Mental Health & Prevention 24 (2021) 200211

Contents lists available at ScienceDirect

Mental Health & Prevention

journal homepage: www.elsevier.com/locate/mhp

Prevention of mental and substance use disorders: Shaping priorities for research and implementation

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ARTICLE INFO

Keywords:
Prevention
Mental disorders
Substance use disorders
Research
Implementation

ABSTRACT

Prevention efforts can substantially reduce the human and economic costs of mental and substance use disorders. However, a strategically integrated set of priorities for research and implementation is lacking. The Leaders in Prevention Summit sought to address this need by bringing together a diverse range of stakeholders to identify shared opportunities and priorities. Eighty individual delegates were involved and 235 responses and 1338 votes were received during an interactive, online workshop. The responses were grouped thematically and ranked according to popularity. Collaboration and coordination and sustainability emerged as key themes. Identified priorities include to better understand and target risk and protective factors, share leadership and promote co-design/co-production with key stakeholders, improve coordination of data collection and management, and undertake ongoing evaluation and improvement. There was considerable agreement on the need for a coordinated national framework and strategy for prevention research, policy, and implementation and significant investment to maximise and sustain the benefits of prevention programs.

1. Introduction

Mental and substance use disorders are substantial health, social, and economic challenges that frequently co-occur, share common risk factors, and interact (Carragher et al., 2016; Ciobanu et al., 2018; Teesson et al., 2009; Whiteford et al., 2013). They have a considerable impact on people and communities, while costing Australia over $43 billion each year (Mindgardens Neuroscience Network, 2019). When the full impact of productivity loss, reduced life expectancy, and the social and emotional costs of mental illness and suicide are considered, costs are estimated to be as high as $200–220 billion each year (Productivity Commission, 2020). Despite some evidence of relative stability in the rates of common mental disorders among adults over time (Harvey et al., 2017), emerging data suggests that rates among young people are increasing (Blomqvist et al., 2019; Keyes et al., 2019; Lawrence et al., 2015).

Mental health policies and services have typically focused on the provision of treatment for people already experiencing mental and substance use disorders, with prevention efforts generally lacking or piecemeal at best. While treatment remains important, this approach alone will not be enough to significantly reduce the human and economic costs of mental and substance use disorders. Indeed, research shows that optimal treatment efforts would avert less than 30% of the total disease burden attributable to mental and substance use disorders (Andrews et al., 2004). Thus, additional efforts beyond treatment are needed to further reduce this burden, including a stronger focus on prevention (Arango et al., 2018; Jorm, 2019).

Specific prevention programs for mental disorders (*e.g.*, anxiety and depression) and substance use disorders do exist and their efficacy has been demonstrated in research trials (*e.g.*, Deady et al., 2020; Teesson et al., 2017; Teesson et al., 2020; van Zoonen et al., 2014) and summarised in systematic reviews and meta-analyses (*e.g.*, Mendelson &

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https://doi.org/10.1016/j.mhp.2021.200211
Received 22 April 2021; Received in revised form 2 September 2021;
Available online 9 September 2021

Eaton, 2018; Mewton et al., 2018). One of the most promising approaches is the provision of primary prevention programs in schools a proactive way to reach a large proportion of young people prior to the onset of disorders—and recent reviews indicate that these programs typically produce small to moderate reductions in mental health problems and substance use (Das et al., 2016; Mewton et al., 2018; Newton et al., 2017; Newton et al., 2016; Onrust et al., 2016; Werner-Seidler et al., 2017; Werner-Seidler et al., 2021). Similarly, the provision of prevention programs in workplaces is a promising way to reach a large proportion of the adult population and studies have shown that workplace-based prevention programs can reduce the incidence of depression and anxiety (Joyce et al., 2016; Martin et al., 2009; Nigatu et al., 2019; Tan et al., 2014).

There is also a growing body of research showing the cost-effectiveness of prevention programs ((Le et al., 2021); McDaid et al., 2019; National Mental Health Commission, 2019). A recent economic modeling report commissioned by the National Mental Health Commission found that there is good evidence for investing in a range of prevention programs (National Mental Health Commission, 2019). Nine of the 10 programs evaluated had a return-on-investment (ROI) ratio greater than 1, indicating that their cost savings were greater than their costs. "e-Health interventions for the prevention of anxiety disorders in young people" had the largest ROI ratio at 3.06, which means that for every $1 invested, $3.06 will be returned to the economy. Other prevention programs with positive results included those for reducing older persons' loneliness, those for the prevention of post-natal depression, and those delivered in schools and workplaces. In parallel, there is considerable evidence showing the cost-effectiveness of substance use prevention policies (Burton et al., 2017) and programs (Miller & Hendrie, 2008). In the United States, a cost-benefit analysis (Miller & Hendrie, 2008) showed that nationwide implementation of effective substance use prevention programs in schools could save $18 for every $1 invested (USD in 2002). Collectively, this research indicates that investing in the prevention of mental and substance use disorders makes good economic sense.

Despite scientific and economic evidence that the prevention of mental and substance use disorders is achievable and worthwhile, the implementation of prevention programs remains limited. There may be several reasons for this, including important gaps in knowledge (Mendelson & Eaton, 2018; Mewton et al., 2018), the challenges of translating research into policy and practice (Collins, Insel, Chockalingam, Daar, & Maddox, 2013), and a lack of prioritization of prevention, especially in terms of the allocation of resources (*e.g.*, funding) (OECD, 2013). That said, the Australian federal, state, and territory governments have shown a growing commitment to reform the mental health system. Recent reform initiatives include the National Mental Health Commission Review of Mental Health Programmes and Services (National Mental Health Commission, 2014), the Productivity Commission Inquiry into Mental Health (Productivity Commission, 2020), the Royal Commission into Victoria's Mental Health System (State of Victoria, 2019), Australia's Long Term National Health Plan (Department of Health, 2019), and the National Preventive Health Strategy (see Department of Health, 2021, for Draft Strategy). The National Mental Health Commission is also currently developing a National Mental Health Research Strategy, which covers a full spectrum of focus areas from prevention to treatment, and a Vision 2030 for Mental Health and Suicide Prevention. Furthermore, Australian governments have committed to improving Aboriginal and Torres Strait Islander mental health through The Fifth National Mental Health and Suicide Prevention Plan (Department of Health, 2017) and the National Strategic Framework for Aboriginal and Torres Strait Islander Peoples' Mental Health and Social and Emotional Wellbeing (Commonwealth of Australia, 2017). Several of these reviews, inquiries, and reforms highlight the need for a stronger focus on prevention; however, investment in prevention remains limited and this issue is compounded by the fact that research and implementation efforts are not well coordinated.

The need for a strategically integrated set of priorities to guide research and implementation efforts and inform policy and investment decisions led to the convening of the *Leaders in Prevention Summit*. The Summit was organized by The Prevention Hub and the Prevention and Early Intervention in Mental Illness and Substance Use (PREMISE) National Health and Medical Research Council (NHMRC) Centre of Research Excellence through a partnership between the Black Dog Institute, Everymind, and the Matilda Centre for Research in Mental Health and Substance Use at the University of Sydney. A key objective of the Summit was to draw on a broad range of evidence and experience by bringing together diverse stakeholders in a united effort to shape priorities for prevention research and implementation. Here, we report on the priorities identified during the Leaders in Prevention Summit.

2. Method

The Leaders in Prevention Summit took place on the 1st and 3rd of September 2020 as an online event comprising two 2.5 hours sessions and 80 delegates, including leading research experts ($n = 47$), government representatives ($n = 9$), advocacy and leadership groups ($n = 7$), people with lived experience ($n \geq 7$), funding partners ($n = 4$), and others. The Summit featured a series of presentations on topics relevant to the prevention of mental and substance use disorders (see Supplementary Material - Program). This included international keynote presentations about global trends in youth mental health and the implementation of Improving Access to Psychological Therapies (IAPT). It also included presentations about: trends in alcohol use and mental health among Australian adolescents; priorities for youth mental health and substance use research identified by young people; government policy reform initiatives relating to prevention; Aboriginal and Torres Strait Islander leadership in prevention; and the economic case for investing in prevention. These presentations provided the context for workshopping priorities for prevention research and implementation.

An interactive workshop was held to inform priorities for prevention research and implementation. The following three questions were presented sequentially by a chairperson:

1 What are the opportunities for prevention?
2 What should be the main goals or priorities for prevention research over the next five years?
3 What actions need to be taken for implementation of effective prevention?

The purpose of Question 1 was to stimulate the generation and exchange of ideas, while Question 2 and Question 3 were used to elicit responses that would directly inform the priorities for research and implementation, respectively.

Delegates were instructed to use *slido* (https://www.sli.do/), an online Q&A and polling platform, to respond to each question. They were unable to discuss or respond to the questions orally, but their written responses could be seen by all other delegates. For Question 2 and Question 3, delegates were also instructed to "upvote" (*i.e.*, register their approval of or agreement with) any response(s) that they considered relatively important (higher priority) by selecting the corresponding thumbs-up icon. This process yielded a list of responses ordered according to popularity among delegates. The chairperson provided live commentary on incoming responses and their popularity throughout the workshop.

Following the workshop, the authors analyzed the responses by grouping them thematically and giving each group a descriptive title/topic. For Question 2 and Question 3, the number of corresponding upvotes was tallied within each topic and this information was used to rank topics according to popularity. Below we present the top ranked topics that emerged from responses to Question 2 and Question 3. We also present other topics that emerged from the responses to these questions and unranked topics that emerged from the responses to

Question 1 to capture the full range of responses and perspectives.

3. Results

3.1. Opportunities for prevention

In total there were 115 individual responses to Question 1 (What are the opportunities for prevention?). A number of opportunities relating to the prevention of mental and substance use disorders were identified by delegates, including:

- ***Using technology to improve access*** to, and uptake of, evidence-based programs at scale, particularly through existing systems/settings (*e.g.*, schools and workplaces).
- ***Taking a holistic and interdisciplinary approach*** to prevention by considering physical and mental health and socioeconomic determinants, including education, training and employment, housing, and discrimination.
- ***Nurturing early childhood development*** (the first 2000 days of life) by improving the mental health and parenting knowledge and skills of prospective parents, and continuing to support them throughout parenthood.
- ***Sharing leadership with key stakeholders***—especially those with lived experience, Aboriginal and Torres Strait Islander Peoples, and young people—to co-design/co-produce programs and, in doing so, incorporate different types of evidence (*e.g.*, cultural, experiential, clinical, scientific, etc.).
- ***Establishing a coordinated national approach*** to prevention that enables strong links between research and policy.
- ***Undertaking ongoing evaluation*** and improvement of programs.
- ***Taking a strengths-based approach*** to prevention.

3.2. Priorities for prevention research

In total there were 74 individual responses to Question 2 (What should be the main goals or priorities for prevention research over the next five years?). The top five ranked topics in response to Question 2 are presented in Box 1.

The top priority for prevention research is to better understand and target risk and protective factors, according to delegates. This includes investing in prospective cohort studies to determine how certain factors affect rates of mental and substance use disorders, investing in long-term outcome studies to determine if prevention programs truly prevent or just delay the onset of disorders, and examining the role and influence of a broad range of disorder-specific and transdiagnostic risk and protective factors across different developmental periods and life stages.

The second priority is to strengthen links between research areas through better collaboration. Delegates provided examples including taking a holistic approach, working in interdisciplinary teams, and sharing research methods and data on open access platforms.

The third priority is to include diverse stakeholders throughout the entire research process from conceptualization to implementation. This includes promoting a culture of diversity, inclusion, and shared leadership, prioritizing co-design/co-production, incorporating cultural healing practices, and valuing all types of knowledge.

The fourth priority is to evaluate and refine prevention programs in the real world, with a focus on innovation, agility, scalability, and continuous improvement. Delegates highlighted that this will require investment in high-quality translational research and ongoing evaluation.

The fifth of the top five priorities for prevention research is to improve data quality and scope. This includes better coordination of data collection and management, and improving data sharing and harmonization. Responses popular among delegates include investing in comprehensive monitoring of risk and protective factors in childhood, adolescence, and beyond, and the systematic identification and harmonization of existing data to provide new insights.

3.3. Actions for implementation of prevention

In total there were 46 individual responses to Question 3 (What actions need to be taken for implementation of effective prevention?). Three key themes emerged in response to Question 3 and these are presented in Box 2.

The three key themes represent the top three actions for implementation of prevention, which are to share leadership, establish a coordinated national framework and strategy for prevention research and implementation, and commit to and invest in program implementation and sustainability. Delegates highlighted shared leadership and capacity building as critical factors for implementation success. Popular suggestions regarding the national framework and strategy included the use of a lifespan developmental approach and the delivery of evidence-based prevention programs through a single online gateway/repository. Delegates also indicated that pragmatic implementation and sustainability strategies should be integrated from the earliest stages of research and development.

4. Discussion

The Leaders in Prevention Summit engaged leading experts, government representatives, advocacy groups, people with lived experience, funding partners, and other key stakeholders to inform priorities for prevention research and implementation in Australia. Eighty individual delegates were involved and 235 responses and 1338 votes were received during an interactive, online workshop. The responses were grouped into topics and these topics were ranked according to the total number of upvotes for responses within each topic. From this, we identified the top ranked topics that emerged. The resulting topics highlight several priorities for improving the evidence for, and the implementation of, prevention programs.

4.1. Priorities for prevention research and implementation

The Summit workshop yielded a list of suggested priorities for prevention research and implementation. Common concepts emerging from responses to the workshop questions included: (a) improving **collaboration and coordination**, in terms of taking a holistic and interdisciplinary approach, strengthening links between research, implementation, and policy, partnering with diverse stakeholders to co-design/co-produce and implement prevention programs, establishing a coordinated national strategy, and coordinating data collection and management; and (b) improving **sustainability**, in terms of developing (or identifying) and implementing evidence-based programs, undertaking ongoing monitoring, evaluation, and improvement, and supporting capacity building in both research and practice.

Improving collaboration and coordination emerged as a common concept. There were widespread calls for a holistic approach to prevention research and implementation. These responses focused on the need to better understand and address the biological, psychological, social, and contextual factors that affect the mental health of populations and individuals, including: poor physical health; emotional, physical, and sexual abuse; inequalities related to racism, sexism, and other forms of discrimination; as well as poverty, poor housing and schooling, and unemployment. Responses also focused on the importance of a lifespan developmental approach to prevention, including, for example, the first 2000 days of life and other critical developmental periods and transitional stages in childhood, adolescence, and adulthood. Delegates also made it clear that the way forward in this regard is to co-design/co-produce and implement prevention programs with diverse stakeholders, particularly people with lived experience,

Box 1
Top five priorities for prevention research.

1 Better understand and target risk and protective factors
- Invest in prospective cohort and long-term outcome studies to fill important gaps in knowledge, including the underlying mechanisms of mental and substance use disorders, the relative impact and modifiability of different risk and protective factors, and the long-term effects of prevention programs
- Understand and address a broad range of risk and protective factors, including adverse childhood experiences and social connectedness across the lifespan
- Adopt transdiagnostic approaches that move beyond disorder-specific prevention programs to holistic prevention programs that consider physical and mental health and socioeconomic determinants

2 Strengthen links between research areas
- Take a holistic and interdisciplinary approach to prevention research that promotes and supports collaboration and seeks to break down silos
- Increase the application of intersectionality (*e.g.*, understanding and addressing the impact of interlocking systems of inequality, such as race and gender)

3 Include diverse stakeholders
- Promote and support co-design/co-production of research and programs, especially with people with lived experience and their families, Aboriginal and Torres Strait Islander Peoples, and young people
- Value all types of knowledge as evidence, including cultural, experiential, clinical, and scientific knowledge

4 Evaluate and refine prevention programs in the real world
- Continue to evaluate and improve programs after research trials end
- Invest in high-quality translational research to support ongoing implementation and to evaluate impact as programs are taken to scale

5 Improve data collection, management, sharing, and harmonizaton
- Improve coordination of data collection and management to strengthen research evidence (especially on cost-effectiveness) and monitor the impacts of prevention programs
- Promote data sharing and harmonization to close gaps in knowledge

Box 2
Top three actions for implementation of prevention.

1 Share leadership
- Share leadership with all relevant individuals and groups throughout the implementation process
- Build the capacity of organizations and communities to deliver programs

2 Establish a coordinated national framework and strategy for prevention
- Develop and execute a national framework and strategy to coordinate research, implementation, and policy relating to the prevention of mental and substance use disorders
- Use a lifespan developmental approach
- Harness technology to improve delivery, access, and sustainability

3 Commit to and invest in program implementation and sustainability
- Integrate knowledge dissemination, implementation, and sustainability strategies from the earliest stages of research and development
- Increase funding for program implementation, especially after research trials end

Aboriginal and Torres Strait Islander Peoples, people from culturally and linguistically diverse backgrounds, people living in rural and remote areas, and young people. For the same reason, delegates called for greater interdisciplinary and multisectoral collaboration guided by a coordinated national strategy. This point was further emphasized by the need to improve the coordination of data collection and management, reflecting the popularity of calls for regular national surveys of mental health, better calibration of measures, and better data sharing infrastructure and processes. Collectively, these responses indicate considerable agreement among delegates on the need to improve collaboration and coordination.

Sustainability also emerged as a common concept. First and foremost, delegates identified the development of a strong and comprehensive evidence base as an important basis for ensuring the success and sustainability of prevention programs. Doing so will require the evaluation of clinical effectiveness, cost-effectiveness, and implementation processes and outcomes, preferably at the same time (*e.g.*, using effectiveness-implementation hybrid study designs) to expedite the development, translation, and implementation of evidence-based programs. It is worth noting, however, that a long-term perspective and commitment will be required, given that the outcomes/effects of prevention programs usually emerge over a long period of time. On a related point, delegates called for ongoing evaluation to inform strategic decisions about prevention programs during their implementation to support continuous improvement. They also called for effective prevention programs to be embedded within the primary and secondary school curricula and key settings and contexts, including tertiary education, workplaces, health and social services, and community organizations. Delegates also noted the critical role that technology could play in taking effective programs to scale and improving sustainability. To further improve sustainability, delegates called for a stronger focus on capacity building, training, and support in all areas related to prevention ranging from research and discovery to implementation and delivery. Taken together, these responses indicate that high-quality evidence, comprehensive evaluation, and capacity building should be prioritized as a means of improving the sustainability of prevention programs.

The priorities identified by delegates are consistent with other recent initiatives such as the National Mental Health Commission Research

Strategy and the Prevention Coalition in Mental Health Consensus Statement (Prevention Coalition in Mental Health, 2020), both of which emphasize the importance of a coordinated and sustained evidence-based approach to prevention research and implementation. This suggests that there is considerable consensus across the mental health sector with regard to prevention priorities. At the same time, there are notable gaps in national policies. For example, the Fifth National Mental Health and Suicide Prevention Plan (Department of Health, 2017) does not include a focus on primary prevention, and it remains to be seen how the National Suicide Prevention Adviser and Taskforce have addressed this gap in their final advice to the Prime Minister. We also note that despite the omission of mental and substance use disorders from the National Preventive Health Strategy Consultation Paper, the subsequent Draft Strategy now includes them as focus areas (Department of Health, 2021).

4.2. Recommendations for actions

In this section, we use the priorities identified by delegates at the Summit as the basis to formulate two key recommendations for actions to support the priorities.

The first recommendation is to **establish a national framework and strategy for the prevention of mental and substance use disorders**. The development and leadership of this framework and strategy must include diverse stakeholders, including researchers, policy and decision makers, service providers, people with lived experience and their families, Aboriginal and Torres Strait Islander Peoples, and young people. This framework and strategy should use an evidence-based lifespan developmental approach to prevention that emphasizes collaboration and sustainability. We therefore recommend investment in the development and implementation of a coordinated national approach for prevention research, policy, and implementation.

The second recommendation is to **invest in and improve the sustainability of prevention programs**. Increased and targeted investment in prevention research needs to be a higher priority for major funding schemes and initiatives (*e.g.*, Medical Research Future Fund). Increased investment in the ongoing implementation, evaluation, improvement, and scaling up of effective prevention programs is also urgently required. Priority areas for investment in capacity building to improve sustainability include people and organizations (*e.g.*, research workforce, including lived experience researchers, and health services sector), major projects (*e.g.*, long-term studies, translational research, and large-scale implementation), and infrastructure (*e.g.*, data management and program delivery platforms). Investment decisions must be made based on shared leadership and contingent upon a commitment to co-design/co-production with relevant people (*e.g.*, people with lived experience). We therefore recommend significant investment to maximize and sustain the benefits of prevention programs.

4.3. Strengths and limitations

The findings presented in this paper should be interpreted in the light of some limitations. Firstly, although the Summit included international keynote presentations about global trends in youth mental health and the implementation of IAPT in England, the Summit largely focused on the Australian context. A similar event in other countries may prove useful in defining local priorities for prevention research and implementation. Secondly, although the Summit was attended by a diverse and comprehensive range of stakeholders, there will be some stakeholders who were not represented. Furthermore, not all delegates responded to the questions asked during the workshop, while others provided multiple responses. As a result, the responses and identified priorities may not represent the full range of stakeholder perspectives. We note, however, that the identified priorities are consistent with other recent initiatives suggesting there is considerable consensus across the mental health sector with regard to prevention priorities. We also note that the methods used to group the responses into topics/themes and identify the priorities lacked the rigour of a formal thematic analysis. Whilst we employed methods to reduce potential bias (*e.g.*, independent consideration of responses and topics/themes by multiple authors followed by discussion and consensus among the authors), the Summit workshop was not designed as a formal priority-setting exercise.

Despite this, the Summit and the workshop had a number of strengths. The Summit brought together a diverse range of stakeholders to share their perspectives and identify areas of national priority relating to the prevention of mental and substance use disorders. The purposeful inclusion of diverse stakeholders, including representatives of people and groups whose perspectives are sometimes overlooked, resulted in a rich array of ideas. Furthermore, the online format of the Summit, with the option to remain anonymous, enhanced equity and encouraged delegates to contribute. A number of delegates commented that the interactivity of the Summit and the workshop was a considerable strength.

5. Conclusions

Prevention efforts have the potential to substantially reduce the human and economic costs of mental and substance use disorders. However, a strategically integrated set of priorities for research and implementation relating to the prevention of mental and substance use disorders is lacking, with efforts all too often underfunded or fragmented. The Leaders in Prevention Summit sought to address this need by bringing together a diverse range of stakeholders to identify shared opportunities and priorities for prevention research and implementation. There was considerable agreement on the need for a coordinated national framework and strategy for prevention research, policy, and implementation and significant investment in the sustainability of prevention programs. The identified priorities provide a guide for future directions and investments to maximize the prevention of mental and substance use disorders.

Declaration of Competing Interest

We wish to confirm that there are no known conflicts of interest associated with this paper and there has been no significant financial support for this work that could have influenced its outcome. We do, however, wish to declare that M.T. is a National Mental Health Commissioner, although the National Mental Health Commission was not involved in the organisation of the Leaders in Prevention Summit or the writing of this paper.

Acknowledgments

This paper was prepared by the Leaders in Prevention Summit Organising Committee comprising representatives from the Black Dog Institute, Everymind, and the Matilda Centre for Research in Mental Health and Substance Use at the University of Sydney. The authors would like to thank the delegates for attending the Summit and participating in the workshop. The authors would also like to acknowledge and thank PREMISE Youth Advisory Board members Cheryl Ou and Martin Isidro for their valuable contributions to the Summit.

Funding

The Prevention Hub is supported by funding from the Australian Government Department of Health. The PREMISE Centre of Research Excellence is supported by funding from the Australian National Health and Medical Research Council (NHMRC; Grant ID 1134909). H.C. is supported by a NHMRC Senior Principal Research Fellowship (Grant ID 1155614). M.T. is supported by a NHMRC Investigator Grant (Grant ID 1195284).

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.mhp.2021.200211.

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