]</p> <p>5.1 (NI). There was no information available to judge whether the data that produced the results were analyzed in accordance with a prespecified analysis plan. The trial was registered (NCT02751229) and outcomes were pre-specified, However, no published protocol was available.</p> <p>5.2 (NI). There was no information available to judge if the numerical results being assessed were likely to have been selected based on results from multiple eligible outcome measurements within the outcome domains.</p> <p>5.3 (NI). There was no information available to judge if the numerical results being assessed were likely to have been selected based on the results from multiple eligible analyses of the data.</p>	<p>All outcomes: High risk [?]</p>

				<p>received. All outcomes were self-reported.</p> <p>4.5 (PY). Across all outcomes, it is likely that assessment of outcomes was influenced by knowledge of the intervention received.</p>	
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HOP = Honest, Open, Proud; mITT = modified intention to treat; N = no; NI = no information; PN = probably no; PY = probably yes; RCT = randomized controlled trial; RoB 2 = Version 2 of the Cochrane Risk of Bias Tool; Y = yes

Note: the predicted direction of bias arising from each domain and the overall risk of bias is indicated in square brackets. [+] suggests the bias may favour the intervention; [ND] suggests the bias may influence the result towards the null; [?] suggests the predicted direction is unclear.

2342 Detailed Outcome Data — Clinical Review

2343 **Table 10: Summary of Detailed Findings Table for Stigma**

Outcome	Study citation	Detailed Findings
Self stigma	Conley et al., 2020 ⁴⁰ and Hundert et al., 2021 ⁴⁰ (associated)	<p>Results of all participants (n analyzed = 117 at baseline [T0]), 107 at post-intervention [T1], 97 at post-booster [T2])³⁹</p> <p>SSMIS-SF Agreement with stereotypes, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP-C = 2.71 (1.56) vs. 2.42 (1.43) vs. 2.53 (1.65) • Control = 2.46 (1.03) vs. 2.55 (1.39) vs. 2.84 (1.62) • Group x Time ANOVA for T0-T1-T2, p = 0.160 <p>SSMIS-SF Application of stereotypes to self, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP-C = 2.77 (1.74) vs. 2.50 (1.53) vs. 2.44 (1.50) • Control = 2.67 (1.38) vs. 2.54 (1.72) vs. 2.50 (1.60) • Group x Time ANOVA for T0-T1-T2, p = 0.870 <p>SSMIS-SF Harm of stereotypes to self, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP-C = 3.23 (2.08) vs. 2.49 (1.65) vs. 2.43 (1.56) • Control = 2.92 (1.75) vs. 3.02 (2.08) vs. 2.72 (2.12) • Group x Time ANOVA for T0-T1-T2, p = 0.047; T0-T1, p = 0.019; T0-T2, p = 0.097 <p>Results of the 2- month follow-up analysis in a population subset from one university (n analyzed = 55 at all timepoints; baseline [T0], post-intervention [T1], 2 months follow-up [T4])⁴⁰</p>

		<p>SSMIS-SF Agreement with stereotypes, mean (SD) at T0 vs. T1 vs. T4:</p> <ul style="list-style-type: none"> • HOP-C = 2.01 (0.78) vs. 1.97 (0.92) vs. 1.99 (0.96) • Control = 2.41 (0.88) vs. 2.51 (0.98) vs. 2.59 (1.14) • Group x Time ANOVA for T0-T1-T4, $p = 0.690$ <p>SSMIS-SF Application of stereotypes to self, mean (SD) at T0 vs. T1 vs. T4:</p> <ul style="list-style-type: none"> • HOP-C = 2.57 (1.41) vs. 2.67 (1.58) vs. 2.71 (1.54) • Control = 2.80 (1.32) vs. 2.88 (1.48) vs. 3.10 (1.68) • Group x Time ANOVA for T0-T1-T4, $p = 0.868$ <p>SSMIS-SF Harm of stereotypes to self, mean (SD) at T0 vs. T1 vs. T4:</p> <ul style="list-style-type: none"> • HOP-C = 3.08 (1.88) vs. 2.59 (1.78) vs. 2.74 (1.76) • Control = 3.25 (1.83) vs. 3.40 (2.04) vs. 3.61 (2.40) • Group x Time ANOVA for T0-T1-T4, $p = 0.306$
	<p>Mulfinger et al., 2018⁴⁹</p>	<p>Results of all participants (n analyzed = 98 at baseline [T0], 84 at post-intervention [T1], 62 at follow-up [T2])⁴⁹ Between-group analyses were conducted using linear MMRM.</p> <p>ISMI, mean (SD) at T0 vs. T1 vs. T2</p> <ul style="list-style-type: none"> • HOP = 2.38 (0.62) vs. 2.18 (0.56) vs. 2.04 (0.48) • Control = 2.30 (0.54) vs. 2.32 (0.48) vs. 2.33 (0.57) • Mean between group difference (95% CI) for change from T0 to T1 = -0.16 (-0.33 to 0.01), $p = 0.058$ • Mean between group difference (95% CI) for change from T0 to T2 = -0.35 (-0.54 to -0.05), $p < 0.001$ <p>SSMIS, mean (SD) at T0 vs. T1 vs. T2</p> <ul style="list-style-type: none"> • HOP = 21.57 (8.58) vs. 17.09 (7.43) vs. 15.16 (7.37) • Control = 20.63 (7.64) vs. 20.11 (8.75) vs. 20.21 (10.23) • Mean between group difference (95% CI) for change from T0 to T1 = -2.93 (-5.35 to -0.52), $p = 0.018$ • Mean between group difference (95% CI) for change from T0 to T2 = -5.14 (-8.22 to -2.05), $p = 0.01$

<p>Stigma stress^a <i>Perceived harm minus perceived resources</i></p>	<p>Conley et al., 2020⁴⁰ and Hundert et al., 2021⁴⁰ (associated)</p>	<p>Results of all participants (n analyzed = 117 at baseline [T0]), 107 at post-intervention [T1], 97 at post-booster [T2])³⁹</p> <p>Stigma as a stressor (perceived harm), mean (SD) at T0 vs. T1 vs. T3</p> <ul style="list-style-type: none"> • HOP-C = 4.22 (1.52) vs. 3.74 (1.46) vs. 3.63 (1.58) • Control = 4.57 (1.21) vs. 4.16 (1.49) vs. 3.93(1.56) • Group x Time ANOVA for T0-T1-T3, p = 0.922 <p>Perceived resources to cope with stigma stress:), mean (SD) at T0 vs. T1 vs. T3</p> <ul style="list-style-type: none"> • HOP-C = 4.68 (1.11) vs. 5.41 (0.98) vs. 5.48 (1.15) • Control = 4.83 (1.22) vs. 4.93 (1.21) vs. 4.82 (1.37) • Group x Time ANOVA for T0-T1-T2, p = 0.001; T0-T1, p = 0.001; T0-T2, p = 0.001 <p>Note: A calculated stigma stress score (perceived harm minus perceived resources) were not reported in the study.³⁹</p> <p>Results of the 2- month follow-up analysis in a population subset from one university (n analyzed = 55 at all timepoints; baseline [T0], post-intervention [T1], 2 months follow-up [T4])⁴⁰</p> <p>Stigma Stress, mean (SD) at T0 vs. T1 vs. T3</p> <ul style="list-style-type: none"> • HOP-C = -0.31 (2.02) vs. -1.39 (1.56) vs. -1.97 (1.74) • Control = -0.44 (1.89) vs. -0.83 (2.18) vs. -1.27 (1.82) • Group x Time ANOVA for T0-T1-T4, p = 0.285
	<p>Mulfinger et al., 2018⁴⁹</p>	<p>Results of all participants (n analyzed = 98 at baseline [T0], 84 at post-intervention [T1], 62 at follow-up [T2])⁴⁹ Between-group ITT analyses were conducted using linear MMRM.</p> <p>Stigma Stress Scale, mean (SD) at T0 vs. T1 vs. T2</p> <ul style="list-style-type: none"> • HOP = -0.07 (2.37) vs. -2.33 (1.91) vs. -2.56 (1.95) • Control = -0.35 (2.13) vs. -0.29 (2.01) vs. -0.28 (2.09) • Mean between group difference (95% CI) for change from T0 to T1 = -2.06 (-2.70 to -1.42), p <0.001 • Mean between group difference (95% CI) for change from T0 to T2 = -2.16 (-2.89 to -1.43), p < 0.001

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CI = confidence interval; HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; ISMI-SF = Internalized Stigma of Mental Illness-Short Form; MMRM = mixed model for repeated measures; RCT = randomized controlled trial; SD = standard deviation; SSMIS-SF = Self-Stigma of Mental Illness Scale-Short Form; TAU = treatment as usual

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Table 11: Summary of Detailed Findings Table for Self-efficacy About Secrecy and Disclosing Mental Illness

Outcome	Study citation	Detailed Findings
Self-efficacy about disclosing mental illness	Conley et al., 2020 ⁴⁰ and Hundert et al., 2021 ⁴⁰ (associated)	<p>Results of all participants (n analyzed = 117 at baseline [T0]), 107 at post-intervention [T1], 97 at post-booster [T2])³⁹</p> <p>Self-efficacy about disclosing mental illness, mean (SD) at T0 vs. T1 vs. T2 (single item score):</p> <ul style="list-style-type: none"> • HOP-C = 4.35 (1.68) vs. 5.22 (1.03) vs. 5.87 (1.11) • Control = 4.33 (1.60) vs. 4.60 (1.55) vs. 4.79 (1.56) • Group x Time ANOVA for T1-T2-T3, p = 0.001; T1-T2, p = 0.078; T1-T3, p = 0.001 <p>Self-efficacy in keeping mental illness a secret, mean (SD) at T0 vs. T1 vs. T2 (single item score):</p> <ul style="list-style-type: none"> • HOP-C = 4.63 (1.58) vs. 5.15 (1.26) vs. 5.41 (1.29) • Control = 4.48 (1.64) vs. 4.65 (1.63) vs. 5.04 (1.44) • Group x Time ANOVA for T1-T2-T3, p = 0.590 <p>Results of the 2- month follow-up analysis in a population subset from one university (n analyzed = 55 at all timepoints; baseline [T0], post-intervention [T1], 2 months follow-up [T4])⁴⁰</p> <p>Self-efficacy about disclosing mental illness, mean (SD) at T0 vs. T1 vs. T3 (single item score):</p> <ul style="list-style-type: none"> • HOP-C = 4.33 (1.74) vs. 5.42 (1.02) vs. 5.38 (1.35) • Control = 4.71 (1.58) vs. 5.07 (1.49) vs. 5.21 (1.23) • Group x Time ANOVA for T0-T1-T3, p = 0.230 <p>Self-efficacy in keeping mental illness a secret, mean (SD) at T0 vs. T1 vs. T3 (single item score):</p> <ul style="list-style-type: none"> • HOP-C = 4.83 (1.61) vs. 5.33 (1.17) vs. 5.38 (1.35) • Control group = 4.32 (1.68) vs. 4.86 (1.60) vs. 4.93 (1.33) • Group x Time ANOVA for T0-T1-T3, p = 0.926
Attitudes to disclosure (family, friends and teacher employer)	Mulfinger et al., 2018 ⁴⁹	<p>Results of all participants (n analyzed = 98 at baseline [T0], 84 at post-intervention [T1], 62 at follow-up [T2])⁴⁹ Between-group ITT analyses were conducted using linear MMRM.</p> <p>Attitudes to Disclosure (Family/Friends) – single item, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP = 3.10 (1.62) vs. 4.21 (1.40) vs. 4.13 (1.44) • Control = 2.83 (1.59) vs. 3.00 (1.61) vs. 2.82 (1.56)

		<ul style="list-style-type: none"> • Mean between group difference (95% CI) for change from T0 to T1 = 1.00 (0.43 to 1.57), p<0.001 • Mean between group difference (95% CI) for change from T0 to T2 = 1.02 (0.43 to 1.61), p = 0.001 <p>Attitudes to Disclosure (Teacher/Employer) – single item, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP = 2.00 (1.24) vs. 2.60 (1.33) vs 2.86 (1.52) • Control = 2.27 (1.58) vs. 2.00 (1.13) vs. 1.95 (1.25) • Mean between group difference (95% CI) for change from T0 to T1 = 0.66 (0.15 to 1.16), p = 0.011 • Mean between group difference (95% CI) for change from T0 to T2 = 0.91 (0.28 to 1.53), p = 0.005
Disclosure related distress (single item)	Mulfinger et al., 2018 ⁴⁹	<p>Results of all participants (n analyzed = 98 at baseline [T0], 84 at post-intervention [T1], 62 at follow-up [T2])⁴⁹ Between-group ITT analyses were conducted using linear MMRM.</p> <p>Disclosure related distress, mean (SD) at T0 vs. T1 vs. T2 (single item score):</p> <ul style="list-style-type: none"> • HOP = 4.70 (1.65) vs. 3.92 (1.20) vs. 3.43 (1.53) • Control = 4.61 (1.68) vs. 4.78 (1.44) vs. 4.74 (1.41) • Mean between group difference (95% CI) for change from T0 to T1 = -0.87 (-1.37 to -0.37), p<0.001 • Mean between group difference (95% CI) for change from T0 to T2 = -1.18 (-1.85 to -0.51), p<0.001
Secrecy	Mulfinger et al., 2018 ⁴⁹	<p>Results of all participants (n analyzed = 98 at baseline [T0], 84 at post-intervention [T1], 62 at follow-up [T2])⁴⁹ Between-group ITT analyses were conducted using linear MMRM.</p> <p>Stigma Coping Orientation Scale, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP = 3.74 (0.83) vs. 3.31 (0.85) vs. 3.15 (0.96) • Control = 3.78 (1.09) vs. 3.86 (1.12) vs. 4.01 (1.02) • Mean between group difference (95% CI) for change from T0 to T1 = -0.44(-0.79 to -0.08), p=0.017 <p>Mean between group difference (95% CI) for change from T0 to T2 = -0.78 (-1.16 to -0.40), p<0.001</p>

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ANOVA = analysis of variance CI = confidence interval; HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; ITT= intention to treat; MMRM = mixed model for repeated measures; RCT = randomized controlled trial; SD = standard deviation; TAU = treatment as usual

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2353 **Table 12: Summary of Detailed Findings Table for HRQoL**

Outcome	Study citation	Detailed Findings
HRQoL	Mulfinger et al., 2018 ⁴⁹	<p>Results of all participants (n analyzed = 98 at baseline [T0], 84 at post-intervention [T1], 62 at follow-up [T2])⁴⁹ Between-group analyses were conducted using linear MMRM.</p> <p>KIDSCREEN-10 Index, mean (SD) at T0 vs. T1 vs. T2</p> <ul style="list-style-type: none"> • HOP = 28.97 (5.95) vs. 30.32 (7.37) vs. 32.97 (5.92) • Control = 28.92 (5.83) vs. 28.97 (6.92) vs. 28.80 (6.34) • Mean between group difference (95% CI) for change from T0 to T1 = 0.82 (– 1.34 to 2.98), p = 0.45 • Mean between group difference (95% CI) for change from T0 to T2 = 3.54 (1.14 to 5.93), p = 0.004

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CI = confidence interval; HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; HRQoL = health related quality of life; ITT= intention to treat; MMRM = mixed model for repeated measures; RCT = randomized controlled trial; SD = standard deviation; TAU = treatment as usual

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2358 **Table 13: Summary of Detailed Findings Table for Empowerment**

Outcome	Study citation	Detailed Findings
Empowerment	Mulfinger et al., 2018 ⁴⁹	<p>Results of all participants (n analyzed = 98 at baseline [T0], 84 at post-intervention [T1], 62 at follow-up [T2])⁴⁹ Between-group analyses were conducted using linear MMRM.</p> <p>Empowerment Scale - Self-esteem subscale, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP = 2.33 (0.78) vs. 2.61 (0.76) vs. 2.69 (0.61) • Control = 2.31 (0.66) vs. 2.33 (0.70) vs. 2.43 (0.70) • Mean between group difference (95% CI) for change from T0 to T1 = 0.21 (0.04 to 0.39), p = 0.017 • Mean between group difference (95% CI) for change from T0 to T2 = 0.19 (–0.03 to 0.41), p = 0.09 <p>Empowerment Scale – Optimism subscale, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP = 2.43 (0.60) vs. 2.65 (0.62) vs. 2.70 (0.62) • Control = 2.49 (0.60) vs. 2.46 (0.69) vs. 2.51 (0.77) • Mean between group difference (95% CI) for change from T0 to T1 = 0.20 (0 to 0.40), p = 0.055 • Mean between group difference (95% CI) for change from T0 to T2 = 0.21 (–0.03 to 0.46)), p = 0.09

2359 CI = confidence interval; HOP= Honest, Open, Proud; MMRM = mixed model for repeated measures; SD = standard deviation

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2361 **Table 14: Summary of Detailed Findings Table for Social Withdrawal**

Outcome	Study citation	Detailed Findings
Social withdrawal	Mulfinger et al., 2018 ⁴⁹	<p>Results of all participants (n analyzed = 98 at baseline [T0], 84 at post-intervention [T1], 62 at follow-up [T2]).⁴⁹ Between-group analyses were conducted using linear MMRM.</p> <p>Stigma Coping Orientation Scale, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP = 4.04 (0.91) vs. 3.71 (0.98) vs. 3.70 (0.94) • Control = 4.04 (1.09) vs. 4.14 (1.03) vs. 4.17 (1.05) • Mean between group difference (95% CI) for change from T0 to T1 = - 0.34 (-0.63 to -0.05), p = 0.023 • Mean between group difference (95% CI) for change from T0 to T2 = -0.29 (-0.66 to 0.08), p = 0.12

2362 CI = confidence interval; HOP= Honest, Open, Proud; MMRM = mixed model for repeated measures; SD = standard deviation

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2364 **Table 15: Summary of Detailed Findings Table for Help-Seeking**

Outcome	Study citation	Detailed Findings
Help-seeking	Mulfinger et al., 2018 ⁴⁹	<p>Results of all participants (n analyzed = 98 at baseline [T0], 84 at post-intervention [T1], 62 at follow-up [T2]).⁴⁹ Between-group analyses were conducted using linear MMRM.</p> <p>General Help-Seeking Questionnaire (Family/Friends), mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP = 3.44 (1.36) vs. 4.28 (1.32) vs 4.17 (1.32) • Control = 3.30 (1.45) vs. 3.31 (1.39) vs. 3.35 (1.40) • Mean between group difference (95% CI) for change from T0 to T1 = 0.77 (0.36 to 1.17), p<0.001 • Mean between group difference (95% CI) for change from T0 to T2 = 0.48 (-0.02 to 0.98), p = 0.57 <p>General Help-Seeking Questionnaire (Professional), mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP = 3.59 (1.31) vs. 4.37 (1.15) vs 4.61 (1.12) • Control = 3.63 (1.28) vs. 3.65 (1.40) vs. 3.63 (1.41) • Mean between group difference (95% CI) for change from T0 to T1 = 0.60 (0.15 to 1.05), p = 0.010

		<ul style="list-style-type: none"> • Mean between group difference (95% CI) for change from T0 to T2 = 0.82 (0.32 to 1.32), p = 0.02
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CI = confidence interval; HOP= Honest, Open, Proud; MMRM = mixed model for repeated measures; SD = standard deviation

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Table 16: Summary of Detailed Findings Table for Hopelessness

Outcome	Study citation	Detailed Findings
Hopelessness	Mulfinger et al., 2018 ⁴⁹	<p>Results of all participants (n analyzed = 98 at baseline [T0], 84 at post-intervention [T1], 62 at follow-up [T2])⁴⁹ Between-group analyses were conducted using linear MMRM.</p> <p>Beck Hopelessness Scale, Short Version, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP = 14.42 (5.32) vs. 13.18 (4.51) vs 11.74 (3.83) • Control = 14.82 (5.11) vs. 14.39 (4.81) vs. 13.95 (4.78) • Mean between group difference (95% CI) for change from T0 to T1 = -0.51 (-1.88 to 0.85), p = 0.46 • Mean between group difference (95% CI) for change from T0 to T2 = -1.22 (-2.68 to 0.24), p = 0.10

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CI = confidence interval; HOP= Honest, Open, Proud; MMRM = mixed model for repeated measures; SD = standard deviation

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Table 17: Summary of Detailed Findings Table for Stage of Recovery

Outcome	Study citation	Detailed Findings
Stage of recovery	Mulfinger et al., 2018 ⁴⁹	<p>Results of all participants (n analyzed = 98 at baseline [T0], 84 at post-intervention [T1], 62 at follow-up [T2])⁴⁹ Between-group analyses were conducted using linear MMRM.</p> <p>Self-identified Stage of Recovery Scale, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP = 14.64 (4.80) vs. 15.48 (4.20) vs 16.67 (4.13) • Control = 14.92 (4.35) vs. 15.02 (4.70) vs. 14.73 (4.29) • Mean between group difference (95% CI) for change from T0 to T1 = 0.15 (-1.34 to 1.64), p = 0.85 • Mean between group difference (95% CI) for change from T0 to T2 = 1.59 (0.10 to 3.07), p = 0.037

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CI = confidence interval; HOP= Honest, Open, Proud; MMRM = mixed model for repeated measures; SD = standard deviation

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2373 Table 18: Summary of Detailed Findings Table for Clinical Outcomes

Outcome	Study citation	Detailed Findings
Anxiety	Conley et al.,2020 ⁴⁰ and Hundert et al., 2021 ⁴⁰ (associated)	<p>Results of all participants (n analyzed = 117 at baseline [T0], 107 at post-intervention [T1], 97 at post-boosted [T2])³⁹</p> <p>Generalized Anxiety Disorder 7-item Scale, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP-C = 1.66 (0.77) vs. 1.73 (0.78) vs 1.66 (0.75) • Control = 1.92 (0.75) vs. 1.79 (0.86) vs. 1.69 (0.90) • Group x Time ANOVA for T0-T1-T2, p =0.213 <p>Results of the 2- month follow-up analysis in a population subset from one university (n analyzed = 55 at all timepoints; baseline [T0], post-intervention [T1], 2 months follow-up [T4])⁴⁰</p> <p>Generalized Anxiety Disorder 7-item Scale, mean (SD) at T0 vs. T1 vs. T3:</p> <ul style="list-style-type: none"> • HOP-C = 1.70 (0.73) vs. 1.88 (0.79) vs. 1.57 (0.88) • Control = 1.96 (0.76) vs. 1.87 (0.82) vs. 1.77 (0.85) • Group x Time ANOVA for T0-T1-T3, p = 0.252
Depression	Conley et al.,2020 ⁴⁰ and Hundert et al., 2021 ⁴⁰ (associated)	<p>Results of all participants (n analyzed = 117 at baseline [T0], 107 at post-intervention [T1], 97 at post-boosted [T2])³⁹</p> <p>Center for Epidemiologic Studies Short Depression Scale 10, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP-C = 1.66 (0.57) vs. 1.57 (0.67) vs. 1.54 (0.67) • Control = 1.64 (0.61) vs. 1.53 (0.71) vs. 1.44 (0.74) • Group x Time ANOVA for T0-T1-T2, p = 0.743 <p>Results of the 2- month follow-up analysis in a population subset from one university (n analyzed = 55 at all timepoints; baseline [T0], post-intervention [T1], 2 months follow-up [T4])⁴⁰</p> <p>Center for Epidemiologic Studies Short Depression Scale 10, mean (SD) at T0 vs. T1 vs. T3:</p> <ul style="list-style-type: none"> • HOP-C = 1.74 (0.58) vs. 1.71 (0.63) vs. 1.54 (0.70) • Control = 1.65 (0.59) vs. 1.56 (0.68) vs. 1.39 (0.77) • Group x Time ANOVA for T0-T1-T3, p = 0.860
	Mulfinger et al., 2018 ⁴⁹	<p>Results of all participants (n analyzed = 98 at baseline [T0], 84 at post-intervention [T1], 62 at follow-up [T2])⁴⁹ Between-group analyses were conducted using linear MMRM.</p> <p>Center for Epidemiologic Studies Depression Scale, mean (SD) at T0 vs. T1 vs. T2:</p> <ul style="list-style-type: none"> • HOP = 26.22 (10.05) vs. 22.28 (11.34) vs 18.16 (10.27) • Control = 24.92 (10.16) vs. 23.58 (10.94) vs. 24.71 (11.24)

		<ul style="list-style-type: none"> • Mean between group difference (95% CI) for change from T0 to T1 = – 1.25 (–4.87 to 2.38), p = 0.50 • Mean between group difference (95% CI) for change from T0 to T2 = – 7.25 (–10.85 to –3.65), p < 0.001
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ANOVA = analysis of variance CI = confidence interval; HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; ITT= intention to treat; MMRM = mixed model for repeated measures; SD = standard deviation

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2377 **GRADE Summary of Findings- Clinical Review**

2378 **Table 19: GRADE Summary of Findings Table for Self-Stigma**

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
<p>Self-stigma</p> <p>Post-intervention: 191 (2 RCTs^{39,49}) Post booster: 97 (1 RCT³⁹) Longest follow-up: 117 (2 RCTs^{40,49})</p>	<p>Two trials, with high risk of bias (predicted direction unclear), reported on the impact of peer support interventions on self-stigma among youth with mental health concerns. Participants had a mean age of 15⁴⁹ to 21^{39,40} years, most of them female individuals (69.3% in 1 trial⁴⁹ and 82.2% in the other^{39,40}). The peer support interventions were HOP⁴⁹ and HOP-C^{39,40} programs. Outcomes were measured at post-intervention, post-booster and at follow-up (6 weeks⁴⁹ to 2 months⁴⁰ after core-sessions), using the 4 subscales of the SSMIS-SF (range 5 to 45)⁵² or the ISMI⁵³ (10-item version, range 1 to 4). In both measures, higher scores indicate more self-stigma.</p> <p>At post-treatment, the results were heterogenous (2 RCTs^{39,49}, n = 191). Conley et al.³⁹ found that in the harm subdomain of the SSMIS-SF scale, HOP-C was favoured compared to waitlist control at follow-up (p = 0.019).³⁹ Results for change from baseline for the other domains were not reported. In the Mulfinger et al.⁴⁹ study, at post-intervention, change from baseline of the overall score of SSMIS showed that HOP was associated with a significant reduction</p>	<p>⊕⊕⊕⊕ VERY LOW due to serious concerns for risk of bias, inconsistency, indirectness and imprecision.^a</p>	<p>The findings for effect of HOP vs. control (waitlist/ TAU) on self-stigma are heterogeneous, and the evidence is very uncertain.</p> <p>There may be little-to-no difference in the effect of HOP vs. control (waitlist/ treatment as usual) on self-stigma, but the evidence is very uncertain.</p> <p>The findings for effect of HOP vs. control (waitlist/ treatment as usual) on self-stigma at the longest follow-up are heterogeneous, and the evidence is very uncertain</p>

	<p>in self-stigma compared to TAU (Mean between group difference for change from baseline -2.93 [95% CI = -5.35 to -0.52]). There were no significant difference between groups in the change from baseline of ISMI scores.⁴⁹</p> <p>At post-booster (1 RCT³⁹, n=97) evidence from Conley et al. showed little-to-no difference in the effect of HOP-C compared to waitlist reducing self-stigma, as found by the between group t-tests for the agreement, application, and harm subdomains of the SSMIS-SF.</p> <p>At the longest follow-up (2 RCTs; 6 weeks⁴⁹ or 2 months⁴⁰) the evidence was heterogenous. HOP-C was not associated with any significant reduction in any of the subdomain scores of SSMIS compared to waitlist control.^{39,40} Results from Mulfinger et al.⁴⁹ found that participants who received HOP reported significantly lower self-stigma scores at 2 months follow up compared to those who received TAU. Mean between group difference for change from baseline in ISMI scores -0.35 [95% CI = -0.54 to 0.05] Mean between group difference for change from baseline in SSMIS scores -5.14 [95% CI = -8.22 to -2.05])</p>		
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HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; ISMI-SF = Internalized Stigma of Mental Illness-Short Form; RCT = randomized controlled trial; SSMIS-SF = Self-Stigma of Mental Illness Scale-Short Form; TAU = treatment as usual

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^aExplanations:

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At post-intervention: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of inconsistent results between the trials, rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

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At post-booster: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency as only one trial was available that reported on the outcome at this time point; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

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At longest follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of inconsistent results between the trials at longest follow-up; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

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2398 **Table 20: GRADE Summary of Findings Table for Stigma Stress**

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
<p>Stigma stress</p> <p>Post-intervention: 84 (1 RCT⁴⁹) Longest follow-up: 117 (2 RCTs^{40,49})</p>	<p>Two RCTs^{39,40,49}, all with high risk of bias (unclear direction) reported on stigma stress. Participants had a mean age of 15⁴⁹ to 21^{39,40} years, most of them female individuals (69.3%⁴⁹ to 82.2%^{39,40}). The reported mental health concerns across the trials were depression (59.1%⁴⁹ to 85.5%³⁹) and anxiety (17.3%⁴⁹ to 69.2%³⁹). The peer support interventions were HOP⁴⁹ and HOP-C^{39,40} programs, comparing to treatment as usual⁴⁹ or waitlist controls.^{39,40} Outcomes were measured at post-intervention, and at follow-up (6 weeks⁴⁹ or 2 months⁴⁰ after core-sessions), using the outcome calculated as perceived harm minus perceived resources from the Stigma Stress Scale. Higher scores (range -6 to 6) indicate increased stigma related stress. At the post-intervention and post-booster follow ups of the HOP-C trial³⁹, stigma stress was not calculated, rather the results of</p>	<p>⊕⊕⊕⊕ VERY LOW due to serious concerns for risk of bias, inconsistency, indirectness and imprecision.^a</p>	

	<p>the subscale scores were reported separately.</p> <p>At post-intervention, results from 1 RCT (Mulfinger et al.⁴⁹) suggested that peer support may be favoured compared to TAU.in lowering the stress related to self-stigma. Mean between group difference for change from baseline to post-intervention was -2.06 (95% CI -2.70 to -1.42) ⁴⁹ At the longest follow-up, the evidence was heterogenous (2 RCTs; ^{40,49}6 weeks⁴⁹ or 2 months⁴⁰). The Conley et al. trial (reported in Hundert et al.) ⁴⁰ found little-to-no difference in the effect of peer support intervention (HOP-C) in reducing stigma related stress, whereas the results from the Mulfinger et al. trial⁴⁹ favoured peer support. At 6 weeks follow-up, the mean differences for change from baseline in the HOP group was 2.19 units lower than the TAU group (95% CI -2.89 to -1.43).</p>		
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HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; ISMI-SF = Internalized Stigma of Mental Illness-Short Form; RCT = randomized controlled trial; SSMIS-SF = Self-Stigma of Mental Illness Scale-Short Form; TAU = treatment as usual

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^aExplanations:

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At post-intervention: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of inconsistent results between the trials; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

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At post-booster: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency as only one trial was available that reported on the outcome at this time point; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

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At longest follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of inconsistent results between the trials at longest follow-up; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

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Table 21: GRADE Summary of Findings Table for Self-efficacy Related to Secrecy and Disclosing of Mental Illness

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
<p>Self-efficacy Related to Secrecy and Disclosing of mental illness</p> <p>Post-intervention: 107 (1 RCT³⁹) Post booster: 97 (1 RCT³⁹) Longest follow-up: 55 (1 RCT⁴⁰)</p>	<p>One RCT^{39,40} with high risk of bias (unclear direction) reported on participants' self- efficacy related to secrecy and disclosure of mental illness. The outcome was assessed by 2 questions - "How confident are you in making decisions and handling well all the issues related to disclosing your mental illness?" (p.171)³⁹ and "How confident are you in making decisions and handling well all the issues related to keeping mental illness a secret?" Answers were rated from 1 (not at all) to 7 (very much). Conley et al.,³⁹ compared HOP-C with no peer support among university students with self identified mental health concerns. The participants (n =117) were mostly female (82.2%), white (68.6%) and heterosexual (66.9%), and reported depressive symptoms (85.5%).</p> <p>The trial³⁹ showed that at post-intervention there may be little-to-no difference in the effect of peer support in efficacy related to keeping the mental illness a secret or to that related to disclosure of mental illness compared to no peer support.³⁹</p> <p>At post booster, the trial showed that HOP may be favoured with respect to self-efficacy about disclosure (p =0.001) but there may be little-to no difference in self-efficacy related to keeping mental illness a secret.³⁹</p> <p>At the 2 month follow-up assessment, the results suggested that there may be little-to-no difference in the effect of peer support vs. no peer support (waitlist) in self-efficacy related to secrecy or to disclosing mental illness.⁴⁰</p>	<p>⊕⊖⊖⊖ VERY LOW due to serious concerns for risk of bias, inconsistency, indirectness and imprecision.^a</p>	<p>There may be little-to-no difference in the effect of HOP vs. waitlist control on self-efficacy about secrecy and disclosing mental illness post-intervention, but the evidence is very uncertain.</p> <p>HOP may be favoured vs. waitlist control with respect to self-efficacy about secrecy and disclosing mental illness post-booster, but the evidence is very uncertain.</p> <p>There may be little-to-no difference in the effect of HOP vs. waitlist control on self-efficacy about secrecy and disclosing mental illness at 2 months follow-up, but the evidence is very uncertain.</p>

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HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; RCT = randomized controlled trial; TAU = treatment as usual

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^aExplanations:

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At post-intervention, post-booster and at follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited evidence of consistency as only one trial was available that reported on the outcome at all time points; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

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Table 22: GRADE Summary of Findings Table for Attitudes to disclosure

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
<p>Attitudes to disclosure</p> <p>Post-intervention: 84 (1 RCT⁴⁹)</p> <p>Longest follow-up: 62 (1 RCT⁴⁹)</p>	<p>One RCT⁴⁹ with high risk of bias (unclear direction) reported on participants' attitude to disclosure of mental illness towards family/friends and teacher/employer. This RCT compared the effectiveness of HOP program to treatment as usual among adolescent psychiatric patients, who were mostly female (69.3%), born in Germany (94.8%) and were around 22 months since the first psychiatric diagnosis. The outcome was assessed by 2 questions about how comfortable they are in disclosing mental illness to (i) family/ friends and (ii) teacher/employer. Answers were rated from 1 (not at all) to 7 (very much).</p> <p>At post intervention, participants in the HOP group reported significantly higher improvement from baseline in their attitudes to disclosure towards family/friends (mean between group difference for change from baseline 1.00 [95% CI 0.43 to 1.57]) and towards teacher/employer (mean between group difference for change from baseline 0.66 [95% CI 0.15 to 1.16]) compared to participants in the TAU group.</p> <p>At 6-week follow-up assessment, participants in the HOP group reported significantly higher improvement from baseline in their attitudes to disclosure towards family/friends (mean between group difference for change from baseline 1.02 [95% CI 0.43 to 1.61]) and towards teacher/employer (mean between group difference for change from baseline 0.91 [95% CI 0.28 to 1.53]) compared to participants in the TAU group.</p>	<p>⊕⊕⊕⊕ VERY LOW due to serious concerns for risk of bias, concerns for inconsistency, serious concerns for indirectness and imprecision.^a</p>	<p>HOP may be favoured vs. TAU with respects to attitudes to disclosure post-intervention, but the evidence is very uncertain.</p> <p>HOP may be favoured vs. TAU with respects to attitudes to disclosure at longest follow-up but the evidence is very uncertain.</p>

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HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; RCT = randomized controlled trial; TAU = treatment as usual

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^aExplanations:

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At post-intervention and at follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency as only one trial was available that reported on the outcome at all time points; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

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Table 23: GRADE Summary of Findings Table for Disclosure Related Distress

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
<p>Disclosure related distress</p> <p>Post-intervention: 84 (1 RCT⁴⁹)</p> <p>Longest follow-up: 62 (1 RCT⁴⁹)</p>	<p>One RCT⁴⁹ with high risk of bias (unclear direction) reported on participants' distress related to disclosure of mental illness. The outcome was assessed by a question about how distressed or worried they are about disclosing mental illness. Answers were rated from 1 (not at all) to 7 (very much). This single item was used as a screening item for study inclusion, with a score of 4 or more required to be enrolled to the trial. This RCT compared the effectiveness of HOP program to treatment as usual among adolescent psychiatric patients, who were mostly were female (69.3%), born in Germany (94.8%) and were around 22 months since the first psychiatric diagnosis.</p> <p>At post-intervention, the between group difference for change from baseline was statistically significant, with the mean between group difference of -0.44 (95% CI (-0.79 to -0.08).</p> <p>At the 6-week follow up, the distress related to disclosure of mental illness was significantly lower in HOP group compared to TAU group (mean between group difference for change from baseline = -0.78 [95% CI -1.16 to -0.40]).</p>	<p>⊕⊕⊕⊕ VERY LOW due to serious concerns for risk of bias, concerns for inconsistency, serious concerns for indirectness and imprecision.^a</p>	<p>HOP may be favoured vs. TAU with respects to attitudes to disclosure post-intervention, but the evidence is very uncertain.</p> <p>HOP may be favoured vs. TAU with respects to attitudes to disclosure at longest follow-up but the evidence is very uncertain.</p>

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HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; RCT = randomized controlled trial; TAU = treatment as usual

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^aExplanations:

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At post-intervention and at follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency as only one trial was available that reported on the outcome at all time points; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general.; rated down once due to serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

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Table 24: GRADE Summary of Findings Table for Secrecy

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
<p>Secrecy</p> <p>Post-intervention: 84 (1 RCT⁴⁹)</p> <p>Longest follow-up: 62 (1 RCT⁴⁹)</p>	<p>One RCT⁴⁹ with high risk of bias (unclear direction) reported on participants' secrecy related to mental illness. This RCT compared the effectiveness of HOP program to treatment as usual among adolescent psychiatric patients, who were mostly were female (69.3%), born in Germany (94.8%) and were around 22 months since the first psychiatric diagnosis.</p> <p>The outcome was assessed by the stigma-coping and orientation subscale of the Link's Stigma Scales⁵⁴. Higher mean scores (range 1 to 6) indicate more secrecy.⁴⁹</p> <p>The trial showed that peer support may be favoured compared to treatment as usual on lowering the participants' secrecy related to mental illness at post-treatment, and at 6 weeks follow-up. At post-intervention and at 6-week follow-up, the mean between group differences of change from baseline were – 0.44(95% CI –0.79 to –0.08), and –0.78 (–1.16 to –0.40) respectively.</p>	<p>⊕⊕⊕⊕ VERY LOW due to serious concerns for risk of bias, concerns for inconsistency, serious concerns for indirectness and imprecision.^a</p>	<p>HOP may be favoured vs. TAU with respects to attitudes to disclosure post-intervention, but the evidence is very uncertain.</p> <p>HOP may be favoured vs. TAU with respects to attitudes to disclosure at longest follow-up but the evidence is very uncertain.</p>

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HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; RCT = randomized controlled trial; TAU = treatment as usual

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^aExplanations:

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At post-intervention and at follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency as only one trial was available that reported on the outcome at all time points; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

2456 **Table 25: GRADE Summary of Findings Table for HRQoL**

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
HRQoL Post-intervention: 84 (1 RCT ⁴⁹) Longest follow-up: 84 (1 RCT ⁴⁹)	<p>One RCT⁴⁹ with high risk of bias (unclear direction) reported on participants' HRQoL. It compared the effectiveness of HOP program to treatment as usual among adolescent psychiatric patients, who were mostly were female (69.3%), born in Germany (94.8%) and were around 22 months since the first psychiatric diagnosis.</p> <p>The outcome was assessed by KIDSCREEN 10⁵⁵, a 10-item questionnaire in which the total score ranges from 10 to 50 with higher scores indicating better quality of life.^{55,56}</p> <p>At post-intervention, results suggested that there may be little-to-no difference in the effect of peer support on HRQoL compared to treatment as usual. (Mean between group difference for change from baseline =0.82 [95% CI -1.34 to 2.98]).</p> <p>At the 6-week follow-up assessment, the results suggested that HOP may be favoured compared to treatment as usual in improving HRQoL. The mean between group difference for change from baseline to 6 wee follow up was 3.54 (95% CI (1.14 to 5.93)).</p>	<p>⊕⊕⊕⊕ VERY LOW due to serious concerns for risk of bias, concerns for inconsistency, serious concerns for indirectness and imprecision.^a</p>	<p>There may be little-to-no difference in the effect of HOP vs. TAU on HRQoL post-intervention, but the evidence is very uncertain.</p> <p>HOP may be favoured vs. TAU with respects to attitudes to disclosure at longest follow-up but the evidence is very uncertain.</p>

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HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; HRQoL = health related quality of life; RCT = randomized controlled trial; TAU = treatment as usual

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^aExplanations:

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At post-intervention and at follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency as only one trial was available that reported on the outcome at all time points; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C)

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was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

2464 **Table 26: GRADE Summary of Findings Table for Empowerment**

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
<p>Empowerment</p> <p>Post-intervention: 84 (1 RCT⁴⁹)</p> <p>Longest follow-up: 84 (1 RCT⁴⁹)</p>	<p>One RCT⁴⁹ with high risk of bias (unclear direction) reported on participants' feeling of empowerment. This RCT⁴⁹ compared the effectiveness of HOP program to treatment as usual among adolescent psychiatric patients, who were mostly were female (69.3%), born in Germany (94.8%) and were around 22 months since the first psychiatric diagnosis.</p> <p>The outcome was assessed by the Self-esteem (9 items) and the Optimism (4 items) subscales of Empowerment Scale⁵⁷ A mean score was calculated from the scores of the subscales (range 1 to 4), with higher scores indicating more empowerment.</p> <p>In the self-esteem subscale of the Empowerment Scale, the results from the trial showed that at post-intervention, participants in the HOP group reported a significantly larger improvement in self-esteem compared to those in the TAU group (mean between group differences for change from baseline = 0.21[0.04 to 0.39]). At 6-week follow-up there were no significant difference between the groups.</p> <p>In the optimism subscale, the results showed that there was no significant difference between the groups at post-intervention or at 6 week follow-up.</p> <p>Overall, we concluded that there may be little-to-no difference in the effect of peer support on feeling of empowerment compared to treatment as usual at all time-points.</p>	<p>⊕⊕⊕⊕ VERY LOW due to serious concerns for risk of bias, concerns for inconsistency, serious concerns for indirectness and imprecision.^a</p>	<p>There may be little-to-no difference in the effect of HOP vs. TAU on HRQoL post-intervention, but the evidence is very uncertain.</p> <p>There may be little-to-no difference in the effect of HOP vs. TAU on feeling of empowerment at follow-up, but the evidence is very uncertain.</p>

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HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; RCT = randomized controlled trial; TAU = treatment as usual

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^aExplanations:

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At post-intervention and at follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited evidence of consistency as only one trial was available that reported on the outcome at all time points; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

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2473 **Table 27: GRADE Summary of Findings Table for Social Withdrawal**

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
<p>Social withdrawal</p> <p>Post-intervention: 84 (1 RCT⁴⁹)</p> <p>Longest follow-up: 84 (1 RCT⁴⁹)</p>	<p>One RCT⁴⁹ with high risk of bias (unclear direction) reported on participants' social withdrawal. This RCT⁴⁹ compared the effectiveness of HOP program to treatment as usual among adolescent psychiatric patients, who were mostly female (69.3%), born in Germany (94.8%) and were around 22 months since the first psychiatric diagnosis.</p> <p>The outcome was assessed by the stigma-coping and orientation subscale of the Link's Stigma Scales⁵⁴ (7 items related to withdrawal). Higher mean scores (range 1 to 6) indicate more secrecy.⁴⁹</p> <p>The results of the trial suggested that peer support may be favoured compared to treatment as usual on lowering the participants' social withdrawal at post-treatment. However, the effect was small (mean between group difference for change from baseline = 0.34 [95% CI -0.63 to -0.05]), and the clinical importance is unclear.</p> <p>At 6 weeks post intervention, there was no significant difference between the groups in the change from baseline of mean scores.</p>	<p>⊕⊕⊕⊕ VERY LOW due to serious concerns for risk of bias, concerns for inconsistency, serious concerns for indirectness and imprecision.^a</p>	<p>HOP may be favoured vs. TAU with respects to social withdrawal at post-intervention, but the evidence is very uncertain.</p> <p>There may be little-to-no difference in the effect of HOP vs. TAU on feeling of empowerment at follow-up, but the evidence is very uncertain.</p>

2474 HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; RCT = randomized controlled trial; TAU = treatment as usual

2475 ^aExplanations:

2476 At post-intervention and at follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in
 2477 measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency
 2478 as only one trial was available that reported on the outcome at all time points; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C)
 2479 was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to
 2480 serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

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2482 **Table 28: GRADE Summary of Findings Table for Help-seeking**

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
<p>Help-seeking</p> <p>Post-intervention: 84 (1 RCT⁴⁹)</p> <p>Longest follow-up: 62 (1 RCT⁴⁹)</p>	<p>One RCT⁴⁹ with high risk of bias (unclear direction) reported on participants' help-seeking behavior. This RCT compared the effectiveness of HOP program to treatment as usual among adolescent psychiatric patients, who were mostly were female (69.3%), born in Germany (94.8%) and were around 22 months since the first psychiatric diagnosis.</p> <p>The outcome was assessed by the General Help-Seeking Questionnaire⁵⁸. In the RCT, an average of scores from items related to family/friends and professionals were reported. Higher scores indicate an increased likelihood for seeking help.⁴⁹ A mean score was calculated from the scores of the subscales (range 1 to 4), with higher scores indicating more empowerment.</p> <p>For seeking help from family/friends, at post-intervention, participants in the HOP group reported significantly increased help-seeking behaviour compared to those in the TAU group (mean between group difference for change from baseline = 0.77 [95% CI 0.36 to 1.17]). At 6-week follow-up, however, there was no significant difference between the groups.</p> <p>As for seeking help from professionals, participants in HOP group reported significantly higher improvement compared to those in the TAU group at post intervention (mean between group difference for change from baseline = 0.60 [95% CI 0.15 to 1.05]) and at 6-week follow up (mean between group difference for change from baseline = 0.82 [95% CI 0.32 to 1.32]). Overall, we conclude that that peer support may be favoured compared to no peer support in improving help seeking behaviour among youth.</p>	<p>⊕⊕⊕⊕ VERY LOW due to serious concerns for risk of bias, concerns for inconsistency, serious concerns for indirectness and imprecision.^a</p>	<p>HOP may be favoured vs. TAU with respects to social withdrawal at post-intervention, but the evidence is very uncertain.</p> <p>HOP may be favoured vs. TAU with respects to help seeking at 6 weeks follow up, but the evidence is very uncertain.</p>

2483 HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; RCT = randomized controlled trial; TAU = treatment as usual

2484 ^aExplanations:

2485 At post-intervention and at follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in
2486 measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency
2487 as only one trial was available that reported on the outcome at all time points; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C)
2488 was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to
2489 serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

2490 **Table 29: GRADE Summary of Findings Table for Hopelessness**

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
<p>Hopelessness</p> <p>Post-intervention: 84 (1 RCT⁴⁹)</p> <p>Longest follow-up: 62 (1 RCT⁴⁹)</p>	<p>One RCT⁴⁹ with high risk of bias (unclear direction) reported on participants' feeling of hopelessness. This RCT⁴⁹ compared the effectiveness of HOP program to treatment as usual among adolescent psychiatric patients, who were mostly were female (69.3%), born in Germany (94.8%) and were around 22 months since the first psychiatric diagnosis. The outcome was assessed by Beck's Hopelessness Scale (brief version)⁵⁹ a 4-item questionnaire, with higher scores indicating increased hopelessness.</p> <p>At post-intervention, there were no significant differences between HOP and TAU groups in change from baseline of mean scores. The mean between group differences for change from baseline were 0.51 (95% CI -1.88 to 0.85)</p> <p>At 6-week follow-up, there were no significant differences between HOP and TAU groups in change from baseline of mean scores. The mean between group differences for change from baseline 1.22 (95% CI -2.68 to 0.24) Thus, there may be little-to-no difference in the effect of peer</p>	<p>⊕⊕⊕⊕ VERY LOW</p> <p>due to serious concerns for risk of bias, concerns for inconsistency, serious concerns for indirectness and imprecision.^a</p>	<p>There may be little-to-no difference in the effect of HOP vs. TAU on feeling of hopelessness post-intervention, but the evidence is very uncertain.</p> <p>There may be little-to-no difference in the effect of HOP vs. TAU on feeling of hopelessness post-intervention, but the evidence is very uncertain.</p>

	support on feeling of hopelessness compared to treatment as usual.		
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2491 HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; RCT = randomized controlled trial; TAU = treatment as usual

2492 ^aExplanations:

2493 At post-intervention and at follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in
 2494 measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency
 2495 as only one trial was available that reported on the outcome at all time points; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C)
 2496 was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to
 2497 serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

2498

2499 **Table 30: GRADE Summary of Findings Table for Stage of Recovery**

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
Stage of recovery Post-intervention: 84 (1 RCT ⁴⁹) Longest follow-up: 62 (1 RCT ⁴⁹)	<p>One RCT⁴⁹ with high risk of bias (unclear direction) reported on participants' self-reported stage of recovery. This RCT⁴⁹ compared the effectiveness of HOP program to treatment as usual among adolescent psychiatric patients, who were mostly were female (69.3%), born in Germany (94.8%) and were around 22 months since the first psychiatric diagnosis.</p> <p>The outcome was assessed by Self-Identified Stage of Recovery Scale⁶⁰, in which the total score ranges from 4 to 24, higher scores indicating a better recovery process.</p> <p>At post-intervention, there was no significant difference between the groups in the stage of recovery compared to TAU (Mean between group difference for change from baseline 0.15 [95% CI -1.34 to 1.64]).</p> <p>At the 6-week follow-up, the results suggested that peer support may be favoured compared to treatment as usual on the stage of recovery. However, the clinical significance of the improvement is unclear (Mean between group difference for change from baseline 1.59 [95% CI = 0.10 to 3.07]).</p>	<p>⊕⊕⊕⊕ VERY LOW due to serious concerns for risk of bias, concerns for inconsistency, serious concerns for indirectness and imprecision.^a</p>	<p>There may be little-to-no difference in the effect of HOP vs. TAU on feeling of hopelessness post-intervention, but the evidence is very uncertain.</p> <p>HOP may be favoured vs. TAU with respects to self identified stage of recovery at</p>

			follow-up, but the evidence is very uncertain.
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2500 HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; RCT = randomized controlled trial; TAU = treatment as usual

2501 ^aExplanations:

2502 At post-intervention and at follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in
 2503 measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency
 2504 as only one trial was available that reported on the outcome at all time points; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C)
 2505 was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to
 2506 serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

2507

2508 **Table 31: GRADE Summary of Findings Table for Symptoms of Anxiety**

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
Anxiety Post-booster: 97 (1 RCT ³⁹) Longest follow-up: 55 (1 RCT ⁴⁰)	<p>One RCT^{39,40} with high risk of bias (unclear direction) reported on participants' self-reported anxiety symptoms. The trial³⁹ compared HOP-C with no peer support among university students with self identified mental health concerns. The participants (n =117) were mostly female (82.2%), white (68.6%) and heterosexual (66.9%), and reported depressive symptoms (85.5%).</p> <p>Anxiety symptoms were assessed using Generalized Anxiety Disorder 7-Item scale^{61,62} (score range 0 to 21), with higher scores indicating increased severity of symptoms.⁶²</p> <p>At post booster and at the 2-month follow-up, there were no difference in self-reported improvement in anxiety symptoms between HOP-C and waitlist groups (p values 0.213 and 0.252 respectively).</p>	<p>⊕⊖⊖⊖ VERY LOW due to serious concerns for risk of bias, concerns for inconsistency, serious concerns for indirectness and imprecision.^a</p>	<p>There may be little-to-no difference in the effect of HOP-C vs. TAU on self reported anxiety symptoms post-booster, but the evidence is very uncertain.</p> <p>There may be little-to-no difference in the effect of HOP-C vs. waitlist control</p>

			on self reported anxiety symptoms at follow-up, but the evidence is very uncertain.
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2509 HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; RCT = randomized controlled trial; TAU = treatment as usual

2510 ^aExplanations:

2511 At post-intervention and at follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in
 2512 measurement of the outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency
 2513 as only one trial was available that reported on the outcome at all time points; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C)
 2514 was identified and the population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to
 2515 serious concerns about imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

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2517 **Table 32: GRADE Summary of Findings Table for Symptoms of Depression**

Outcome Follow-up, no. participants (trials)	Findings	Certainty of the evidence (GRADE)	What happens?
Depression Post-intervention: 84 (1 RCT ⁴⁹) Post booster: 97 (1 RCT ³⁹) Follow-up: 117 (2 RCTs ^{40,49})	<p>Two trials^{39,40,49} with high risk of bias (predicted direction of bias unclear), reported on the impact of peer support interventions on depression among youth with mental health concerns. Participants had a mean age of 15⁴⁹ to 21^{39,40} years, most of them female individuals (69.3%⁴⁹ to 82.2%^{39,40}). The peer support interventions were HOP⁴⁹ and HOP-C^{39,40} programs. Outcomes were measured at post-intervention, post-booster and at follow-up (6 weeks⁴⁹ to 2 months⁴⁰ after core-sessions). Symptoms of depression was measured using the 15 item CESD (range 0 to 45) in one trial⁴⁹ and the 10 item CESD-10 in the other^{39,40}, higher scores indicating more symptoms.</p> <p>The trials showed that there may be little-to-no difference in self-reported symptoms of depression from baseline to posttreatment (1 RCT⁴⁹) and to post booster (1 RCT³⁹).</p> <p>At longest follow-up, the results were heterogenous (2 RCTs^{40,49}). Findings from 1 RCT⁴⁹ favoured HOP-C at 6 weeks after the sessions with a mean between-group difference in change from baseline of 7.25 (95% CI -10.85 to -3.65),</p>	<p>⊕⊕⊕⊕ VERY LOW due to serious concerns for risk of bias, inconsistency, indirectness and imprecision.^a</p>	<p>There may be little-to-no difference in the effect of HOP vs. TAU on self reported depressive symptoms at post-intervention, but the evidence is very uncertain.</p> <p>There may be little-to-no difference in the effect of HOP-C</p>

	<p>whereas the second RCT⁴⁰ found little-to-no difference between groups at 2 months after the sessions.</p>		<p>vs. TAU on self reported depressive symptoms post-booster, but the evidence is very uncertain.</p> <p>The findings for effect of HOP vs. control (waitlist/ TAU) on depressive symptoms at the longest follow-up are heterogeneous, and the evidence is very uncertain.</p>
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2518 HOP= Honest, Open, Proud; HOP-C = Honest, Open, Proud-College; RCT = randomized controlled trial; TAU = treatment as usual

2519 ^aExplanations:

2520 At post-intervention: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the
 2521 outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency as only one trial was
 2522 available that reported on the outcome at this time point, rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the
 2523 population seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about
 2524 imprecision because of the relatively lower sample size in each comparison; publication bias was not detected.

2525 At post-booster: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the outcomes
 2526 (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of limited of evidence of consistency as only one trial was available
 2527 that reported on the outcome at this time point; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population
 2528 seemed relatively homogenous, thereby lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision
 2529 because of the relatively lower sample size in each comparison; publication bias was not detected.

2530 At longest follow-up: rated down once for risk of bias due to serious concerns about the potential for bias arising from missing outcome data and bias in measurement of the
 2531 outcomes (participant reported subjective outcomes); rated down once due to serious concerns for inconsistency because of inconsistent results between the trials at longest follow-
 2532 up; rated down once due to serious concerns for indirectness because only one program (HOP/HOP-C) was identified and the population seemed relatively homogenous, thereby
 2533 lowering the generalizability of findings to peer support programs in general; rated down once due to serious concerns about imprecision because of the relatively lower sample size
 2534 in each comparison; publication bias was not detected.

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2537 **Detailed Descriptions of Outcome Measurement Tools**

2538 **Table 33: Detailed Descriptions of Outcome Measurement Tools**

Outcome measure	Description
Beck’s Hopelessness Scale (brief version)⁵⁹	A 4-item questionnaire to evaluate hopelessness, with scores ranging from 4 to 24. Higher scores indicate increased hopelessness.
Center for Epidemiologic Studies Short-Depression Scale 10^{65,66}	CESD-10 is a 10 item questionnaire, each with Likert type response options, to assess symptoms of depression. It is a shorter version of CES-D It includes questions on somatic symptoms, depressed affect and positive affect, which are scored from 0 (rarely or none of the time) to 3 (all of the time), over the past week. Total scores range from 0 to 30, with higher scores indicating increased severity of symptoms.
Center for Epidemiologic Studies- Depression Scale⁶³	CESD is a 20-item scale to assess symptoms of depression and to identify at-risk individuals for depression. Each item is rated on a 4-point Likert scale ranging from 0 (rarely or none of the time) to 3 (all of the time). Total scores range from 0 to 60, with higher scores indicating increased severity of symptoms. ⁶⁴
Empowerment Scale⁵⁷	Empowerment scale is a 28-item scale to measure empowerment among consumers of mental health services. It includes domains such as Self-esteem, Power-Powerlessness, Community Activism and Autonomy, Optimism and Control over the Future, and Righteous Anger. Each item is scored on a 4 point Likert scale (strongly agree to strongly disagree). Higher scores indicate stronger empowerment. ⁸⁵ Note: The Self-esteem (9 items) and the Optimism (4 items) subscales of Empowerment scales were used in one of the trials ⁴⁹ included in the clinical review to assess the outcome of empowerment. A mean score was calculated ranging from 1 to 4.
Generalized Anxiety Disorder 7-Item scale^{61,62}	A 7-item scale to assess to symptoms of anxiety. Each item is rated from 0 (not at all) to 3 (nearly every day) on how the participants have felt over the past 2 weeks. The total score ranges from 0 to 21, with higher scores indicating increased severity of symptoms. ⁶²
General Help-Seeking Questionnaire⁵⁸	This questionnaire is used to assess help seeking behavior of participants from various sources (e.g., brothers/sisters, doctor, priest/pastor/minister/religious leader, phone helpline) regarding mental health concerns. Each item is rated using a 7-point Likert ranging from “extremely unlikely” to “extremely likely”. ⁵⁸ Note: In one included trial ⁴⁹ an average of scores from items related to family/friends and professionals was reported. Higher scores indicate an increased likelihood for seeking help. ⁴⁹
Internalized Stigma of Mental Illness⁵³ (10-item version)	ISMI ⁸⁶ is a 29-item questionnaire used to assess internalized stigma across domains such as Alienation, Discrimination Experience, Social Withdrawal, Stereotype Endorsement, and Stigma Resistance. A shorter 10-item version of ISMI ⁵³ is a validated outcome measure and covers all the domains in the 29-item ISMI. Each item is rated on a 4-point Likert: ‘strongly disagree (1) to ‘strongly agree (4). Overall score ranges from 1 to 4, with higher scores indicating increase levels of internalized stigma. ⁵³

KIDSCREEN 10⁵⁵	A validated 10-item questionnaire to measure health-related quality of life among children and adolescents. Each item has 9 response options ranging from “not at all “(1) to “always” (9) . Total score ranges from 10 to 50 with higher scores indicating better health-related quality of life. ^{55,56}
Link’s Stigma Coping Orientation Scales⁵⁴	A subscale of Link’s Stigma Scales, the stigma-coping and orientation measure domains such as secrecy, withdrawal, challenging, distancing and educating. Each item scores from 1 (strongly disagree) to 4 (strongly agree). Among these, items related to secrecy (5 items) and withdrawal (7 items) were used in one of the included trials. ⁴⁹ Higher mean scores (range 1 to 6) indicate more secrecy or withdrawal. ⁴⁹
Self-Identified Stage of Recovery Scale⁶⁰	This self-reported scale measures stage of recovery across the domains of stage of recovery and the recovery process. Stage of recovery is assessed using 1 statement and the Recovery process is assessed using 4 items, rated on a 6-point scale from 1 (Disagree Strongly) to 6 (Agree Strongly). Higher overall scores (range 4 to 24) indicate a better recovery process. ⁶⁰
Self-Stigma of Mental Illness Scale–Short Form⁵²	A self-reported measure to assess self-stigma, and consists of subscales such as awareness, agreement, application, and harm. Each subscale has 5 items, which is rated from 1 to 9 (9 being strongly agree). The overall score for each subscale ranges from 5 to 45, with higher scores indicating more self-stigma. ⁵² Note: In the included trial by Conley et al., ^{39,40} each subscale scores were reported as ranging from 2 to 5. This is likely the mean score of the 5 items in each of the subscales.
Stigma Stress Scale^{87,88}	Self-reported 8-item scale in which 4 items are about stigma as a harmful stressor and 4 items about perceived resources to cope with stigma related harm. Each item is rated from 1 to 7, 7 being more harm or more coping resources. Stigma stress score (range –6 to 6) is calculated by subtracting mean score of perceived resources from mean score of harm, with higher score indicating increased stress related stigma. ^{87,88}

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CESD-10 = Center for Epidemiologic Studies Short- Depression Scale-10; CESD = Center for Epidemiologic Studies Depression Scale; ISMI = Internalized Stigma of Mental Illness;

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2542 Appendix 3: List of Excluded Publications and Reasons for Exclusion — 2543 Review of Clinical Effectiveness and Safety

2544 The citations provided in this list are studies that were excluded after full-text review by two independent reviewers as part of the clinical
2545 review (in reverse chronological and alphabetical order).

2546 *Irrelevant Population (n = 84):*

2547 Ali K, Fassnacht DB, Farrer LM, et al. Recruitment, adherence and attrition challenges in internet-based indicated prevention programs for
2548 eating disorders: lessons learned from a randomised controlled trial of ProYouth OZ. *Journal of Eating Disorders*. 2022;10(1).

2549 Ali SH, Mohsin FM, Banks A, Lynn P, Lim S. Peer-Led, Remote Intervention to Improve Mental Health Outcomes Using a Holistic,
2550 Spirituality-Based Approach: Results from a Pilot Study. *Community mental health journal*.. 2021;24.

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2553 Toombs E, Mushquash CJ, Lund J, et al. Adaption and implementation of the Housing Outreach Program Collaborative (HOP-C) North for
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2555 Onyeka O, Richards M, Tyson McCrea K, et al. The role of positive youth development on mental health for youth of color living in high-
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2557 Gregory D, Van Puymbroeck M, Crowe B, Garst B, Amylon M. The Influence of a Peer Support Camp on Mitigating Emotional Distress in
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2559 Munson MR, Jaccard J, Scott LD, Jr., et al. Outcomes of a Metaintervention to Improve Treatment Engagement Among Young Adults
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- 2578 Kidd SA, Vitopoulos N, Frederick T, et al. Trialing the feasibility of a critical time intervention for youth transitioning out of homelessness. *Am J Orthopsychiatry.* 2020;90(5):535-545.
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- 2580 Vanderkruik R, Gist D, Dimidjian S. Preventing eating disorders in young women: An RCT and mixed-methods evaluation of the peer-delivered Body Project. *J Consult Clin Psychol.* 2020;88(12):1105-1118.
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2953 Appendix 4: Semi-Structured Consultation Interview Guide

2954 Updated Consultation Interview Guide

2955 Introduction: Thank you for your interest and willingness to participate in our stakeholder consultation to help inform our Peer Support for
 2956 Youth Mental Health project at CADTH. The purpose of this discussion is to help inform the ES component which focused on the program
 2957 evaluation aspects of peer support program for youth mental health. The objective of the ES is to identify and describe existing and
 2958 recommended methods for the evaluation of peer support programs for youth mental health including completed evaluation conducted in
 2959 Canada or internationally and summarize any finding of completed evaluation in Canada. The structure of this consultation will be guided by
 2960 a series of open-ended questions focused on your role and knowledge of current program evaluation methods specifically for peer support
 2961 programs for youth mental health. The consultation should last about 60 minutes and will be recorded. You are free to raise concerns or
 2962 withdraw at any time throughout the consultation process. Do you have any questions or concerns before we begin?

2963 Discussion:

- 2964 1. Can you briefly explain your role(s) within the organization?
- 2965 2. How does your organization define Peer Support and how does program evaluation for Peer Support Programs fit within your
 2966 organization?
- 2967 3. Can you explain the methods that are used when evaluating Peer Support Programs?
- 2968 • For example, how you collect your evaluation data; any specific tools used to help collect data; publicly reporting
 2969 evaluation results; typical sample size of evaluation; frequency and duration of evaluations.
- 2970 4. Can you identify any guiding resources that are used to inform how program evaluations are done within your organization?
- 2971 5. What are the outcomes that are evaluated, and how are they measured?
- 2972 • Outcomes related to individual level, support providers, program/organizational level, health system level?
- 2973 6. Who (within the organization) is involved in conducting the evaluation process?
- 2974 7. Is equity a component of your program evaluations? If so, how do you ensure that equity is incorporated or considered?
- 2975 8. Are there any barriers to incorporating equity within evaluations of peer support? If so, how are these barriers addressed?
- 2976 9. Are peer support workers and/or peer support service users involved in the program evaluation? Does your program serve
 2977 marginalized, racialized, or Indigenous youth, and if so, do you involve them in your program evaluation?
- 2978 10. Would you be willing to share any examples of completed program evaluations from your peer support program for youth mental
 2979 health?

2980 11. Is there any other important information that you feel I have left out which you would like to tell me?

2981 Conclusion: Thank you again for your participation in this consultation. If you have any additional questions or would like to discuss anything
2982 further, please do not hesitate to reach out. I will follow-up with details about the next steps, which will include an opportunity to provide
2983 feedback regarding the relevancy and accuracy of the information obtained today.

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2985 **Appendix 5: List of Key Informant Organizations and Peer Support**
 2986 **Programs**

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Province / Territory	Organization Represented by Consultation Respondents	Aim and Background of Peer Support Program
British Columbia	Foundry Central Office	Foundry is a province-wide initiative that supports several local Youth Hubs which integrate health services for youth and offer in-person and virtual peer support services for mental health to youth ages 12-24 Foundry virtual center also offers virtual peer support with a focus on access for youth living in rural and remote settings
Manitoba	Sara Riel	Provides peer support to youth ages 18-29 to support youth's recovery and living in the community peer support
Ontario	EveryMind	Pilot peer support program that served youth ages 14-25 (Completed 2021)
	Mental Health Innovations	Social enterprise that provides peer support training and program development to businesses and non-profit organizations to support the mental health of their staff Worked (2022) with the Nova Scotia Health to offer inpatient mental health peer for youth Is supporting the development and implementation of a peer support program for post-secondary students in Canada
	Stella's Place	Provides peer support services to youth ages 16-29
	Centre for Innovation in Peer Support at Support House	Provides peer support to youth aged 16+ through several locations and virtual platforms Also, the home of the Centre for Innovation in Peer Support which offers training and implementation support for peer supporters and organizations
New Brunswick	Mental Health and Addictions, Department of Health	Provides recovery-based peer support services to individuals ages 18+ at several locations within New Brunswick

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Appendix 6: Summary of Included Studies

Table 35: Summary of Included Studies from Literature

Author, Year, Country	Name of Program and Organization	Program Characteristics	Evaluation Overview	Data Collection Method(s)	Evaluation Outcome(s) Measured
Halsall, 2021 Canada	Transitional Aged Youth, Leap of Faith Together	<p>Peer support services are integrated alongside case management, mental health, and housing support services for youth ages 14-26</p> <p>Youth participants reflected the diversity of the population of downtown Toronto and included youth experience mental health and substance use issues</p> <p>Program objective is to build a sense of autonomy and develop life skills capacity to help achieve goals and maintain personal wellness for program users</p> <p>N = ~800</p>	Aim of evaluation was to examine peer support services within the Transitional Ages Youth program using realist and participatory procedures and develop revised research questions based on the initial evaluative findings	<p>Realist approach Includes an exploration of the formal program theory through a literature search, review of program documents and interviews with key stakeholders (peer staff, non-peer staff, and students that work in the program) to identify preliminary context, mechanism, outcome patterns and general successes and challenges</p> <p>Participatory approach Includes a workshop for the study purpose and background, general evaluation principles, and an exploratory discussion to collect feedback on design and current issues within peer support that included peer staff, non-peer staff,</p>	<p>The realist approach aimed to gather information and contextualize initial contexts, mechanisms, and outcomes identified by key stakeholders to inform refined research questions for additional program evaluation</p> <p>The participatory approach collected feedback on initial design and current issues of interest within peer support challenges</p> <p>The post realist and participatory data collection was used to help refine the scope of the evaluation</p>

				<p>and students that worked in the program</p> <p>Post Realist and Participatory Data Collection Includes peer interviews, client online surveys, peer online surveys, and knowledge mobilization based on the information gathered from the realist and participatory approaches</p>	
<p>Day, 2020 UK</p>	<p>Peer Support for Mental Health and Wellbeing, Department for Education</p>	<p>The Peer Support for Mental Health and Wellbeing were piloted in 2018 with the aim of understanding how schools, colleges and CYPCOs can set up and deliver peer support to improve youth mental health and wellbeing</p> <p>Participating organizations designed and tailored their model of peer support to fit individual needs and circumstances</p>	<p>Aim of evaluation was to understand the set up and delivery of peer support programs so that replicable models may be produced for different contexts</p> <p>Evaluation efforts aimed to answer questions related to program models, implementation, and benefits and outcomes</p>	<p>A mixed-methods approach was used to quantitative and qualitative data</p> <p>Organization pilot leads completed an online survey to establish baseline measurements</p> <p>Follow-up qualitative telephone interviews were complete with a sample of pilot leads</p> <p>Case study visits were conducted with a purposive sample of pilot leads</p> <p>Participatory research tools were</p>	<p>Social and emotional wellbeing and resilience</p> <p>Personal development</p> <p>Organizational outcomes and capacity building</p>

				used to provide feedback from youth	
				Pre and post quantitative survey of youth to measure change in individual wellness outcomes	

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CYPCO= Children and Young People's Community Organisation; N = number

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Appendix 7: Summary of Program Evaluation Reports from Consultations

Table 36: Summary of Program Evaluation Reports from Consultations

Organization, Year	Program Evaluated	Aim of Evaluation	Evaluation Design and/or Development	Data Collection Method(s) and Analysis	Evaluation Outcome(s) Measured
EveryMind, 2022	Youth Peer Support Pilot Project	To account for anticipated and unanticipated program outcomes by using an exploratory approach	<p>Process and evaluation questions were developed for program users and workers</p> <p>Process questions were designed to evaluate how the program was implemented and if implementation was as intended</p> <p>Outcome questions were designed to capture changed that occurred because of the program</p>	<p>Program indicators were informed through content-based and demographic questions, program metrics like attendance and number of times program was used, and session topics</p> <p>Formative feedback was collected through survey-based questionnaires on a weekly basis after each session which included quantitative questions and qualitative questions</p> <p>Summative feedback was collected</p>	<p>Formative feedback outcomes included statements about the quality of the content covered, and open-ended questions to assess user and worker experiences</p> <p>Summative feedback outcomes focused on peer support training experiences and youth participant and worker experiences</p>

				<p>following the program to inform program experiences and program outcomes through qualitative methods</p> <p>Quantitative data was analyzed using metrics such as frequencies, percentages, or mean scores</p> <p>Qualitative data was analyzed using a thematic analysis approach</p>	
<p>Foundry Center Office, 2021</p>	<p>Foundry Youth Peer Support Curriculum</p>	<p>To improve the training experiences of future youth peer support workers</p> <p>To understand the impact on participant preparation for youth</p>	<p>Participants were invited to complete a survey and participate in focus groups to inform feedback to address quality improvement efforts</p>	<p>Surveys were administered before and after training sessions both in person and online</p> <p>Focus groups were conducted with training participant both in person and virtually</p>	<p>Outcomes were related to the impact of participants through content, delivery, and experience of training</p> <p>Trainer experiences outcomes were also assessed</p>

		<p>peer support practice and to better meet training needs</p> <p>To assess the delivery of virtual training</p>		<p>Key informant interviews were held with training facilitators</p> <p>Quantitative and qualitative data were analyzed using statistical and thematic coding software</p>	
<p>Centre for Innovation in Peer Support at Support House, 2019</p>	<p>Just Be You</p>	<p>To provide baseline data on perceived integrity, quality and impact of peer support services</p>	<p>The evaluation used the PSIQL survey, which was developed in consultation with peer support experts to be used by people who are currently using peer support or have recently stopped using peer support</p>	<p>Participants use the PSIQL survey to inform questions related to connection with peer support, time of engagement, type and focus of peer support offered, service integrity, service quality, and service impact</p>	<p>Outcomes are related to the participants experience of using peer support, and their perceived judgement on service integrity, quality and impact</p>

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PSIQL = Peer Support Integrity, Quality and Impact

2997 **Appendix 8: Summary of Program Evaluation Methods from Stakeholder**
 2998 **Consultations**

2999 **Table 37: Summary of Program Evaluation Methods from Stakeholder Consultations**

Organization, Jurisdiction	Foundry Central Office, British Columbia	Sara Riel, Winnipeg,	EveryMind, Ontario	Mental Health Innovations, Canada	Stella's Place, Ontario	Centre for Innovation in Peer Support at Support House, Ontario	Mental Health and Addictions, New Brunswick Department of Health, New Brunswick
Peer Support Program Evaluation Goals	<p>To measure who and how many youth seek and receive peer support services from Foundry</p> <p>To demonstrate the impact of peer support on youth, workers, and health system outcomes to support the further scaling up of peer support programs and initiatives</p> <p>To establish consistency across peer</p>	<p>To enable quality improvement and to track user recovery</p>	<p>To understand the baseline effectiveness and to promote wider organizational uptake of peer support</p> <p>To provide ongoing feedback to understand and ensure that the needs of the program were being met</p> <p>To provide a process of quality improvement</p>	<p>To provide quality improvement that addresses the needs of the organization using the peer support service</p>	<p>To inform quality improvement through ongoing feedback</p>	<p>To inform quality improvement and understand user and worker's relationship with peer support</p>	<p>To ensure the program is adhering to a recovery model as outlined by the MHCC</p>

	support programs including the roles of peer support workers		To inform peer support training for other programs in the organization				
Peer Support Program Evaluation Guiding Principles and Practices	<p>Evaluation is developed through a process of co-design with youth</p> <p>Evaluation is informed by practice-based evidence</p>	Evaluation is based on a recovery model	<p>Evaluation is ongoing and developed through a process of co-design with youth</p> <p>Evaluation is informed by practice-based evidence</p>	Evaluation is developed with the involvement of the business/organization that has requested the services of the peer support program	<p>Evaluation is ongoing and based on a recovery model</p> <p>Evaluation is developed through a process of co-design involving youth</p>	Evaluation is based on a recovery model and is developed through a process of co-design with youth	Evaluation is ongoing and is based on a recovery model of care
Participants Involved in the Design and/or Conduct of Peer Support Evaluations	<p>Youth Advisory Councils are involved in all aspects of evaluation design and conduct (including analysis)</p> <p>Peer support users, workers, and clinicians participate in conducting the evaluation (on a voluntary basis)</p>	Peer support users and workers participate in conducting the evaluation (on a voluntary basis)	<p>A youth engagement committee is involved in the design of the evaluation</p> <p>Peer support users and workers participate in conducting the evaluation (on a voluntary basis)</p>	Peer support workers and clinicians participate in conducting the evaluation (on a voluntary basis)	<p>A youth and young adult advisory council is involved in the design of the evaluation</p> <p>Peer support users and workers participate in conducting the evaluation (on a voluntary basis)</p>	<p>Evaluation is done through a co-design process with youth users and workers</p> <p>Peer support users and workers participate in conducting the evaluation (on a voluntary basis)</p>	Peer support users, workers, and clinicians participate in conducting the evaluation (on a voluntary basis)

<p>Peer Support Program Evaluation Data Collection and Analysis</p>	<p>Evaluation In-development : Mixed method longitudinal evaluation with a co-design approach</p> <p>Guided by a splash and ripple logic model</p> <p>Prior evaluations: Data on program outputs was collected using a youth experience and satisfaction survey and a service worker experience survey</p>	<p>Data is collected using surveys</p> <p>Data is collected at baseline (intake) up to 9 months after program engagement</p> <p>C-PROM is used for recovery-based assessments</p>	<p>Data is collected using online surveys</p> <p>Quantitative and qualitative data is extracted from surveys</p>	<p>Data is typically collected using surveys</p>	<p>Evaluation is done using a pre-post analysis and results are aggregated across different programs that include peer support</p> <p>Data is collected using feedback forms</p>	<p>Evaluations take place after youth participation in peer support programs have concluded and results are typically analyzed on a quarterly basis</p> <p>Data is collected using the PSSIQI survey tool and analyzed by an external party and information is consolidated and shared back with the organization for interpretation</p> <p>PSSIQI can be used in conjunction with C-PROM</p>	<p>Evaluation is guided by a process-oriented logic model</p> <p>Data is collected using surveys</p> <p>CMHA offers yearly assessments of completed evaluations</p>
<p>Peer Support Program</p>	<p><u>Prior Evaluations</u></p>	<p>Recovery-oriented outcomes:</p>	<p>Individual outcomes: user and</p>	<p>Program outcomes: peer support worker and</p>	<p>Recovery-oriented outcomes:</p>	<p>Recovery-oriented outcomes:</p>	<p>Recovery-oriented outcomes:</p>

<p>Evaluation Outcomes</p>	<p>Individual outcomes: user and worker satisfaction</p> <p>Program outcomes: program outputs (e.g., attendance records, referrals to program)</p> <p>Evaluation In-development</p> <p>Individual outcomes: effectiveness of peer support over time through a repeated health measure based on an outcome rating scale with composite domains focusing on relationships to recovery (called Life Tracker)</p> <p>System level outcomes: connection to other external</p>	<p>user's "path to recovery" including feelings and attitudes of user's personal recovery</p> <p>Individual outcomes: employment related outcomes</p> <p>Program outcomes: attendance, user information, duration of program enrollment</p> <p>System-level outcomes: hospitalizations</p>	<p>worker experiences</p>	<p>clinician perceptions of the peer support program</p>	<p>overall recovery, emotional regulation, empowerment, and social connections</p> <p>Individual Outcomes: education and employment</p>	<p>change in emotions and feelings before and after peer support</p> <p>Individual outcomes: overall experience of the program and how strongly users agree with the set of 17 action statements to assess how users felt supported</p> <p>Program outcomes: assessment of changes that can be implemented into the program</p> <p>Demographic data is also collected</p>	<p>community integration, overall fulfillment</p> <p>Individual outcomes: user and worker experiences</p> <p>Program outcomes: number of program users</p>
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	or internal services through peer support to understand impact to system level services (e.g., emergency departments)						
Equity considerations in evaluation	<p>JEDI work is being implemented throughout the organization and all aspects of program delivery, including peer support and evaluation</p> <p>Youth advisory councils include Indigenous, racialized, gender-diverse and youth from other marginalized and oppressed who are involved in co-designing evaluations</p>	<p>Evaluation has highlighted a general gap in the uptake of populations using peer support services and efforts are being made to reach a broader population that is more reflective of the communities where peer support services are offered</p>	<p>There is an emphasis on having diverse perspectives from individuals with different lived experience informing the evaluation to ensure adequate community representation</p> <p>Participants involved in the evaluation are compensated for their involvement</p>	<p>Equity may not be on the client's radar, which often means it is not considered</p> <p>Equity considerations should be incorporated into evaluations as evaluations become more common and consistent</p>	<p>There is an effort to shift away from using clinical language within the evaluation to minimize stigmatization</p>	<p>Multiple methods of data collection are used to help minimize barriers to youth providing feedback</p>	<p>Evaluations use a "client led" approach which includes user perspectives to help inform future efforts that may impact barriers that prevent an equitable approach to program evaluation</p>

	<p>Evaluation of their peer support training program is being done through an Indigenous lens</p> <p>The virtual care program was designed to increase access to programing and evaluation by breaking down barriers to participants for rural and remote</p> <p>There is an organization commitment to collecting Indigenous-data and stories during evaluation in a culturally responsible manner</p>						
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CMHA = Canadian Mental Health Association; C-PROM = Canadian Personal Recovery Outcome Measure; JEDI = justice, equity, diversity, and inclusion; MHCC = Mental Health Commission of Canada; PSSIQI = Peer Support Service Integrity, Quality and Impact Survey

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