

What works to promote mental wellbeing and prevent the onset of mental health conditions? A review of the latest research evidence.

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Government of **Western Australia**
Mental Health Commission

**PREVENTION
UNITED**

Executive Summary

Introduction.

The Western Australian Mental Health Commission (MHC) is in the process of developing the Western Australian Mental Wellbeing Framework (the Framework). The Framework will define the guiding principles and best practice initiatives for the promotion of mental health and wellbeing and prevention of mental health issues in Western Australia.

The Framework will be developed with the intention to promote mental wellbeing and prevent mental health conditions at a population level across the Western Australian community. However, it is identified that there are populations where targeted efforts may be required, including but not limited to Aboriginal people; children and young people; Culturally and Linguistically Diverse people; LGBTQIA+; people with a disability; older adults; and people living in regional and remote areas.

Once finalised, the Framework will also provide a guide for other Government agencies, peaks, non-government organisations who are progressing work in relation to mental health and wellbeing. It is intended the Framework will also inform future investment that align to an evidence-based approach.

As part of the development of the Framework, the MHC engaged Prevention United to undertake a literature review of the evidence relating to wellbeing and prevention in mental health, the findings of which are outlined in this document. In the next phase of this project, Prevention United will work with an Expert Reference Group convened by the MHC to produce a draft Framework that draws on these findings. The MHC will then undertake broad consultation on the draft Framework to ensure that the final Framework is co-designed with the Western Australian community and the organisations that will have a role in its implementation. The MHC engaged Tuna Blue Facilitation to undertake targeted stakeholder consultation and to convene the Expert Reference Group.

The context for action.

Mental health conditions like depression and anxiety disorders, can have a profound negative impact on the lives of people who experience these conditions, and their family members, friends and supporters. Mental health conditions affect a person's thoughts, feelings, perceptions, and behaviour and cause distress, disrupt their relationships and impair their day-to-day functioning. They also interfere with a person's ability to reach their full potential. Efforts to prevent, or at least successfully manage mental health conditions and promote recovery are therefore also vital.

By contrast, mental wellbeing is an asset for life. High levels of mental wellbeing are associated with better learning, increased creativity, greater productivity, better quality relationships, more pro-social behaviours and civic engagement, greater adoption of positive health behaviours, better physical health, lower rates of mental health conditions, and longer life expectancy. Mental wellbeing is a driver for these outcomes and not just a result. Efforts to promote high levels of mental wellbeing can therefore produce significant personal, social and economic benefits.

Mental wellbeing is a positive state of emotional, psychological and social wellbeing, which is linked to, but also independent of diagnosable mental health conditions. Individuals can experience varying levels of mental wellbeing *as well as* varying levels of symptoms associated with a mental health condition. "Complete mental health" has been defined as a state of high mental wellbeing and the absence of any symptoms of a mental health condition. However, people may still experience high levels of mental wellbeing even if they have symptoms or a diagnosis of a mental health condition, and similarly, a person can have low mental wellbeing yet not have symptoms or a diagnosis of a mental health condition.

What works to promote mental wellbeing, prevent mental health conditions or support recovery is both similar as well as different. Some strategies, such as those derived from cognitive behaviour therapy, can promote mental wellbeing, prevent mental health conditions and enhance recovery, while other strategies tend to achieve one outcome or another.

There are also critical differences in the way these strategies are applied. The promotion of mental wellbeing and the prevention of mental health conditions are population mental health activities. Such activities focus on influencing the underlying 'root causes' or upstream determinants of mental wellbeing and mental health conditions rather than on treating conditions. As the name implies, population mental health activities focus on groups and whole communities rather than on specific individuals. By contrast, mental healthcare focuses on supporting individuals living with a mental health condition, and their carers. These services are typically provided through one-to-one interactions, although family and group work are also used.

Literature review methodology

The purpose of this literature review is to answer one key question: "What interventions have been shown to promote mental wellbeing and/or prevent mental health conditions among children, youth, adults, and older adults?"

The review examines peer-reviewed systematic reviews, meta-analyses, and reviews of reviews and supplements these with some additional peer-reviewed articles and grey literature. Its focus is on interventions designed to promote wellbeing and/or prevent 'common' high-prevalence conditions such as depression and anxiety. It does not focus on low prevalence conditions such as eating disorders, bipolar disorder or schizophrenia, nor does it review research into suicide prevention.

In undertaking the evidence review we used the University of Melbourne omnibus search engine called "Discovery". This search engine searches the library catalogue and multiple databases simultaneously including Medline, PsycINFO, CINAHL, Science Direct, Web of Science, and others. We also used databases such as Google Scholar and non-government organisation websites to source grey literature. We limited our searches to the period 1 January 2010 to May 2021 and to English-language articles.

Key findings

Overall, the review found that there is clear evidence that mental wellbeing can be enhanced, and many common mental health conditions can be prevented by using a variety of strategies. There is also good evidence that many of these strategies are cost-effective and would produce considerable cost-savings to governments.

Broadly speaking, there are two ways to promote mental wellbeing and prevent mental health conditions. One way is to enhance the 'protective' factors for good mental health. The other is to reduce the risk factors that impair mental health. At present, there is considerably more evidence around what works to enhance protective factors, compared to what works to reduce risk factors. The following summary provides an overview of the major findings of the literature review. These are listed in order of developmental stage.

The Perinatal Period (conception to first year following birth).

- There is good evidence that measures to support regular physical activity among new and expectant parents can lead to reductions in perinatal depression symptoms and conditions and may also have some benefit in preventing perinatal anxiety.
- There is good evidence that psychoeducational and psychological skills-building interventions delivered during pregnancy or in the postpartum period can reduce the risk of postnatal

depression. Example of such programs include What Were We Thinking and the Mothers and Babies Program. It is important to note that not every trial shows a positive result. The majority of the supporting evidence relates to programs that utilise strategies drawn from cognitive behaviour therapy (CBT) or interpersonal therapy (IPT), but other approaches may also be helpful. The evidence related to the prevention of anxiety via psychoeducational and psychological skills-building interventions is mixed.

- There is good evidence that universal screening and referral of parents with perinatal depression or anxiety leads to more timely service provision and better outcomes for women.
- While trials have mainly focused on individual and group-based approaches to teaching CBT and IPT-based psychological strategies, these skills could potentially be taught through online programs, but further evaluation is required.
- While the evidence for the benefits of mindfulness-based approaches and mind-body interventions to promote wellbeing or avert perinatal mental health conditions is inconsistent, these approaches have shown benefits among other cohorts and are worth considering in this context, subject to further evaluation.
- There is some evidence that couple therapy for women with subthreshold symptoms of depression, women lacking support or women experiencing significant interpersonal difficulties with their partner may help to avert perinatal depression.
- The evidence in support of the other strategies is limited and further research is required before determining whether they have a role in promoting perinatal mental wellbeing or preventing perinatal mental health conditions. This includes: education on preparing for parenting, encouraging good sleep hygiene for infants and parents, and for promoting parent-infant interaction; self-help programs; peer support programs and peer-based telephone support; programs for fathers; mid-wife led initiatives to redesign maternity care; postpartum nurse home visits; and dietary and hormonal supplements.

Children and adolescents (aged 0 to 18 years).

- There is good evidence that regular physical activity in childhood and adolescence can reduce the risk of experiencing depression.
- There is very good evidence that school-based social and emotional learning (SEL), resilience, and disorder specific prevention programs, (particularly those based on CBT and mindfulness), can enhance child and adolescent mental wellbeing and prevent internalising and externalising disorders, and anxiety and depression. Examples of such programs include You Can Do It!, FRIENDS, and the Good Behaviour Game. Evidence exists for universal, selective and indicated prevention approaches although the effect sizes vary between the three approaches.
- There is evidence that psychoeducational and psychological skills building programs, particularly those that draw on CBT, IPT and mindfulness-based strategies, can also be effective when delivered in non-school community settings, including online. However, the range of settings through which these programs can be delivered while retaining their efficacy needs to be determined.
- While research into whole-of-school mental health promotion initiatives is limited, this model holds considerable promise, however such initiatives need to include the types of psychosocial skills-building programs described above to be effective.
- There is good evidence that nurse home visiting programs for expectant and new parents can help to enhance parenting practices, improve child and parent mental health, and contribute to the prevention of child maltreatment. These types of programs are particularly useful for parents experiencing adversity (e.g. financial stress, lack of support, inter-partner conflict, alcohol and other drug (AOD) use, mental health conditions, personal history of childhood adversity). Examples of such programs include Nurse Family Partnerships and Right@Home. However, it is

important to note that program design and implementation issues influence the impact of these programs and not all of them achieve positive outcomes.

- There is good evidence that structured parenting programs that provide education on child development and promote positive parenting practices can prevent child emotional and behavioural disorders, with the strongest evidence relating to behavioural disorders. Such programs can be delivered one-to-one, in groups or online. Examples of such programs includes Triple P, Tuning into Kids and Tuning into Teens, and Partners in Parenting.
- The evidence in support of other potential strategies is limited, and further research is required before determining whether they have a role in promoting child and adolescent mental wellbeing or preventing mental health conditions in this age group. These include youth mentoring programs to prevent behavioural/externalising disorders, and primary care delivered preventative interventions.

Young adults (18 to 24 years)

- There is good evidence that regular physical activity among young adults can reduce the risk of experiencing depression.
- There is good evidence that psychoeducational and psychological skills-building programs can improve youth mental wellbeing, reduce stress and prevent, or substantially delay the onset of depression and anxiety conditions among young people. A range of psychological interventions are effective, including those based on CBT, IPT, Acceptance and Commitment Therapy (ACT), and mindfulness. There is also good evidence for the benefits of social skills training and social support. Psychological interventions produce positive results in face-to-face formats within a range of community settings, and online. Active skill-building rather than passive information provision is critical.
- There is some evidence from individual studies that place-based community mobilisation approaches that focus on modifying the community level risk and protective factors that influence young people's mental wellbeing can reduce AOD use, offending behaviour and physical injury among young people. Further implementation and evaluation of such approaches is therefore warranted. An examples of such program includes Communities that Care.
- Whole-of-university based approaches, that draw on the principles of health promoting schools' initiatives and target key 'environmental' risk factors, such as teaching and assessment practices, may potentially help to promote youth mental health and prevent mental health conditions in this cohort. More research is needed to determine the most important risk and protective factors to target, and the best strategies to impact them, but a **combination** of individual skills-building and changes to academic policies is likely to be required.

Adults (25 to 64 years)

- There is very good evidence that health behaviours, such as regular physical activity and adherence to high quality diets can reduce the risk of depression. These behaviours may also have some benefits in preventing anxiety.
- There is very good evidence that various psychological skills-building interventions can improve adult mental wellbeing, and prevent, or substantially delay the onset of depression and anxiety conditions among adults. A range of psychological interventions are effective in promoting mental wellbeing and/or preventing mental health conditions including mindfulness and positive psychology interventions, as well as CBT-, IPT-, and ACT-based strategies. It is important to note that impacts on mental wellbeing may vary depending on whether a person is well, or whether they have a mental health or physical health condition. Psychological interventions produce positive results in both face-to-face formats and online.
- There is some evidence that public education campaigns that promote the adoption of daily habits derived from health and positive psychology strategies, may be able to enhance mental wellbeing among people with and without a diagnosis of a mental health condition, but this is based on a

limited number of individual studies, and further research is needed to determine the exact role of public education campaigns to promote mental wellbeing and/or prevent mental health conditions.

- There is some evidence that group-based psychological interventions can reduce depressive symptomatology among people with sub-threshold depression, however the results do not appear to endure beyond the immediate post-intervention period, and further refinements may be required.
- There is some evidence that arts-based approaches, such as music listening/playing and singing, may enhance wellbeing and prevent or reduce depression in adults across the life span, but further evaluation is required to determine the best ways to achieve enduring wellbeing and prevention benefits using these approaches.
- There is some evidence that nature-based interventions, such as exposure to natural environments and forest therapy, can increase positive affect, reduce negative affect and reduce depressive symptoms and may potentially help to prevent depression, but further evaluation is required to determine the best ways to achieve enduring wellbeing and prevention benefits using these approaches.
- At this stage, there is not enough evidence to recommend primary care-based approaches to wellbeing and prevention for adults.

Older adults (65 years and over)

- There is good evidence that regular physical activity can reduce the risk of depression among older people.
- The evidence for the benefits of psychological or psychosocial interventions among older people is less strong than the evidence for the benefits of these interventions among younger populations. Interventions that involve a level of social interaction and life review appear to be more effective, however, further trials are required to evaluate which psychological or psychosocial interventions work for whom and under what circumstances.
- There is some evidence that mindfulness is effective in reducing depressive symptoms among older people already experiencing elevated symptoms, but its preventive benefits are less clear, and need to be evaluated further.
- There is good evidence that various interventions can reduce loneliness among older people, however, there is limited evidence that this contributes to the prevention of depression or other mental health conditions, although it is likely to do so, and further trials are needed.
- There is some evidence that internet delivered CBT is effective in reducing symptoms among older adults already experiencing mild to moderate depressive symptoms, but more research is needed to clarify its preventive benefits.
- There is some evidence that Tai Chi is effective in reducing negative emotions and anxiety and depressive symptoms among older people, however, relatively little research has been conducted on this approach, and more trials are required.
- While there is some evidence that arts-based approaches contribute to reductions in depressive symptoms and that companion animals can contribute to reductions in depressive and anxiety symptoms among older adults, most of this research is of low quality.

Priority populations

- There is good evidence to show that psychoeducational and CBT-based parenting programs designed for parents who have a mental health condition or AOD issues, are effective in reducing the likelihood that their children will experience a mental health condition.
- There is some evidence that psychological interventions can reduce the likelihood of anxiety among children at risk of these conditions as a result of personal factors (e.g. sensitivity, being bullied) or family factors (e.g. parental anxiety disorder). However, some trials have included

children who may already have a diagnosis of anxiety, and further evaluation is therefore needed to establish the preventative effects of these interventions.

- There is some evidence from individual program evaluations that Aboriginal community-led, trauma-informed, holistic programs targeted to promoting connection to culture, language and country, addressing practical needs, and tackling social disadvantage can improve social and emotional wellbeing among Aboriginal and Torres Strait Islander people. However, there is a dearth of rigorous studies, or studies that use culturally appropriate and psychometrically sound scales to measure social and emotional wellbeing outcomes.
- There is some evidence that school-based programs that aim to reduce discrimination against students who identify as LGBTQI+ can increase feelings of safety and lower the risk of homophobic remarks and homophobic victimisation, however, the number of trials is limited, and most of the research relates to initiatives trialled in the USA.
- There is limited research that examines the effectiveness of wellbeing and prevention strategies designed specifically for LGBTQI+, Culturally and Linguistically Diverse (CaLD) and rural and remote communities.

The prevention of risk factors

- There is very good evidence to show that bullying perpetration and victimisation can be prevented among children and young people through school-based anti-bullying programs. The evidence is less strong in relation to preventing bullying targeted to LGBTQI+ young people, and workplace bullying. It is also unclear to what degree the prevention of bullying then translates into improvements in mental wellbeing and reductions in the incidence of mental health conditions.
- There is good evidence that workplace mental health and wellbeing programs that aim to build employee resilience or that address workplace psychosocial risk factors can lead to improvements in mental wellbeing and reductions in work-related psychological injury and mental health conditions.
- There is good evidence that home nurse visiting programs and some parenting skills-building programs can contribute to positive parenting practices, and these programs may also potentially decrease the occurrence of child maltreatment, although many of the studies that examine these programs fail to directly measure this key outcome.
- There is some evidence that certain healthy relationships education programs may contribute to a reduction in gendered violence, however, more rigorous evaluations are required to determine the best approach to the primary prevention of intimate partner violence.
- There is limited evidence around what works to prevent racism and discrimination and socioeconomic disadvantage, and also whether any changes then translate into improved mental health outcomes.

Implication for policy

The strength of the evidence covered in this evidence review highlights there is a strong case for investment in the promotion of mental wellbeing and the prevention of mental health conditions. The literature review has several policy implications.

First, the review highlights that mental health and wellbeing is influenced by a wide array of biological, psychological and socioeconomic factors that are embedded in the environments in which we are born, grown, study, work and live. Some factors are more influential than others, but each plays a role. **A simultaneous focus on influencing individual-level and social environmental factors is crucial. An ecological systems approach is needed, and a mental-health-in-all-policies approach is essential.**

Second, the promotion of mental wellbeing and the prevention of mental health conditions is a whole-of-life endeavour. Promotion and prevention efforts need to start from conception, be maximised during ages 0 to 25 years and continue over the lifespan. **A developmental lens is needed.**

Third, the literature review highlights the critical importance of psychoeducational and psychological interventions for wellbeing and prevention. In essence, there are certain psychosocial 'life-skills' derived from health, clinical, and positive psychology that can help people promote and protect their mental wellbeing, negotiate stress and adversity, and reduce their risk of experiencing mental health conditions. **The use of psychoeducational and psychological interventions should be considered the first line response among all age groups.** There are also certain parenting strategies that are likely enhance child and adolescent mental wellbeing and reduce the likelihood of mental health conditions. **The implementation of parenting programs should also be a priority.**

Fourth, certain wellbeing and prevention programs have been developed for certain age groups or to tackle conditions which occur at particular ages. **The timing and sequencing of initiatives is critical.** For example, home nurse visiting parenting programs offered in the perinatal/early childhood period could be followed by structured parenting programs during primary school targeted to externalising disorders and anxiety, with sessions in secondary school for depression prevention.

The literature also shows that while many skills-building programs achieve positive results, these benefits gradually wane over time. **Some form of 'booster' is likely to be required until these skills are fully consolidated into a person's day-to-day life and behaviours.** Children could therefore potentially be exposed to a sequence of different SEL, resilience or disorder specific skills-building programs over the course of their primary and secondary schooling, for example in years 3, 5, 7, and 9, with each program acting as a booster for the proceeding program.

Fifth, while universal prevention programs tend to produce smaller effect sizes than selective or indicated prevention approaches, these benefits are spread over a larger population, do not require any screening or stratification process, and such programs are generally regarded as less stigmatising. Selective prevention programs may produce somewhat larger effect sizes, but it can be difficult to determine what factors to include to inform risk stratification as not all people with a particular risk (e.g. family history) are equally vulnerable, and some people without an obvious risk factor can experience a mental health condition. Indicated prevention approaches overlap significantly with early intervention, and could arguably be considered a mental healthcare approach, rather than a population mental health. **A balance between universal, selective and indicated prevention initiatives is needed.**

Sixth, not all programs work equally well, **and it is important to select those with the strongest and most consistent evidence of impact based on rigorous research and evaluation.** However, while it is important to prioritise programs based on the current evidence, it is also critical to invest in building the evidence base related to wellbeing and prevention programs by implementing and evaluating programs that show promise based on preliminary trials, but need to be developed and assessed further.

Seventh, the quality of program implementation is critical. What works in experimental conditions does not always work in the real world unless the attention to program fidelity and implementation quality occurs. **It is therefore important to ensure that any non-mental health professionals implementing programs receive appropriate training, supervision and support to implement them effectively, or we need to develop a skilled mental health promotion workforce to take on this responsibility.**

Eighth, no single intervention on its own can promote wellbeing and prevent every condition. Likewise, no single organisation nor any single sector can implement all the strategies that are required. As in the field of physical health promotion, **success in the mental health promotion field**

requires a sustained, multi-modal, cross-sectoral approach. This requires leadership, coordination and a whole-of-government approach supported by strong governance structures that ensure successful planning, commissioning, oversight and the coordination of activities on the ground. There is little doubt that a dedicated 'quarantined' budget for wellbeing and prevention initiatives would help to improve practice and achieve better population level outcomes.

Last, more research and evaluation is needed to advance the fields of wellbeing and prevention. While there has been a steady increase in research over the last couple of decades, there is still much to learn. Research is the engine room of innovation and improvement, and investment in research to find new and better ways to promote mental wellbeing and prevent mental health conditions must be a policy priority. Research into risk factor reduction, particularly the prevention of child maltreatment is particularly important. Child maltreatment is the single biggest risk factor for low mental wellbeing and mental health conditions and suicidality across the lifespan, yet so little is known how to prevent it from occurring in the first place.

Overall, the literature review highlights that mental wellbeing can be enhanced, and many common mental health conditions can be prevented from occurring. The next step is to implement all the strategies that are known to work, while investing more in further research.

1. Introduction

Over recent years there has been growing interest in wellbeing and prevention in mental health. This interest has been driven by two main factors. First, research within the field of positive psychology has highlighted the crucial differences between mental wellbeing and mental health conditions, and shone a light on the personal, social and economic benefits that come from proactively promoting mental wellbeing.

Second, despite steady increases in the uptake and funding of mental healthcare services over the last two decades in Australia and overseas, there has not been a commensurate decrease in the prevalence of mental health conditions nor in the burden of disability and premature death linked to these conditions. This has led some experts to argue that while improving the availability and quality of mental healthcare services is important, on their own such efforts are not enough to reduce the prevalence and impacts of these conditions, and efforts are also needed to prevent mental health conditions from occurring in the first place. (1, 2)

The Western Australian Government has long recognised the need to create a continuum of programs and services that support wellbeing and prevention as well as early intervention and recovery, and in 2018 the MHC released the [Western Australian Mental Health Promotion, Mental Illness, Alcohol and Other Drug Prevention Plan 2018-2025](#) (Prevention Plan). This Plan provides a guide for the development and implementation of evidence-based and evidence-informed strategies to promote mental health and prevent mental health conditions, AOD related issues in the Western Australian community.

Since the launch of the Prevention Plan there has been significant developments in research and evidence about mental health promotion and the importance of promoting mental wellbeing. To better define the mental wellbeing component and strengthen the mental health prevention component of the Prevention Plan, the Commission is developing the Framework.

The Framework will define the guiding principles, foundations and best practice initiatives for the promotion of mental health wellbeing and prevention of mental health conditions in Western Australia. The Framework will be developed with the intention to promote mental wellbeing and prevent mental health conditions at a population level across the Western Australian community. However, it is identified that there are populations where targeted efforts may be required, including but not limited to Aboriginal people; children and young people; Culturally and Linguistically Diverse people; LGBTQIA+; people with a disability; older adults; and people living in regional and remote areas.

Once finalised, the Framework will also provide a guide for other Government agencies, peaks, non-government organisations who are progressing work in relation to mental health and wellbeing. It is intended the Framework will also inform future investment that align to an evidence-based approach.

As part of the development of the Framework, the MHC engaged Prevention United to undertake a literature review of the evidence relating to wellbeing and prevention in mental health. The purpose of this literature review is to answer the question: “What interventions have been shown to promote mental wellbeing and/or prevent mental health conditions among children, youth, adults, and older adults?”

The literature review examines systematic reviews, meta-analyses and reviews of reviews, and supplements these with some additional peer-reviewed articles and grey literature. Its focus is on interventions designed to promote wellbeing and/or prevent ‘common’ high-prevalence conditions such as depression and anxiety, rather than low prevalence conditions, AOD use, or suicide.

The literature review does not purport to be a systematic review of systematic reviews and meta-analyses. Instead, it is an ‘evidence synthesis’ that examines the best available evidence to guide policy, and program and service development in this area of mental health.

In the next phase of this project, Prevention United will work with an Expert Reference Group convened by the MHC to produce a draft Framework that draws on this literature review. The MHC will then undertake targeted State-wide consultation to ensure that the final Framework reflects the views and priorities of the Western Australian people and the organisations that will have a role in its implementation. The development of the draft Framework has been guided by an Expert Reference Group. The MHC also engaged Tuna Blue Facilitation to convene the Expert Reference Group and undertake consultation.

2. Understanding wellbeing and prevention.

The language we use in mental health matters. It conveys ideas and shapes the agenda. This language is never static, but rather it continually evolves as new theories and discoveries change our understanding of key issues. At times it is heavily debated. In most cases an unspoken consensus occurs, and people use terms in the same way. At other times challenges arise, as different people favour different words for the same concept, or a term is defined differently by different groups.

This chapter aims to provide an overview of some of the key concepts and definitions currently used in the field of wellbeing and prevention in mental health. It acknowledges that while there is no ‘right’ or ‘wrong’ approach, it is nevertheless important to orientate the reader to key terms and concepts outlined in the literature review.

2.1. Defining mental wellbeing and mental health conditions

Mental wellbeing

Mental wellbeing is more than just the absence of mental health conditions. It is about feeling good emotionally and functioning well psychologically and socially. There is general level of agreement that mental wellbeing consists of two main dimensions – hedonic wellbeing and eudaimonic wellbeing (3, 4). Hedonic wellbeing refers to the balance of positive and negative emotions – whether we feel happy or sad, relaxed or worried, calm or angry, satisfied or dissatisfied – as well as how well we can recognise and regulate our emotions. Eudaimonic wellbeing relates to our psychological functioning, our interpersonal relationships, our contribution to those around us and our sense of purpose or meaning in life. (5, 6) Everyone has a level of mental wellbeing – whether they are living with a mental health condition or not.

Mental health conditions

Mental health conditions are the diagnosable conditions described in manuals like the World Health Organization International Classification of Disease or the American Psychiatric Association Diagnostic and Statistical Manual that have negative impacts on a person’s thoughts, feelings, perceptions, and behaviours and that cause distress, interfere with interpersonal relationships and impair day-to-day functioning. There are various conditions, each with their own specific signs and symptoms, age of onset, and trajectory. It is possible to have some symptoms of a mental health condition without having a diagnosed mental health condition. This is often referred to as a subthreshold mental health condition, a mental health issue or a mental health difficulty.

Understanding the similarities and differences

The mental health continuum is a useful model to explain the links between mental wellbeing and mental health conditions. There are two main models in contemporary use – the single continuum (bipolar) model and the dual continua model (see Figure 1).

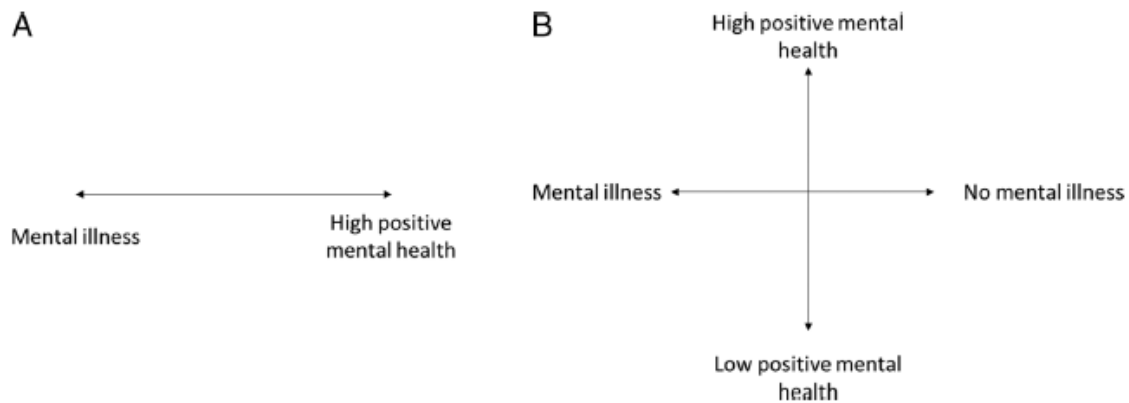


Figure 1. The single continuum and dual continua models of mental health. Source: Iasiello, M. van Agteren, J., & Muir-Cochrane, E.M. (2020). Mental Health and/or Mental Illness: A Scoping Review of the Evidence and Implications of the Dual-Continua Model of Mental Health, *Evidence Base, 1*, 1-45.

The single continuum (bipolar) model (A) positions mental wellbeing at one end of the continuum and mental health conditions at the opposite end. According to this model people can experience varying levels of mental wellbeing, subthreshold symptomatology, or have a diagnosable mental health condition that ranges from mild, moderate to severe in its impact. (7)

The dual continua model (B) takes a different approach. According to this model, mental wellbeing and mental health conditions are two linked but distinct domains of mental health. They have both shared and unique predictors, and influence each other via complex interrelationships. (6, 7) The model positions low mental wellbeing (languishing) at the end of one continuum, moderate mental wellbeing in the middle, and high mental wellbeing (flourishing) at the opposite end of the first continuum. It then positions no mental health condition at the end of a *second* independent continuum, subthreshold symptoms near the middle, and 'above threshold' symptoms of a mental health condition at the opposite end of the second continuum. (5, 8, 9)

According to this model, individuals can experience varying levels of mental wellbeing *as well as* varying levels of symptoms associated with a mental health condition. Some people may therefore simultaneously experience moderate or even high mental wellbeing *as well as* a current mental health condition. This approach aligns with the concept of recovery, which focuses on supporting someone living with a mental health condition to lead a fulfilling and contributing life regardless of their experience of ongoing symptoms.

There is considerable empirical support for the dual continua model, and this has led to calls to adopt this model in preference to the single continuum model. Adopting this model is likely to have considerable benefits for advancing efforts in wellbeing and prevention, as well as for improving mental health care by encouraging clinicians to integrate interventions that enhance mental wellbeing with those to decrease symptoms of mental health conditions. (7)

2.2. Defining promotion, prevention, and early intervention

Much of the terminology used in mental health promotion is based on terms used in the broader field of health promotion, including the seminal work of Leavell and Clark. (10)

While this terminology is still sometimes used in the mental health field, the US Institute of Medicine (IOM) proposed a new classification system specifically designed for mental health, and their terminology has tended to supersede the Leavell and Clark model.

Promotion in mental health

Leavell and Clark defined *health promotion* as measures that "are not directed to a given disease or disorder, but serve to increase overall health and well-being". In a similar vein the IOM states that **mental health promotion** is not driven by an emphasis on illness, but rather by a focus on the enhancement of wellbeing. They define mental health promotion as interventions which aim to "enhance individuals' ability to achieve developmentally appropriate tasks (competence), a positive sense of self-esteem, mastery, wellbeing and social inclusion, and strengthen their ability to cope with adversity". (11, 12)

Prevention in mental health

In their model, Leavell and Clark defined prevention as any "action in advance, based on knowledge of natural history in order to make it improbable that the disease will progress subsequently". They then listed three levels of prevention:

- Primary prevention – includes actions taken to avert the onset of a disorder before it occurs.
- Secondary prevention – includes actions to detect the early stages of a disorder to avert its progression.
- Tertiary prevention – includes actions taken to prevent or reduce the impacts of an established disorder on an individual's functioning, quality of life and longevity. (10)

By contrast, the IOM define **prevention** as efforts to "reduce the incidence, prevalence and severity of mental health conditions" and their classification therefore focuses on **primary** prevention rather than secondary or tertiary. They then sub-classify **primary** prevention by the target audience:

- Universal prevention - initiatives target the whole population regardless of risk.
- Selective prevention - initiatives target subgroups that are at higher-than-average risk of developing a mental health condition.
- Indicated prevention - targets individuals with detectable but subthreshold symptoms of a mental health condition. (13)

While there is some overlap between promotion and prevention in the IOM definitions, the difference lies in the intended outcome. Promotion aims to enhance an individual's wellbeing regardless of illness status, while prevention focuses on reducing the occurrence of new cases of a diagnosable mental health condition.

Early Intervention

The IOM use the term early intervention for initiatives that target individuals who *already have* a diagnosable disorder but where the intervention occurs at an early stage before the disorder becomes severe.(11) While they acknowledge there is some blurring of the boundary between indicated prevention and early intervention, the IOM make a point of emphasising that prevention occurs prior to the onset of a disorder, while early intervention occurs after the onset of a disorder.

2.3. Population mental health versus mental healthcare

These distinctions between promotion, prevention and early intervention are important from a research, practice and policy perspective. The promotion of mental wellbeing and the prevention of mental health conditions are generally regarded as population mental health activities while early intervention is clearly a mental healthcare activity.

Population Mental Health

Purtle et al. define population mental health as “nonclinical interventions and activities intended to improve mental health outcomes, and the determinants of these outcomes, among a group of individuals that are defined by shared geography, sociodemographic characteristics, or source of clinical services utilization”. (14) Put simply, population mental health focuses on activities targeted to groups and communities which aim to promote and protect mental wellbeing rather than to treat or manage mental health conditions. These activities seek to influence the underlying ‘root causes’ or upstream determinants of mental wellbeing and mental health conditions rather than treating symptoms of a mental health condition. This requires action across multiple settings and sectors and not just within the mental health sector.

Mental Healthcare

Mental healthcare on the other hand, focuses on the provision of personal supports and services for individuals living with a mental health condition to support their recovery, and to support their carers. It includes assessment and diagnostic services, therapeutic services (e.g. case management, psychological therapy, medical therapy), family and carer support, psychosocial recovery services (residential and community based), financial support, employment support, housing support and other forms of assistance that assist people through their recovery. Mental healthcare services are typically provided through one-to-one approaches, although family and group work are also used.

2.4. Risk and protective factors

Mental health conditions are complex disorders that evolve over time from subthreshold symptoms, to attenuated psychiatric syndromes, to first episode disorders and then potentially through to ‘cure’, or to relapsing-remitting or persistent disorders. (15) These conditions arise from the dynamic interplay of multiple risk and protective factors operating together over the life course rather than any one factor in isolation. (11)

Risk factors are biological, psychological, social and economic variables that increase a person’s likelihood of experiencing a particular condition, while protective factors lower the likelihood. There are numerous risk and protective factors for each mental health condition. While some are unique to a particular condition, most factors are implicated in a variety of conditions. The timing and the total number of risk factors an individual experiences over their life, and the degree to which they are offset by protective factors is important in determining whether a person experiences a condition or not. (16)

Risk and protective factors vary in their prevalence. They also vary in the strength of their association with mental health conditions with some, such as exposure to child maltreatment, appearing to be more influential than others. (17) Risk and protective factors also vary in how modifiable they are. For example, a person’s genetic profile cannot be readily altered, whereas the nature of an individual’s family, school or work environment can be changed through appropriately designed interventions.

Population mental health activities aim to promote mental wellbeing and prevent mental health conditions by influencing these factors. It is important to note that while the drivers of mental wellbeing and mental health conditions overlap considerably, they are not entirely the same, and interventions to promote mental wellbeing may or may not prevent mental health conditions, and vice versa. (4, 7) Efforts in wellbeing and prevention are therefore both required to enhance population mental health.

Population mental health activities generally take an ecosystems approach and simultaneously focus on supporting individual behaviour change as well as enhancing the home, school, work, neighbourhood and community environments around people using public health informed strategies.

These strategies include public education/awareness campaigns; personal skills-building programs; community mobilisation initiatives; the creation of mentally healthy organisational environments; healthy public policies; and service system reorientation initiatives. (18)

2.5. The benefits of promoting mental wellbeing.

Cross-sectional studies show that high levels of mental wellbeing are associated with better learning, increased creativity, greater productivity, better quality relationships, more pro-social behaviours and civic engagement, greater adoption of positive health behaviours, better physical health (including better immune, endocrine and cardiovascular functioning), and longer life expectancy. (19-21)

While cross-sectional research cannot determine whether good mental wellbeing contributes to these outcomes or results from them, longitudinal studies and experimental studies show that high levels of mental wellbeing are indeed a driver for these outcomes and not just a result. (21) These benefits are important from an economic perspective as they contribute to improvements in productivity and to reductions in government and societal costs (e.g., health and welfare programs). (22)

In addition, van Agteren et al. note that improvements in mental wellbeing over a 10-year period are associated with a reduction in the risk of developing a mental health condition by up to 8.2 times in people without a condition, and can also improve the chances of recovery in people with mental health conditions. (4) Promoting high mental wellbeing is important for everyone in the community.

2.6. The benefits of preventing mental health conditions.

In any given year it is estimated that one in seven young people aged four to 17 years and one in five young people and adults aged 16 to 85 years will experience a significant mental health condition. (23, 24) These conditions commence early in life, with 50% of lifetime disorders occurring by age 14 and 75% by age 24. (25) They can have profound and enduring negative impacts on people's lives and contribute to poor academic and employment outcomes, disrupted relationships and social isolation, psychosocial disability, and an increased risk of AOD use and chronic health conditions. Tragically, mental health conditions are also associated with an increased likelihood of premature death from suicide or chronic ill-health.

Mental health and AOD use account for 12% of the total burden of injury and disease in Australia. (26) The economic impacts of mental health conditions are also profound. At a societal level, the Productivity Commission recently estimated that the direct economic costs of mental ill health and suicide in Australia was \$43–70 billion in 2018-19. In addition, the cost of disability and premature death due to mental health conditions, suicide and self-inflicted injury is equivalent to a further \$151 billion.

While effective treatments are available for most conditions, there is still considerable merit focusing on the prevention of mental health conditions. Improving service access and quality is an ongoing challenge and workforce shortages make it difficult to keep up with demand in many areas. Even when people do access services, over half will still experience relapsing and remitting difficulties following their first episode, and a significant minority will experience persistent and ongoing challenges despite the best available supports and services. (14)

Indeed, research suggests that even if we were to dramatically improve access and treatment quality, it would still only be possible to reduce the burden of disability and death associated with mental health conditions by about 50 to 60% with available therapies. (27-29) Preventing these conditions from occurring in the first place, can reduce the emotional strain mental health conditions places on individuals and their loved ones, avert the risk of psychosocial disability, and save money. It could also

potentially help to save lives given that between 60 to 98% of people who die by suicide have an underlying mental health condition. (30)

3. The Literature Review methodology

This literature review aims to synthesise the evidence relating to the promotion of mental wellbeing and the primary prevention of mental health conditions across the lifespan. It seeks to answer the question: “What interventions have been shown to promote mental wellbeing or prevent mental health conditions among children, youth, adults, and older adults?” We have presented the findings in separate chapters based on age/stage of life including the perinatal period, childhood and adolescence, youth, adulthood and old age.

The review examines peer-reviewed systematic reviews, meta-analyses and reviews of reviews, and supplements these with some additional peer-reviewed articles and grey literature. Its focus is on interventions designed to promote wellbeing and/or prevent ‘common’ high-prevalence conditions such as depression and anxiety. It does not focus on low prevalence conditions such as eating disorders, bipolar disorder or schizophrenia, nor does it review research into suicide prevention.

When considering primary prevention, the literature review examines research into interventions targeting whole populations (universal prevention), groups at higher risk of experiencing mental health conditions (selective prevention) and interventions for individuals with early, subthreshold symptoms (indicated prevention). It does not focus on early intervention or treatment.

While it examines the literature on public education campaigns to promote wellbeing and prevent mental health conditions, it does not focus on mental health awareness initiatives that aim primarily to promote people’s knowledge of the signs and symptoms of mental health conditions, or on programs that aim to reduce stigma, or promote help seeking for mental health conditions.

In undertaking the evidence review we used the University of Melbourne omnibus search engine called “Discovery”. This search engine searches the library catalogue and multiple databases simultaneously including Medline, PsycINFO, CINAHL, Science Direct, Web of Science, and others. We also used databases such as Google Scholar and NGO websites to source grey literature.

We limited our searches to the period 1 January 2010 to May 2021 and to English-language articles. We conducted separate searches for child and adolescent, youth, perinatal, adult and older persons. We focused on wellbeing and specific mental health conditions and systematic reviews or meta-analyses. For example:

- (child or adolescent or teenage) AND (prevention) AND (depression or anxiety) AND (systematic review or meta-analysis)
- (child or adolescent or teenage) AND (mental wellbeing or psychological wellbeing or emotional wellbeing or wellbeing) AND (systematic review OR meta-analysis)

We also conducted searches for particular interventions and particular risk factors. For example:

- (child or adolescent or teenage) AND (mindfulness) AND (systematic review or meta-analysis)
- (child or adolescent or teenage) AND (prevention) AND (bullying) AND (systematic review or meta-analysis)

We first reviewed the abstract and then selected articles that fell within the scope of the review. We identified other publications by examining the reference lists to find additional articles.

It is important to note that because this review focuses on information from systematic reviews and meta-analysis, it may not adequately capture new or emerging areas of wellbeing and prevention research, or areas of intervention research where there have not been enough trials to warrant a systematic reviews and meta-analysis of the available research. It is therefore possible that there may be some individual studies of particular trials or initiatives that provide important information that are not included in this review.

It is also important to emphasise that the literature review does not purport to be a systematic review of systematic reviews and meta-analyses. Rather it is narrative 'evidence synthesis', which examined as much evidence as possible, to guide the development of the proposed Western Australian Mental Wellbeing Framework.

4. The perinatal period (conception to first year following birth)

Section summary

It is estimated that up to one in ten women experience depression while pregnant, and one in seven women experience depression in the year after birth. A similar proportion experience perinatal anxiety. In addition, around one in ten expectant and new fathers experience depression, anxiety or other forms of emotional distress in the perinatal period. Perinatal depression and anxiety are problematic for the parent and their partner. They are also associated with an increased risk of emotional and behavioural disorders among their offspring. Improving parental mental health through primary prevention or early intervention can therefore help to avert child and adolescent mental health conditions.

A range of factors contribute to the development of these conditions including sleep problems; lack of social support; not living with partner; intimate partner violence; multiple births; alcohol, cigarette, and AOD use; and past history of mental health conditions. Based on this, a range of strategies have been trialled to prevent perinatal depression and anxiety. These include physical activity; sleep hygiene; self-help; mindfulness; mind-body interventions; psychoeducation and psychological interventions; peer support and social support; couple counselling; digital interventions; arts-based interventions; and maternity care interventions.

Best bets

- There is good evidence that supporting new and expectant parents to learn and adopt psychological strategies derived from CBT and IPT, during or after pregnancy, can reduce perinatal depressive symptoms and disorders, although it is important to note that not all such programs produce positive results. The evidence for anxiety prevention is mixed.
- There is good evidence that measures to support regular physical activity among new and expectant parents can lead to reductions in perinatal depression symptoms and conditions, and may have some benefit in preventing perinatal anxiety.
- There is good evidence that universal screening and referral of parents with perinatal depression or anxiety leads to more timely service provision and better outcomes for women.

Worth trialling and evaluating further

- While trials have mainly focused on individual and group-based approaches to teaching CBT and IPT-based strategies, these skills could potentially be taught online, but further evaluation is required.
- While the evidence for the benefits of mindfulness-based approaches and mind-body interventions to promote wellbeing or avert perinatal mental health conditions is inconsistent, these approaches have shown benefits among other cohorts and are worth considering in this context, subject to further evaluation.
- There is some evidence that couple therapy interventions for women with subthreshold symptoms of depression or women lacking support or experiencing significant interpersonal difficulties with their partner may help to avert perinatal depression.

Potentially useful but more evidence needed

- Education on preparing for parenting, encouraging good sleep hygiene for infants and parents, and for promoting parent–infant interaction.
- Self-help programs.
- Peer support programs and peer-based telephone.

- Programs for fathers.
- Mid-wife led initiatives to redesign maternity care, postpartum nurse home visits.
- Dietary and hormonal supplements.

4.1. The context for action.

A parent's mental health can have a significant influence on their child's wellbeing. While estimates vary, up to one in ten women experience depression while pregnant, and one in seven women in the year after birth. While there has been less research into perinatal anxiety, and estimates vary widely depending on the specific anxiety disorder being measured, it is at least as common as perinatal depression. Men can also experience perinatal mental health conditions, with approximately one in ten expectant and new fathers experiencing depression, anxiety or other forms of emotional distress in the perinatal period. (31, 32)

A range of factors contribute to the development of perinatal mental health conditions. These include: sleep problems; lack of social support; not living with partner; intimate partner violence; multiple births; alcohol, cigarette, and AOD use; and past history of mental health conditions. (33, 34)

Perinatal depression and anxiety are problematic for the parent and their partner. They are also associated with an increased risk of: emotional and behavioural disorders; more negative affect/behaviour; lower levels of positive affect/behaviour; and poorer cognitive, language, motor, and adaptive behaviour development among their children. (35-37) These conditions also increase the risk of child maltreatment.(38) Improving parental mental health through primary prevention strategies or early intervention can therefore help to avert child and adolescent mental health conditions.

4.2. Health behaviours

4.2.1. Exercise

A systematic review by Nakamura et al. of experimental and observational studies examined the link between exercise and perinatal mental health. The review found that women who were physically active during pregnancy experienced a lower incidence of postnatal depression relative to those who were not. (39) Other reviews have focused on experimental trials only. For example, Daley et al. conducted a systematic review and meta-analysis of randomised controlled trials (RCTs) that examined the effectiveness of exercise in the prevention and treatment of *antenatal depression*. Six trials were included in their meta-analysis. The analysis showed a significant reduction in depression scores for exercise interventions relative to comparator groups, however it is important to note most trials included women who were already experiencing some depressive symptoms. (40)

A slightly later systematic review and meta-analysis of intervention studies (RCTs and non-RCTs) conducted by Poyatos-León et al. found that women who participated in these interventions during pregnancy or the postpartum period experienced significantly lower *postnatal depressive* symptoms compared to women in the control groups. While the effect size was larger for women who were already experiencing symptoms at baseline, women with no depressive symptoms at baseline also experienced significantly lower symptoms of depression post-partum compared to women in control conditions. (41)

Carter et al. in 2019 also examined the impact of exercise on *postnatal depression*. This systematic review included both universal and targeted prevention interventions (selective and indicated), as well as treatment interventions. The meta-analysis of the 18 RCTs included in the review found exercise/physical activity interventions led to a moderately significant reduction in depressive symptoms compared to control conditions. Targeted prevention and treatment interventions yielded a greater effect size than universal prevention interventions although universal interventions did also

lead to statistically significant reductions in depressive symptoms. (42) A more recent systematic review of 16 RCTs by Kołomańska-Bogucka and Mazur-Bialy also found that interventions that aimed to promote regular physical activity during pregnancy or in the postnatal period reduced depressive symptoms as well as the risk of developing *postnatal depression* when compared to inactivity. (43)

Of note, a systematic review of prenatal exercise on pre- and postnatal anxiety and depressive symptoms by Davenport et al. which included 52 trials (26 RCTs, seven non-randomised trials, ten cohort, six cross-sectional and three case control studies) found that exercise-only interventions, but not exercise plus co-interventions, reduced the severity of *prenatal depressive* symptoms (13 RCTs) and the odds of *prenatal depression* disorders by 67% (five RCTs) compared with no exercise. However, in contrast to other reviews they found that prenatal exercise did not alter the odds of *postpartum depression* or the severity of depressive symptoms, nor anxiety or anxiety symptoms during or following pregnancy. However, as noted, this review included a far broader range of research designs. (44)

4.2.2. Sleep

Poor sleep quality is associated with an increased risk of perinatal mood disturbances. (45) As result, researchers have examined the potential benefits of assisting parents to manage their child's sleeping patterns, however, a systematic review by Douglas et al. concluded that behavioural interventions in the first six months do not decrease infant crying, prevent sleep and behavioural problems in later childhood, or protect against postnatal depression. (46) A later systematic review by Sasaki et al. found two studies that focused on universal preventative interventions provided during pregnancy to improve infant and maternal sleep hygiene. One study found no significant difference in the incidence of postnatal depression while the other found a significant difference. (47)

4.3. Self-help

Lin et al. conducted a meta-analysis of self-help interventions (e.g., books, videos, websites) designed to prevent or treat postpartum depression. The analysis included nine RCTs and found that there was no significant difference between self-help interventions and control conditions in *preventing* depression. However, self-help interventions were significantly more effective, relative to control conditions, in promoting *recovery* from postpartum depression post-intervention and at follow-up. (48)

4.4. Mindfulness interventions

Mindfulness can be defined as “the intentional and non-judgemental awareness of experience in the present moment. It is characterised by an openness to and acceptance of all internal and external stimuli, and an ability to switch awareness between stimuli.” (49) Mindfulness has been extensively studied in relation to the promotion of mental wellbeing, and also in the prevention of mental health conditions, and their treatment.

Lever-Taylor et al. conducted a systematic review and meta-analysis of the effectiveness of mindfulness-based interventions for reducing depression, anxiety, and stress in the perinatal period. The review identified 17 studies of mindfulness-based interventions, including both controlled trials and pre-post uncontrolled studies of two types of mindfulness – Mindfulness Based Cognitive Therapy (MBCT) and Mindfulness-Based Stress Reduction (MBSR). The majority of studies were carried out in the prenatal period and included studies that focused on improving wellbeing, reducing general distress or stress, or on selective prevention or indicated prevention of perinatal disorders. While the analysis of pre- to post-intervention results from the uncontrolled studies showed significant reductions in depression, anxiety and stress, each with small to medium effect sizes, the analysis of the eight studies that used a more robust research design failed to find any significant post-

intervention benefits of mindfulness interventions for depression, anxiety or stress in comparison to control groups. (50)

The review by Hall et al. examined the literature relating to the effectiveness of mindfulness training during pregnancy to support perinatal mental health. Nine studies were included in the data synthesis. The authors were unable to combine the study results because of the variation in methodologies and the interventions tested; however statistically significant improvements were found in one study on stress, two studies on depression and four on for anxiety. The authors concluded that there was insufficient evidence about the effectiveness of mindfulness to promote perinatal mental health. (51)

In their systematic review and meta-analysis, Matvienko-Sikar et al. examined whether mindfulness-based interventions were able to reduce levels of depression, anxiety and negative affect during pregnancy. The meta-analysis included eight RCTs and found that mindfulness interventions did lead to reduced levels of depression, anxiety and negative affect during pregnancy among women in the intervention groups compared to the control groups, but did not reduce stress or increase positive affect. However, it is important to note only some of the studies examined the preventive benefits of mindfulness rather than its benefits for women already experiencing depression or anxiety. The authors concluded that mindfulness interventions may improve prenatal wellbeing, but the quality of existing studies is variable and further higher quality research is needed to better understand intervention effects. (49)

Similarly, a systematic review and meta-analysis of mindfulness-based strategies during pregnancy by Dhillon et al. found mixed results that were dependent on the rigour of the study design and the condition being measured. Fourteen articles met the inclusion criteria and were included in the review. Pooled results of the RCTs reporting outcomes on anxiety, depression and perceived stress indicated no differences between the mindfulness intervention group and the control group, while pooled results of the non-RCTs reporting anxiety, depression and perceived stress showed a significant benefit for the mindfulness group. The authors noted that while mindfulness-based interventions may be beneficial for reducing anxiety, depression, perceived stress during the perinatal period, the results are mixed, and further research would be useful to explore if such benefits are sustained during the post-natal period. (52)

4.5. Mind-body interventions

Marc et al. examined a broader range mind-body interventions to reduce perinatal anxiety. The review included eight RCTs of mind-body interventions such as autogenic training, biofeedback, hypnotherapy, imagery, meditation, prayer, auto-suggestion, tai-chi and yoga targeting pregnant women of any age at any time from conception to one month after birth. The results were quite variable and overall the authors concluded that there is limited evidence for the effectiveness of mind-body interventions for the management of anxiety during pregnancy. (53)

A later systematic review and meta-analysis by Guo et al. also examined of the benefits of mind-body interventions in the perinatal period. Their review included studies of various interventions including mindfulness, relaxation techniques and yoga groups. The meta-analysis of 28 studies involving 1,944 participants found that such interventions led to significant improvements in stress levels among women in the intervention groups compared with the control groups. Both individual and group-based formats were effective, and four to eight weeks of intervention seemed the optimal choice. While significant differences in anxiety and depressive symptoms were also noted between the intervention and control groups, the analysis did not specifically examine whether the interventions prevented perinatal mental health conditions. (54)

4.6. Psychoeducation and psychological interventions

There has been a considerable level of research into the preventive effects of psychoeducation and psychological interventions during and/or after pregnancy. Two particular psychological interventions have been studied in the most detail – cognitive behavioural therapy (CBT) and interpersonal therapy (IPT). CBT teaches people how to use the natural relationship between thoughts and feelings to manage negative thoughts and create positive actions and moods, while IPT helps people to communicate better with others and address any interpersonal issues that can contribute to depression or anxiety. These strategies may be taught through individual or group settings by a range of professionals and paraprofessionals. They can also be taught online. (55)

Trials relating to perinatal anxiety have produced mixed results. A review by Missler et al. found that psychological interventions such as psychoeducation CBT, IPT and mindfulness implemented during pregnancy on a universal basis, can lead to a decrease in post-partum anxiety although the effects on anxiety were much smaller than on depression. (56) A systematic review by Matvienko-Sikar et al. reviewed the evidence for psychological interventions to prevent stress and anxiety in the antenatal period and first 1,000 days of their child's life. The review included a mix of universal and targeted trials and treatment trials. A range of interventions were trialled including psychoeducation, CBT and mindfulness. The authors found that two interventions demonstrated reductions in stress or anxiety, eight studies demonstrated inconsistent effects, and five studies reported no effects for stress or anxiety. The authors concluded that the evidence for the benefits of psychological interventions to prevent perinatal stress and anxiety among women is inconclusive. (57)

The systematic review by Bright et al. focused on the use of IPT in the prevention and treatment of psychological distress among women in the perinatal period. The review included 25 RCTs, ten quasi-experimental studies, eight open trials, and two single case studies. IPT intervention was delivered individually or in groups. Among the 13 prevention studies, 12 were delivered during pregnancy and one was delivered in the postpartum period. Seven prevention studies aimed to reduce the risk of anxiety but only one study reported a significant reduction in symptoms. Five out of the 12 prevention studies that aimed to reduce the risk of depression reported a significant reduction in symptoms. These improvements were small to moderate in magnitude. By contrast, 26 out of 32 treatment studies reported a significant improvement in depressive symptoms over time, and six out of eleven treatment studies reported a significant improvement in anxiety symptoms. (58)

Trials that have focused on the prevention of perinatal depression appear far more promising. As noted, the systematic reviews by Missler et al. and Bright et al. found greater support for the benefits of psychological interventions in the prevention of perinatal depression than in the prevention of perinatal anxiety. (56, 58)

A systematic review by Sockol focused on the use of CBT for the prevention or treatment of perinatal depression and found that in prevention studies, individuals who received CBT had significantly lower rates of postpartum depression compared to individuals in control conditions. The author found that CBT interventions initiated during the postpartum period were more effective than antenatal interventions, and individual therapy was more effective than group interventions. Preventive effects were noted across universal, selective and indicated prevention studies. (59) In another systematic review, Sockol found that IPT was effective in reducing depressive symptoms and the incidence of depressive episodes during the antenatal and postnatal period when used on either a universal, selective or indicated prevention basis. (60)

Yasumaa et al. also examined the impact of psychological interventions for the prevention of perinatal depression and they also found a significant positive effect of antenatal psychological intervention on both antenatal and postnatal depression when provided on a *universal* prevention basis. (56, 61) By

contrast, the review by Wadephul et al. focused on the use of psychological interventions among women with elevated symptoms of, or at risk of developing, perinatal mental health problems during the antenatal period. A total number of 19 papers describing 15 studies were identified; and included in the review. Most interventions were based on CBT, IPT and mindfulness. The effect on depressive symptoms was assessed in 12 studies, but only two, both CBT-based, found some evidence of effect, while the effect on the incidence of depressive episodes was measured in ten studies, and four of these found evidence of a decrease after the intervention. The impacts of these programs on stress were generally favourable, but less so for perinatal anxiety. (62)

A systematic review by O'Connor et al. into the benefits of psychoeducation, CBT, IPT, peer mentoring or other supportive interventions during the antenatal or postpartum period, that included 50 studies, found such interventions were associated with a lower likelihood of perinatal depression onset in the intervention groups compared to control groups (31.8% greater reduction), although the evidence was mostly for women at increased risk for perinatal depression. (63) Based on this review the U.S. Preventive Services Task Force concluded with moderate certainty that counselling interventions to prevent perinatal depression have a moderate net benefit for pregnant or postpartum women at increased risk. This includes women with a history of depression, socioeconomic disadvantage (e.g., low income or young or single parenthood) or have current depressive symptoms. (64)

4.7. Social support

Lack of social support is a risk factor for perinatal mental health conditions. Improving parents' access to social support could potentially assist with preventing these conditions. A systematic review of peer support interventions found that the provision of informational, emotional, affirmational, and practical support provided by peers during or after pregnancy did lead to a greater reduction in the likelihood postnatal depression among women in the intervention groups compared to control groups, however the authors noted that the studies were of variable quality. (65)

A systematic review and meta-analysis that focused more narrowly on psychosocial interventions targeting teenage parents found while such strategies led to small but significant improvement in positive mental health and school attendance (among young people who received the intervention compared to the control groups), overall social support interventions did not lead to any significant reduction in perinatal mental health conditions among participants compared to control groups. (66)

4.8. Couples or family interventions

Interpersonal difficulties such as poor division of responsibilities, a lack of partner availability or support, low intimacy, and conflict or dissatisfaction between partners has been implicated in the development of perinatal depression and anxiety disorders. Addressing these issues, may have preventative benefits. (67)

Pilkington et al. conducted a review of interventions that aimed to enhance partner support or strengthen the couple relationship. Thirteen trials were identified, all of which included mothers as participants. Nine also included fathers and one study was designed to be inclusive of same-sex couples. The authors reported that nine of the 13 studies showed a reduction in postpartum depression or anxiety among women in the intervention groups compared to the control groups, but the impacts of programs on paternal mental health were lacking. (68)

A more recent systematic review and meta-analysis by Cluxton-Keller and Bruce examined trials of both preventative and treatment-focused family therapy interventions that aimed to reduce perinatal depressive symptoms among women. Seven studies (RCTs or cluster RCTs) were included in the meta-analysis. Most focused-on CBT-based couple therapy. Overall, the analysis found a statistically significant reduction in maternal depressive symptoms from baseline to first follow-up among women

in the intervention groups compared to control groups. Improvements were 'dose-dependent' with participants who attended more sessions exhibiting a greater reduction in symptoms. Sub-analysis showed that while universal prevention trials did not lead to any significant difference in depressive symptoms among women in the intervention groups compared to control groups, both indicated prevention and treatment trials both produced statistically significant reductions in depressive symptoms among intervention participants compared to controls. (67)

4.9. Father's mental health

The vast majority of preventive research in the perinatal period focuses on maternal mental health, however, there have also been some studies on paternal mental health. Suto et al. examined the effects of prenatal childbirth education targeting partners (mostly fathers) of pregnant women on the partners' postnatal mental health and the couple relationship. The systematic review included 11 RCTs. Most interventions included both parents, while three trials included only men in the intervention group. While some studies produced positive results, there was considerable variability. One study found that expectant fathers in intervention groups reported lower postnatal state anxiety two hours after birth; another reported lower parenting stress three months after birth; three reported that programs generally reduced fathers' postpartum anxiety; and three reported improved couples' relationship status. Other studies found that fathers were more likely to participate in the delivery room (one study) and were more satisfied with the experience of childbirth (one study). Overall, however, the authors concluded that there was not enough evidence to suggest that prenatal childbirth education for partners of pregnant women protects against paternal postnatal depression. (69)

4.10. Web-based interventions

Lee et al. conducted a systematic review of web-based psychological interventions for the prevention and treatment of perinatal mood disorders. Four studies met their inclusion criteria including three RCTs and one feasibility trial. All studies included a therapist/external contact in addition to a web-based component (mostly CBT based) although the extent of external support was variable. The review found that women in the intervention groups experienced fewer depressive symptoms post-intervention and at follow-up, although the review did not include tests of significance between intervention and control groups. The authors concluded that there was emerging evidence that web-based therapies for perinatal depression delivered in the post-partum period may play a role in improving maternal mood but more studies are needed. (70)

4.11. Arts-based approaches.

A recent systematic review and meta-analysis examined whether music could decrease stress and anxiety among women who are pregnant. The authors found that while music interventions significantly reduced levels of maternal anxiety during pregnancy they had no impact on pregnancy stress or general stress, and the methodological quality of the studies included was rated as weak to moderate. (71)

4.12. Mixed intervention studies.

While most reviews focus on one particular type/category of interventions others review a range of approaches. For example, a systematic review and meta-analysis of psychosocial and psychological interventions for preventing postnatal depression conducted by Dennis and Dowswell's that included 28 RCTs, involving almost 17,000 women, found that women who received a psychosocial or psychological intervention were significantly less likely to develop postpartum depression compared with those receiving standard care. The most promising interventions included the provision of intensive, individualised postpartum home visits provided by public health nurses or midwives, peer-based telephone support, and IPT. (72)

The review by Fontein-Kuipers et al. focused on RCTs of antenatal interventions designed to reduce perinatal stress, anxiety or depressive symptoms which they collectively referred to as maternal distress. Data from nine trials (six preventive interventions and three treatment trials) involving 3,167 participants were included in the meta-analysis. The preventive interventions included antenatal education, mentoring, music therapy, and group antenatal care. Overall, the review found no significant reduction of maternal distress in the intervention groups compared to the control groups. However, a subgroup analysis of the three selective prevention trials (i.e. participants at increased risk of maternal distress) showed a small significant effect. The treatment interventions also showed a significant effect for the reduction of maternal distress. The authors concluded that antenatal interventions targeted to women at risk or those already experiencing maternal distress were associated with a small but significant reduction in distress. (73)

A systematic review and meta-analysis by Sockol et al. assessed the efficacy of various preventive interventions designed to reduce the severity of postpartum depressive symptoms or prevent postpartum depression. Interventions included psychoeducation, psychological therapy, social support, dietary supplements, hormonal treatment and antidepressant medication. The meta-analysis, which included 37 RCTs or quasi-RCTs, found that depressive *symptoms* were significantly lower at post-treatment among women in intervention groups compared to control groups although not all interventions had a positive effect. In addition, the meta-analysis also found there was a 27% reduction in the prevalence of depressive *episodes* by 6 months postpartum among women in intervention groups compared to control groups. (74)

A later systematic review and meta-analysis by Morell et al. examined the effectiveness, cost-effectiveness, safety and acceptability of a wide range of interventions to prevent postnatal depression. The meta-analysis was based on 86 universal, selective or indicated prevention trials that utilised: psychological interventions; psychoeducation; social support; midwifery-led interventions; organisation of maternity care; pharmacological agents or supplements, complementary and alternative medicines; and other approaches to prevent postnatal depression. Results varied considerably from study to study. The authors concluded that the most beneficial universal interventions for preventing postnatal depression were midwifery redesigned postnatal care, person-centred approaches and CBT-based interventions. The most beneficial selective prevention approaches were CBT- and IPT-based interventions and education on preparing for parenting, while the most beneficial indicated prevention approaches were promoting parent–infant interaction, peer support, and person-centred, IPT- and CBT-based interventions. (75)

4.13. Screening and referral

A systematic review conducted for the US Preventive Services Task Force concluded that screening pregnant and postpartum women for depression can identify women who need further evaluation and may need treatment. This ultimately leads to reduced symptoms and depression prevalence in this cohort. (76) More recently, a narrative review by Reilly et al. noted, that despite some continuing debate, there is reasonably good evidence to support an overall benefit of perinatal depression screening programs, in terms of increasing referral to, and engagement with, appropriate support services, and in improving maternal mental health outcomes. (77)

4.14. Conclusions

Perinatal mental health conditions create significant adverse effects for women and their partners, and for their children. Given the benefits, it is clear that efforts to promote parents' wellbeing and prevent perinatal depression and anxiety should feature in any wellbeing and prevention framework. At present, the strongest evidence relates to interventions that target mothers' mental health rather than fathers, and to the enhancement of protective factors, rather than the mitigation of risk factors.

The strongest evidence relates to physical activity and psychoeducational and CBT- or IPT-based psychological interventions implemented in the antenatal or postnatal period to prevent perinatal depression. The benefits of psychoeducational and psychological interventions are apparent across universal, selective and indicated prevention studies. The US Preventive Services Task Force particularly recommends “that clinicians provide or refer pregnant and postpartum persons who are at increased risk of perinatal depression to counselling interventions”. (78) This includes women with a history of depression; current depressive symptoms that do not reach a diagnostic threshold; and women with certain socioeconomic risk factors (such as low income, adolescent or single parenthood, recent intimate partner violence, or a history of significant negative life events). (79).

There is also some evidence that mindfulness and mind-body intervention can reduce depressive symptoms, but the results of these trials are inconsistent and further research is required to determine the exact role of these approaches. There is also some evidence for the benefits of couple or family-focused psychological interventions among women who are already displaying subthreshold symptoms of depression, or are lacking support or experiencing relationship difficulties. Universal screening for perinatal depression and referral is also important and the US Preventive Services Task Force recommends broad screening for depression among pregnant and postpartum women. (78)

The evidence around promoting wellbeing in pregnancy and preventing perinatal anxiety is less clear. Some but not all studies suggest that mindfulness-based therapies, mind-body interventions, and psychological interventions such as CBT can reduce perinatal stress and anxiety, however overall the evidence for these interventions is less consistent than the evidence relating to the prevention of depression.

5. Children and adolescents (aged 0-18 years).

Section summary

Mental health conditions can have a profound negative impact on multiple aspect of a child or adolescent's life. The impacts on schooling are particularly concerning. Children and adolescents with a mental health condition tend to feel less engaged with schooling, miss more days from school, perform less well academically, drop out of school earlier, and experience poorer training, education and employment outcomes post-secondary school compared to students without a condition. In addition, children and adolescents with mental health conditions are also more likely to engage in health risk behaviours such as smoking, AOD use, and be in contact with law enforcement agencies, compared to other children and adolescents. They are also at higher risk of experiencing mental health conditions as adults.

The promotion of mental wellbeing and prevention of child and adolescent mental health conditions can therefore benefit children and adolescents, their parents and families, and reduce the prevalence of mental health conditions in adulthood. A range of strategies have been trialled to promote child and adolescent mental wellbeing and prevent mental health conditions. Of these parenting programs and various school-based mental health initiatives have received the most attention.

Best bets

- There is very good evidence that school-based social and emotional learning, resilience, and disorder specific prevention programs, (particularly those based on CBT and mindfulness), can enhance child and adolescent mental wellbeing and prevent internalising and externalising disorders, and anxiety and depression. Evidence exists for universal, selective and indicated prevention approaches although the effect sizes vary between the three approaches.
- There is good evidence that structured parenting programs that provide education on child development and promote positive parenting practices can prevent child emotional and behavioural disorders, with the strongest evidence relating to behavioural disorders. Such programs can be delivered one-to-one, in groups or online.

Worth trialling and evaluating further

- There is evidence that psychoeducational and psychological skills building programs, particularly those that drawn on CBT, IPT and mindfulness-based strategies, can also be effective when delivered in non-school community settings, including online. However, the range of settings through which these programs can be delivered while retaining their efficacy needs to be determined.
- There is good evidence that nurse home visiting programs for expectant and new parents can help to enhance parenting practices, improve child and parent mental health, and contribute to the prevention of child maltreatment. These programs are particularly useful for parents experiencing adversity (e.g. financial stress, lack of support, inter-partner conflict, AOD use, mental health conditions, personal history of childhood adversity). However, it is important to note that program design and implementation issues influence the impact of these programs and not all of them achieve positive outcomes.
- While research into whole-of-school mental health promotion initiatives is limited, this model holds considerable promise, however such initiatives need to include the types of psychosocial skills-building programs described above to be effective.

Potentially useful, but need more evidence

- Youth mentoring programs to prevent behavioural/externalising disorders.
- Primary care delivered preventative interventions.

5.1. The context for action.

Sadly, there is no nationally representative information about the prevalence of 'good' mental health among children and adolescents, in large part due to the lack of agreement on how best to define and measure this concept among children and a tendency to focus on deficits rather than strengths.

By contrast, there is very good data in relation to the prevalence of mental health conditions in this age group. Based on this data, it is estimated that in a given year one in seven children aged four to 11 years (13.6%), and a similar proportion of adolescents (14.4%) aged 12 to 17 years will experience a mental health condition. The most common conditions among four to 11-year-olds include ADHD (8.2% of children), anxiety conditions (6.9%), conduct disorder (2%) and depression (1.1%), while the most common conditions among 12 to 17-year-olds include anxiety disorders (7%), ADHD (6.3%), depression (5%) and conduct disorder (2.1%). (23)

Mental health conditions can have a profound impact on multiple aspect of a child or adolescent's life, and that of their parents/carers, and other family members. The impacts on schooling are particularly concerning. Children and adolescents with a mental health condition tend to feel less engaged with and connected to schooling, and miss more days from school compared to students without a condition. On average, they also score lower than students with no condition in every NAPLAN domain and year level, and by year 9 students with a mental health condition are on average 1.5-2.8 years behind students with no condition. (80)

Mental health conditions in childhood and adolescence also impact negatively on school completion rates, and contribute to poorer training, education and employment outcomes post-secondary school and into adulthood. (81-83) In addition, children and adolescents with mental health conditions are more likely to engage in health risk behaviours such as smoking, AOD use, and are more likely to be in contact with law enforcement agencies. (23) Critically, individuals who experience mental health difficulties in childhood and adolescence are at higher risk of experiencing mental health conditions in adulthood. (84)

A range of risk and protective factors are influential in this age group. These factors largely relate to: the quality of attachment; parents' mental health and their parenting style; and the nature of the learning and local community environments around children and adolescents and socioeconomic factors. Key protective factors include secure attachment, positive parenting, and supportive school environments, while key risk factors include adverse childhood experiences such as child maltreatment; exposure to family violence; living with a parent with a serious mental health conditions or AOD use; bullying; racism and social disadvantage.(85) Improving child and adolescent mental health through wellbeing and prevention strategies can have benefits for children and adolescents, and for their parents and family members, while also contributing to a reduction in poor mental health in adulthood and into old age.

5.2. Parenting programs

A child's relationship with their parents has a significant influence on their social and emotional development. Secure attachment between a child and their parent/primary caregiver is associated with a decreased risk of mental health conditions while insecure avoidant, insecure ambivalent/resistant, and disorganised attachment are associated with an increased risk. (86, 87) Parenting style is also important. Harsh or authoritarian parenting, inconsistent discipline, overprotection/control and criticism/lack of warmth are risk factors for emotional and behavioural disorders. By contrast, authoritative parenting styles, positive parent-child relationship, higher levels of parental warmth and support, and higher levels of autonomy granting, are associated with lower levels of depression and anxiety in adolescence and adulthood across cultures. (88-90)

The broader family environment also plays a role. Parental conflict and other intra-family difficulties are associated with higher levels of emotional and behavioural disorders among children and depression and anxiety among adolescents. By contrast, immediate and extended family support, eating meals together, trust and fairness in the family, high family cohesion, a positive family climate and parental involvement are key factors that contribute to wellbeing and resilience among children and adolescents, especially those who have faced significant adversity. (88, 91, 92)

Given this, considerable attention has been paid to whether parenting programs can help to reduce children and adolescents' risk of developing mental health problems. Prevention focused parenting programs aim to increase parental knowledge, skills and confidence in child and adolescent development, support the adoption of positive parenting practices, and provide psychoeducation on mental health conditions. (93, 94) A range of different programs have been trialled. Some programs specifically target internalising 'emotional' disorders such as anxiety and depression, others target externalising 'behavioural' disorders such as oppositional defiant disorder and conduct disorders, while others again aim to be transdiagnostic. Parenting programs can be delivered through one-one sessions with a therapist, small-group workshops in community settings, or online.

5.2.1. Mindfulness-based parenting programs.

The central tenants of mindful parenting are emotional awareness, emotional regulation, attention regulation, intentionality and non-judgmental acceptance. Townshend et al. 's systematic review of mindfulness-based parenting programs for parents with children aged between 0 to 18 years included seven RCTs. The review found that while mindful parenting programs showed some benefits in reducing parental stress, increasing parents' emotional awareness of their children and reducing symptoms associated with externalising disorder, the results of such programs was mixed and overall the authors concluded that there was insufficient evidence to state that mindful parenting programs can improve children's and parents' wellbeing. (95)

5.2.2. Home visiting programs

Home visiting programs involve the provision of in-home support to parents (usually mothers) during pregnancy and through to the early childhood. While the majority of such programs have been designed to avert child maltreatment, they also aim to support children's positive social and emotional development (see section five).

The U.S Department of Health and Human Services undertakes a regular review of home visiting models to support its commissioning process. Known as the Home Visiting Evidence of Effectiveness (HomVEE) review, this process examines which home visiting programs have sufficient evidence to meet the Department's evidence-based service delivery model criteria. Programs need to demonstrate statistically significant benefits in at least one of the following eight domains: maternal health, child health, positive parenting practices, child development and school readiness, reductions in child maltreatment, family economic self-sufficiency, linkages and referrals to community resources and supports and reductions in juvenile delinquency, family violence, and crime. The 2020 HomVEE review examined 50 home visiting models and identified 21 that met their criteria. (96)

5.2.3. Programs to prevent internalising or externalising conditions.

Other parenting programs have focused more directly on the prevention or treatment of child and adolescent mental health difficulties. These programs can be broadly divided into those focused on internalising (emotional) disorders such as depression and anxiety, and those focused on externalising (behavioural disorders) such as oppositional defiant disorder and conduct disorder.

A systematic review and meta-analysis conducted by Yap et al. focused on the prevention of internalising problems. A total of 66 reports of 51 RCTs were eligible for inclusion, although six studies were excluded from meta-analyses because they did not provide sufficient data. Most studies targeted primary school aged children and focused on improving parenting skills and the parent-child relationship. The results of their meta-analyses showed that compared to controls, parenting interventions reduced child internalising, depressive, and anxiety symptoms, at a minimum of six months after the intervention was delivered. The mean effects were very small for internalising and depressive symptoms, and small for anxiety symptoms. (97)

Henricks et al. conducted a review of systematic reviews and meta-analyses that examined opportunities to prevent or treat childhood aggression, a common feature of externalising disorders. Their review included 72 published systematic reviews and meta-analyses. A broad range of prevention strategies and interventions were used including: parent training programs; psychosocial treatments; school-based treatments; (multi)systemic therapy; family therapy; media-based treatments; after-school programs; child-centred play therapy; and martial arts. The authors found that overall, programs varied considerably in their impact with some programs more effective than others. Among the various universal prevention programs, 17% of studies that reported an effect size found no effect and the rest found a positive effect (mostly small). Among the selective prevention programs, 19% of the studies that reported an effect size found no effect while again, the remainder reported a positive effect (again mostly small). Among the indicated prevention studies that reported an effect size, 17% found no effect, 60% found a small effect, 6% a small-medium effect, 17% a medium effect, 3% found effects ranging between small and large, and 7% of these studies found a large effect. The authors concluded that on balance, the evidence favoured the use of indicated prevention programs for this particular issue. (98)

Stewart-Brown et al. conducted an extensive review of parenting programs designed to support child and adolescent mental health. The authors examined 52 systematic reviews which included studies that aimed to enhance parent-child interactions, prevent or treat emotional or behavioural disorders or prevent child maltreatment. The programs were underpinned by a range of theoretical approaches with CBT, social learning and relationship-based education being the most common. These were offered on a one-to-one basis, or in groups with programs generally lasting eight to 12 weeks. A greater proportion focused on behavioural issues and the authors found that parenting programs generally had a positive effect on children's behaviour particularly in the 3 to 10 year old age group. (99)

Barlow et al. conducted a systematic review and meta-analysis of group-based parent training programs for improving emotional and behavioural adjustment in young children aged up to three years and 11 months. The review identified 22 RCTs and two quasi-RCTs. Fourteen studies examined the effectiveness of programs aimed at the primary prevention of emotional and behavioural problems, whereas 12 studies evaluated the effectiveness of parenting programs targeted at children at risk or with existing emotional behavioural problems (selective and indicated prevention and treatment trials). The meta-analysis found there was moderate quality evidence that group-based parent training led to greater reductions in externalising problems at post-intervention compared to controls and this effect was maintained at short-term follow-up, and at medium-term follow-up. By contrast, there was no evidence of benefits for internalising problems. Results of subgroup analyses showed while there was no statistically significant differences for the universal prevention interventions, but there were significant differences for targeted prevention programs and treatment programs. (100)

In another systematic review by Barlow and Coren, the authors undertook a search of the Campbell Library to identify systematic reviews of parenting programs that focused on the prevention (universal and targeted) or treatment of behavioural problems such as conduct disorder.

While results of different programs were quite variable, the authors concluded that parenting programs were generally effective in improving the behavioural adjustment of children in addition to enhancing the psychosocial well-being of parents. (101) Last, Bayer et al. conducted a systematic review of child and adolescent focused preventive interventions that could potentially work in the Australian contexts. Their review suggested that Triple P, the Incredible Years, and the Parent Education programs showed good evidence of improving child mental health and preventing mental health condition as did Nurse Home Visiting programs in infancy, Family Check Up at preschool age and the Good Behaviour Game in school aged children, and each of these was potentially applicable to the Australian context. (102)

5.2.4. Online parenting programs

In recent times, parenting programs have also been offered online. Flujas-Contreras et al. reviewed online parenting programs to support the physical and/or mental health of children. The review identified 24 studies of which 22 were included in the meta-analysis. The studies included a mix of universal and targeted prevention programs as well as treatment programs. Just over a half (54%) focused on mental health and the rest physical health. The primary meta-analysis found that 45% of the studies showed a statistically significant positive effect of the intervention compared to the control post intervention and similar proportions at follow-up. The overall effect size for studies related to psychological issues was significant but small. The authors concluded that while there is some evidence of the usefulness and efficacy of online parenting intervention for psychological and physical health in childhood and adolescence, the results are mixed, and efforts are needed to refine these types of programs to achieve more consistent and stronger positive results. (103)

A review by Spencer et al. that focused more specifically on mental health outcomes, found that online parenting programs led to significant reductions in negative parent-child interactions negative discipline strategies, parenting conflicts, parent anger, parent stress, parent depression, child problem behaviours, and child anxiety. Results also revealed significant effects on increasing parent confidence, positive child behaviour and parenting satisfaction. There were no significant differences between universal and targeted programs, or between programs that included online components only, compared to programs that included some form of clinical support (e.g. therapists or content specialists) in conjunction with the online program. (104) Last, a systematic review by Hansen et al. of technology-assisted parenting programs found there was some evidence to support the use of technology-assisted parenting programs, particularly to improve externalising problems and parenting skills. (105)

5.3. School based programs

The majority of prevention programs for children and adolescents have been designed for school-based delivery. Two main approaches have been studied a) universal prevention programs that are delivered to all students in a grade or a school; and b) targeted programs which may be delivered to students who have risk factors for mental health conditions (selective approaches) or students experiencing subthreshold symptoms of a mental health condition (indicated approaches).

These programs typically focus on teaching children and adolescents the psychological and social skills that are associated with good mental health and wellbeing. The focus is on skills-building rather than therapy.(94) Programs may be delivered by classroom teachers or by mental health professionals. They can be provided on a stand-alone basis or as part of a broader whole-of-school approach. (106)

Skills-building programs can be grouped into three broad categories – social and emotional learning (SEL) programs, resilience-building programs and disorder specific prevention programs. While they differ in the primary outcome they aim to achieve, there is nevertheless considerable overlap between the various programs, with most teaching strategies derived from CBT, IPT or mindfulness.

5.3.1. Mindfulness based programs.

A systematic review and meta-analysis by Carsley et al. examined 24 studies involving 3,977 participants. The analysis found that mindfulness interventions had small to moderate significant positive effects post intervention compared to control groups. Interventions that were delivered during late adolescence (15 to 18 years of age) and that consisted of combinations of various mindfulness activities had the largest effects on mental health and well-being outcomes. The effects differed according to whether the intervention was delivered by an outside facilitator or trained educators/teachers. (107)

Cilar et al. conducted a systematic review of school-based interventions to promote the mental health of adolescents. The review examined a range of studies utilising universal interventions for the promotion of mental wellbeing or the prevention of mental health conditions among adolescents aged 10 to 19 years. The studies used a range of research designs including RCTs, cluster RCTs, quasi-experimental studies, non-controlled studies, cohort studies and some mixed methods studies. Most of those interventions focused on positive psychology and mindfulness programs. In all, 57 articles were included in the final analysis. More than half (56.14%) showed a positive outcome after implementation, 28% showed no impact, 12% showed a positive result post-trial but not at follow-up, and in two cases the impact was not clear. (108)

A systematic review and meta-analysis by Dunning et al. examined RCTs that assessed the efficacy of mindfulness-based interventions (MBIs) for children and adolescents. Thirty-three studies involving 3,666 children and adolescents met their inclusion criteria and were included in their meta-analyses. Outcome measures were categorised into cognitive, behavioural and emotional outcomes. Across all RCTs the authors found significant positive effects of MBIs, relative to controls, for outcomes relating to mindfulness, executive functioning, attention, depression, anxiety/stress and negative behaviours, with small effect sizes. However, when only those RCTs with active control groups were analysed, the significant benefits of MBIs were limited outcomes relating to mindfulness, depression and anxiety/stress. (109)

5.3.2. Social and emotional learning (SEL) programs.

While there is no single agreed definition of SEL, Weissberg and Cascarino define it as “the processes through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to manage their emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions”. (110)

SEL programs focus on five interrelated sets of cognitive, affective, and behavioural competencies. These including self-awareness, self-management, social awareness, relationship skills, and responsible decision making. (111) These skills are taught, modelled, practiced, and applied to diverse situations through classroom activities incorporated into a child or adolescent’s day-to-day learning so that students use them as part of their daily repertoire of behaviours. These skills can also be taught and reinforced by establishing safe, caring learning environments through a whole-of-school, community-building approach. (112) While SEL programs primarily aim to teach skills to promote positive growth and development, healthy lifestyle behaviours, psychosocial wellbeing and/or academic performance, they can also contribute to the prevention of mental health conditions. (113)

In the last decade, several systematic reviews and meta-analyses have examined the impacts of SEL programs targeting children and adolescents. O'Connor et al. examined studies of universal school-based mental health promotion programs targeting children and adolescents aged 5 to 18 years. SEL programs were the most common (12 out of 29 included studies), however other interventions used included stress management interventions, mindfulness interventions, anxiety and coping skills interventions, mental health psychoeducation and anti-stigma interventions.

Most studies reported that school-based mental health promotion programs had a positive effect on young people; however, three of the 29 studies noted either a negative effect or no effect at all. (114)

Durlack et al. conducted a more specific systematic review and meta-analysis of SEL programs. The review included 213 studies involving 270,034 primary and secondary school-aged students. SEL programs were delivered by classroom teachers or by trained external personnel. The authors examined six main outcomes including SEL skills, attitudes, positive social behaviour, conduct problems (e.g. disruptive class behaviour, noncompliance, aggression, bullying, school suspensions, and delinquent acts), emotional distress (e.g. depression, anxiety, stress, social withdrawal) and academic performance. (112) The meta-analysis found that participants in SEL programs demonstrated significantly improved social and emotional skills, attitudes and positive social behaviours following the intervention compared to participants in control groups. They also demonstrated fewer conduct problems and had lower levels of emotional distress. Improvements were maintained at follow-up which averaged 92 weeks across the studies, although effect sizes for each outcome were generally smaller over time. Programs delivered by classroom teachers tended to achieve significant results across all six outcomes while programs delivered by external personnel only achieved significant results on SEL skills, prosocial attitudes and conduct problems. Programs that were Sequenced, Active, Focused and Explicit (SAFE) produced significant improvements across all outcomes compared to those that were not. (112)

A slightly later systematic review and meta-analysis of universal, school-based SEL programs conducted by Sklad et al. also examined outcomes on social-emotional skills, positive self-image, behavioural adjustment, antisocial behaviour, prosocial behaviour, substance, mental disorders, and academic achievement. Their analysis of 75 studies found that SEL programs showed statistically significant positive effects for all seven outcome categories immediately post-intervention. At follow up, a significant difference between intervention and control groups on all outcomes was also observed, however effect sizes were generally smaller, but the effect size for the reduction or prevention of antisocial behaviour increased at follow-up. (115)

Sancassiani et al.'s systematic review of school based SEL programs identified 22 RCTs involving 49,169 students aged 6 to 18 years. Around 60% of trials evaluated the Life Skills Training program, while the rest used various different interventions. The authors noted that due to the variety in age/school grade of participants, characteristics of intervention and control groups, duration of programs and follow-up, assessed outcome and relevant tools, a direct comparison among the included studies was difficult. Overall, however they concluded that interventions generally produced favourable results in enhancing skills, promoting psychological wellbeing and/or improving their academic performance. A minority of studies collected data at \geq six-month follow-up after the end of the intervention (40.9%) or even longer (27.3%), but where this data was collected, the effects remained statistically significant by the time they were assessed (up to 2 years). (113)

The review by Wigelsworth et al. examined studies of universal, school-based SEL programs delivered to students aged 4 to 18 years. The primary meta-analysis of 89 studies revealed that students who received SEL programs experienced statistically significantly greater improvements in social-emotional competence, attitudes towards self, pro-social behaviour, conduct problems, emotional distress, academic attainment and emotional competence compared to students in control groups. The largest

effect were for measures of social-emotional competence, and the smallest in attitudes towards self. (116)

Taylor et al. reviewed 82 universal, school based, SEL interventions involving 97,406 students from kindergarten to high school. The analysis also showed that SEL programs produced significant positive benefits in social–emotional skills, attitudes towards self and school, positive social behaviour, conduct problems, emotional distress, AOD use, as well as in academic performance in the short-term and at longer term follow-up. Students who participated in an SEL program fared significantly better than controls on all outcomes regardless of students’ race, socioeconomic background, or school location. (117)

Last, van de Sande et al. conducted a systematic review of universal, school based SEL programs for adolescents aged 11 to 19 years. The review focused on RCTs, quasi-experimental studies and pre-post studies that included a control group. The review included 40 studies of 32 different programs. A quarter of the programs aimed to just enhance SEL competencies but most focused on also reducing students’ likelihood of depression, anxiety, aggression, and/or AOD use. Most programs were CBT-based. Other approaches included strategies based on social learning theory, the theory of reasoned action, problem solving, and mindfulness. While not all studies included measures of SEL competencies, overall the analysis showed that SEL programs produced significant positive effects on social and emotional competencies, where these were measured as well as on depression, anxiety, aggression, or AOD use. (118)

5.3.3. Resilience building programs.

Resilience is defined as the ability to maintain or quickly regain psychological equilibrium in the face of adversity. Resilience is associated with a decreased likelihood of experiencing a mental health condition. Resilience results from various personal attributes as well as social supports and other psychosocial resources that a person has access to and utilises effectively. Personal skills and attributes include high self-esteem, perseverance and determination, good problem solving, good self-regulation, high distress tolerance, social competence, intelligence, an internal locus of control, and optimism. External factors include positive parenting and family environment; having support from at least one supportive adult as a child; peer support; school engagement; and involvement in sports, local clubs, religious and other extra-curricular activities. (92, 119)

There are numerous skills building programs that focus on boosting the factors that contribute to resilience. Each focus on equipping children and adolescents with the psychological and interpersonal skills needed to regulate their emotions and behaviours, make healthy behaviour choices, build positive relationships and social connections, and manage life’s challenges and hardships.

Fenwick-Smith et al. conducted a systematic review of universal, resilience-building, school-based programs for children aged 5 to 12 years. The review included 11 reports of seven school-based programs. Programs specifically designed to prevent a particular emotional or behavioural disorder were not included in the review, even if the skills taught in the intervention could be classified as resilience promoting. Ten out of 11 studies reported positive outcomes with improvements in student resilience and protective factors, including frequency of use of coping skills, and self-efficacy at post-assessment, however limited longer term follow up data was available. One program showed limited effects on resilience itself, but highlighted a marked increase in self-awareness among students. (120)

Dray et al. also reviewed universal, resilience-focused interventions in schools. Their review included children and adolescents aged 5 to 18 years. Unlike the review by Fenwick-Smith et al. this review also focused on the impact of resilience programs on the prevention of mental health conditions.

The most commonly targeted protective factors were cognitive competence, problem solving/decision making, cooperation and communication, and coping skills. Most trials were CBT based. Other approaches included social and emotional learning; social skills; life skills; coping skills; interpersonal and self-management skills; psychological wellbeing therapy; the affective-behavioural-cognitive-dynamic (ABCD) model; positive psychology; and mindfulness. (121)

The review included 57 trials, with 49 studies contributing to the meta-analyses. The meta-analyses showed that resilience-focused interventions were effective relative to a control condition in reducing externalising problems, internalising problems, depressive symptoms, and general psychological distress post intervention in all the trials. At short-term follow-up, positive effects were only apparent for depressive and anxiety symptoms, and where long-term follow-up data was available, the resilience interventions were still noted to be effective for reducing internalising problems. Among trials targeted to children, resilience interventions were significantly more effective in reducing anxiety symptoms and general psychological distress among those in the intervention groups relative to the control groups, while for trials involving adolescents, the resilience interventions were significantly more effective in reducing internalising problems among intervention participants relative to controls. (121)

5.3.4. Psychoeducation and psychological interventions.

School-based psychoeducation and psychological interventions to prevent mental health conditions have also been studied extensively. While some have been carried out in pre-school settings, the majority relate to primary and secondary schools.

Preschool programs

Baughman et al. undertook a narrative review of interventions which aimed to prevent depression, and which were delivered universally to preschool children aged 4–6 years. The authors focused on three particular programs – The Preschool Promoting Alternative Thinking Strategies (PATHS), Fun FRIENDS and Play Skills for Shy Children. Studies of the preschool version of PATHS showed that children in this program demonstrated increased receptive and expressive emotion vocabulary, increased social competence and social problem solving, and less social withdrawal compared to children in a control group. Anxiety and depressive symptoms were not specifically assessed. The review of the Fun FRIENDS program found it led to improvements in teacher-reported emotional and behavioural strengths, reductions in behavioural difficulties and behavioural inhibition, and reliable improvements in anxiety symptoms among children in the intervention compared to the control group. The review of Play Skills for Shy Children found that in one small study, the program led to significant reductions at post-test in reticent-weary behaviours and increases in social competence but had no significant effects on teacher-rated anxious behaviours and prosocial behaviours. (94)

School based programs for internalising and externalising conditions

Franklin et al. conducted a systematic review and meta-analysis to examine the effectiveness of school-based psychosocial interventions delivered by teachers on internalising and externalising conditions. Twenty-four studies met the study inclusion criteria and were included in the meta-analysis. The results showed statistically significant reductions in students' internalizing outcomes but no statistically significant effect for externalising outcomes. (122)

Shelemy et al. conducted a systematic review and meta-analysis of teacher-delivered, classroom-based programs designed to reduce internalising problems amongst adolescents aged 11 to 18 years. Their analysis of 52 studies found teacher-delivered universal preventive interventions were significantly better than control conditions at improving depression, anxiety and PTSD symptoms in students, although effect sizes were relatively low, and only persisted for anxiety at follow-up.

Positive student outcomes were associated with interventions that utilised CBT or relaxation/mindfulness strategies, included eight to 16 sessions, had 45 to 90 minute long sessions and included two or more days of teacher training. (123)

School based for anxiety prevention.

Most anxiety prevention programs utilise CBT-based strategies that focus on emotional and cognitive awareness, positive self-talk/imagery, attentional training, psycho-education, relaxation, problem solving, exposure, behavioural experiments and cognitive restructuring. (124) Waldron et al. reviewed RCTs of universal school-based anxiety prevention programs that included a follow-up at 12-months or beyond. Eight studies involving 7,522 children aged nine to 18 years were included in the review. Each trial used CBT based interventions. Three of the eight studies reported greater reductions in anxiety symptomology in the intervention group compared to the control group at post-intervention and at 12-month follow-up. All the positive trials related to one particular program – the FRIENDS program. (124)

Hugh-Jones et al. reviewed the literature on school-based indicated prevention programs for anxiety in children and adolescents. The systematic review identified 20 RCTs comparing indicated programs for child and adolescent (5 to 18 years) anxiety to active or inactive control groups. Most interventions were CBT-based. Other interventions included mindfulness-based cognitive therapy, cognitive bias modification, and emotional regulation training. Eighteen studies were included in the meta-analysis. Overall, the meta-analysis found a small positive effect for indicated programs compared to controls on self-reported anxiety symptoms at post-test, which was maintained at six and 12 months albeit with lower effect sizes. Based on two studies, positive effects beyond 12 months were very small. The authors concluded that school-based indicated programs for child and adolescent anxiety can produce small beneficial effects, enduring for up to 12 months. (125)

Overall, the anxiety prevention literature suggests that psychoeducational or psychological skills building school-based programs have small-moderate prevention effects, although not all programs achieve positive results. Program content and delivery is important, and research has typically demonstrated more support for the FRIENDS program than any other program. (124, 126)

School based programs for depression prevention.

Calear and Christensen conducted a systematic review of school-based mental health programs designed for the prevention of depression. Forty-two RCTs were included in the review. Around two thirds of the prevention studies used a universal prevention approach while a third used a targeted approach (selective or indicated prevention). Most interventions (76%) were CBT-based. Other approaches included psychoeducation (17%) and IPT (9%). The review found that overall, six (54%) of the trials delivered to children significantly reduced depression while eleven (46%) trials targeting adolescents reported a significant reduction in symptoms of depression compared to controls. Indicated prevention programs appeared to be more efficacious than selective and universal programs, with more consistent outcomes at both post-test and follow-up. (127)

In relation to content, 56% of the CBT-based programs reported a significant reduction in depressive symptoms compared to 50% of studies that used non-CBT-based techniques. With respect to the program facilitator, six (46%) of the trials that utilised a teacher as the facilitator reported a significant reduction in depression, compared to 58% of the trials that employed another type of facilitator such as a graduate student or mental health professional. Last, 62% of the trials that evaluated a program consisting of eight to 12 sessions reported a significant reduction in depressive symptoms, while 36% of trials evaluating programs less than eight sessions, or greater than 12 sessions reported significant effects. (127)

Universal school-based programs for anxiety and depression prevention.

A systematic review and meta-analysis by Johnstone et al. focused on *universal* school-based prevention programs for anxiety *and* depression in children aged 13 years or younger. Fourteen randomised controlled trials, consisting of 5,970 children met their eligibility criteria. All programs were primarily CBT-based and most consisted of eight to 12 sessions. Overall, the meta-analysis showed that children who participated in prevention programs experienced significantly fewer *depressive* symptoms at post-program and at long-term follow-up compared to children in control groups, but there was no significant difference at short-term follow-up. The results were not influenced by the specific program. By contrast, anxiety prevention programs, with the exception of the FRIENDS program, did not demonstrate any statistically significant impact on *anxiety* symptoms across any time point. While the number of sessions did not have any bearing on the short- or medium-term results, programs with more sessions led to larger effect sizes at long term follow-up. (128)

Feiss et al. conducted a systematic review of school-based stress, anxiety, and depression prevention or support programs for adolescents. The meta-analysis included 42 studies involving 7,310 adolescents aged 11 to 18 years and found that programs targeted to depression significantly reduced depressive symptoms among adolescents in the intervention groups compared to control groups. However, the reduction was moderated by a combination of program type, dose, race, and age group. The authors found that anxiety interventions also significantly reduced anxiety symptoms, however there was no significant difference between the intervention and control groups for stress reduction programs. It is important to note that this meta-analysis included both preventative skills-building programs as well as some studies of therapeutic treatment and support. (129)

Ahlen et al.'s systematic review and meta-analysis sought to determine the effectiveness of universal interventions to prevent anxiety and depressive symptoms in school-aged children after correcting for clustering effects. Their analysis found small but significant preventive effects for anxiety and depressive symptoms measured immediately post intervention. At follow-up, which ranged from three to 48 months, effects were still significant for depressive symptoms but not anxiety symptoms. Sub-analysis found that the benefits were not influenced by whether the intervention targeted anxiety or depression, were delivered by mental health professionals or school personnel, the age of the children involved or their gender, nor the length of the intervention. (130)

Mixed universal and targeted school-based programs for anxiety and depression prevention.

A review by Werner-Seidler et al. focused-on school-based wellbeing and depression and anxiety prevention programs for primary or secondary school-aged students. Their review included both universal and targeted (selective/indicated) prevention programs. Studies included a range of interventions including individual or group CBT, IPT, mindfulness-based cognitive therapy (MBCT), wellbeing therapy (WBT) and psychoeducation. Overall 81 unique studies involving 31,794 participants were included in the meta-analysis. The analysis found that overall school-based prevention programs have small but significant preventative effects on depression and anxiety, which endure at six and 12-month follow-up. Sub-analysis found that for depression, targeted prevention was more effective than universal prevention, while for anxiety there was no difference in effect size based on prevention type. For depression, externally delivered programs had a larger effect than programs delivered or supported by school staff at short-term follow-up, but not at medium-long term follow-up. There was no difference in outcomes for anxiety prevention programs delivered by school staff compared to external mental health professionals. (131)

Corrieri et al. reviewed school-based programs for the prevention of depression and anxiety in adolescence. The review included a mix of universal (18 studies), indicated (five studies) and mixed universal and indicated (one study) prevention studies. Sixteen studies reported lower depression scores in the intervention group compared with the control group at post-intervention or follow-up,

while eight studies did not report any significant differences. The review also included studies focused on anxiety prevention, including 12 universal prevention studies, eight indicated prevention studies, and one study that focused on a combination of universal and indicated prevention. Overall, 11 studies reported lower scores for anxiety in the intervention compared with the control group at post-intervention or follow-up while four studies found no significant differences. (132)

Targeted school-based programs for anxiety and depression prevention.

Gee et al. conducted a systematic review and meta-analysis of RCTs of school-based programs that targeted young people aged ten to 19 years with elevated symptoms of depression and/or anxiety (indicated prevention). They found that these interventions had a small effect on reducing depressive symptoms and a medium effect on reducing anxiety symptoms immediately postintervention. Reductions in depression were maintained at short-term follow-up (\leq six months) but not medium ($>$ six months \leq 12) or long-term ($>$ 12-month) while reductions in anxiety symptoms were not maintained at any follow-up. (133)

5.3.5. Reviews of mixed school-based interventions.

Mackenzie et al.'s systematic review examined universal school-based interventions to promote resilience and emotional well-being among children and adolescents aged five to 16 years in the UK. The review included 12 studies, including RCTs and non-controlled pre-post designs. Five studies took place in primary schools and seven in secondary schools. Interventions included positive psychology; mindfulness; CBT-based wellbeing; resilience; and anxiety and depression prevention programs. The review found that while universal school-based interventions were generally effective, the effect size was generally small. More positive effects were found for programs based in primary schools (pupils aged nine to 12 years), and for lower quality studies. Methodological issues were common and only four studies were rated as 'excellent' quality. The authors concluded that the current evidence suggests there are neutral to small effects of universal, school-based interventions in the UK that aim to promote emotional or mental well-being or prevent mental health conditions, however further high-quality and large-scale research is required to more robustly test for any long-term benefits among pupils and the wider educational or health system. (134)

In their systematic review of reviews of school-based mental health promotion programs Weare and Nind identified 52 systematic reviews and meta-analyses that met their inclusion criteria. In total 50 of the 52 reviews came to a positive assessment of the evidence they reviewed, concluding that one or more interventions had at least small effects and/or were 'effective' in some way. Looking at the results on particular outcomes, Weare and Nind found that systematic reviews of SEL interventions, and programs to prevent internalising and externalising conditions, depression, anxiety, or aggression generally found a small but significant positive effect in favour of the interventions over the control conditions. (135) More recently a meta-review conducted by Šouláková et al. concluded that overall there was consistent evidence for the positive benefits of classroom-based body-image, mindfulness, yoga, SEL and CBT programs on child and adolescent mental health and wellbeing. However they noted that some studies within the systematic reviews the analysed showed no or even adverse effects, such as increases in negative affect.(136)

More recently however, Caldwell et al.'s systematic review and network meta-analysis of school-based skills-building programs came to a different conclusion about their efficacy. Network meta-analysis is a statistical technique that retains the distinct identity of every intervention and control comparator rather than conflating them together as a standard meta-analysis does. Using this approach Caldwell et al. found no significant difference between children and adolescents in intervention groups versus control groups for universal or targeted programs to prevent depression or anxiety.

However, in a post-hoc analysis, in which the researchers combined the four distinct control conditions (attention control, wait list, no intervention and usual curriculum) into a single ‘lumped’ comparator group, their results were then consistent with previous reviews and indicated that CBT-based programs can reduce the likelihood of depression and anxiety among young people in intervention groups compared to control groups. The authors concluded that the beneficial effect observed in previous meta-analyses is possibly an artefact of conflating control conditions as well as combining primary and secondary school settings, and they suggested that future studies use an active control group. (137)

5.3.6. Whole-of-school programs.

While skills-building programs have an important role in wellbeing and prevention, the quality of the overall school environment is also important. High quality school environments, characterised by positive student perceptions of school safety, teacher support, belonging and connectedness, are linked to higher levels of psychosocial wellbeing and decreased mental health conditions among children and young people. (138) By contrast high-demand academic environments and school bullying are associated with an increased prevalence of mental health conditions.

Whole-of-school approaches aim to improve the overall school environment through a focus on curriculum, teaching and learning (how and what children and young people are taught); the physical and social environment (school ethos and positive climate) and family and community partnerships. (135) The various elements seek to simultaneously influence a range of risk and protective factors within schools including macro factors (e.g. school climate and student connectedness), interpersonal factors (e.g. bullying, peer relationships), and micro factors (e.g. social and emotional skills).

Langford et al. conducted a systematic review of health promoting school approaches. The review focused on cluster RCTs involving children and young people aged four to 18 years attending schools/colleges. The authors identified 67 eligible trials. Two trials focused on depression prevention – the Gatehouse Project from the Royal Children’s Hospital and a Beyond Blue project – and seven focused on bullying. The analysis found positive average intervention effects for body mass index; physical activity; physical fitness; fruit and vegetable intake; tobacco use; and being bullied, but no evidence of effectiveness for fat intake; alcohol use; drug use; depression; violence; and bullying others. (139) However, while the evidence in relation to whole-of-school approaches and mental health outcomes is limited, there is still merit in adopting such an approach, as long as schools ensure that psychological skills-building programs and anti-bullying programs are a core component.

5.4. Programs in community settings.

Youth mentoring programs are frequently used to reduce the risk of behavioural disorders among young people. An adult mentor is matched with a young person and provides social support and engages in shared activities with the young person but does not provide psychotherapeutic interventions. There is evidence to suggest that such programs can improve young people’s social and emotional skills and reduce their risk of behavioural disorders, alcohol and other drug use and criminal offending. (140) In relation to specific programs, De Wit et al. analysed the outcomes of 859 children and adolescents aged six to 17 years participating in the Big Brothers Big Sisters mentoring program. The authors found that mentored youths, especially those in mentoring relationships lasting 12 months or more (continuous or dissolved) reported significantly fewer behavioural problems and fewer symptoms of depression and social anxiety than non-mentored youths. They also reported stronger coping skills and emotional support from parents. (141)

Barry et al. conducted a narrative review of the effectiveness of community-based interventions for enhancing young people's social and emotional skills in the UK. A total of 14 intervention studies were selected for full review. Seven of the studies evaluated the impact of youth social action interventions, five focused on mentoring programs and two on community arts and sports interventions. The authors noted that there were only a small number of evaluation studies that provided evidence of the positive impact of social action trials (N = four) and mentoring programs (N = two) on enhancing young people's social and emotional skills, community engagement and reducing behavioural problems. However, none of the studies were rated as strong in quality and eight of the 14 studies received a weak quality rating indicating uncertainty about the evidence of intervention effectiveness. (142)

5.5. Programs in mixed settings.

5.5.1. Programs for externalising conditions.

Waddell et al. conducted a systematic review of interventions to prevent or treat childhood behavioural disorders (e.g. oppositional defiant and conduct disorders) in children under the age of 18 years. Programs were delivered in community settings such as homes, preschools and schools. Sixteen RCTs met the inclusion criteria. Three interventions were delivered universally, while 12 were delivered to children at risk or their parents. Overall, the review found that 13 of 15 prevention programs succeeded in significantly reducing symptoms or diagnoses or both. The Good Behaviour Game, Classroom-Centred Intervention and Fast Track all reduced the incidence of behavioural disorders. Five programs, including Coping Power, Fast Track, Nurse-Family Partnership, Parent Management Training–Oregon, and Perry Preschool also reduced serious behaviour symptoms such as criminal activity. (143) It is worth noting that another systematic review by Smedler et al. that included 38 controlled trials, noted that while several programs showed effectiveness at preventing externalising disorders (e.g. the Incredible Years, Triple-P, the Family Check-Up, the Good Behaviour Game and Coping Power) the effects after six to 12 months were small, and longer-term trials showed small and inconsistent effects. (144)

5.5.2. Programs for anxiety.

Teubert and Pinquart's systematic review and meta-analysis focused on anxiety prevention programs. Most trials were conducted in schools; however, several were conducted in community settings. The meta-analysis included 65 studies and found that overall, the prevention programs led to a small but significant reduction in anxiety symptoms and anxiety diagnoses at post-test and at short-term follow up among children and adolescents in the intervention groups compared to the control groups. Sub-analyses showed that targeted programs (selective and indicated prevention) produced larger effect sizes than universal programs post-intervention. In addition, further analysis showed that: programs that explicitly aimed to prevent anxiety rather than 'any' condition; those delivered by a mental health professional rather than a teacher; those focused on children under 11 rather than adolescents; and those that included a lower percentage of girls in the study, produced larger effect sizes at follow-up compared to other interventions. It is worth noting that an analysis of the studies that included a measure of depression as well as anxiety, found a small but significant reduction in depressive symptoms among children and adolescents in intervention groups compared to control groups. (145)

A systematic review and meta-analysis undertaken by Fisak et al. focused on interventions designed to prevent anxiety among children and adolescents under the age of 18 years. The studies included school-based interventions, parenting programs and community-based interventions. The meta-analysis found that children and adolescents in the intervention groups had a reduced likelihood of experiencing anxiety compared to those in control groups post-intervention. The effect size was small (0.18) and the results at follow-up were mixed.

The review noted that program effectiveness was influenced by provider type (better for professional delivery versus lay delivery), but not participant age, gender, program type (universal versus targeted) or program duration. (146)

5.5.3. Programs for depression.

Merry et al.'s systematic review of psychoeducational and psychological interventions for preventing depression in children and adolescents included studies conducted in school-settings, online, in primary care or other settings. The most frequently used psychological intervention was CBT. Other interventions focused on self-efficacy, stress reduction, trauma or optimism. The meta-analysis included trials of mixed universal and targeted prevention approaches. Overall, the analysis found that the risk of having a depressive disorder post-intervention was reduced compared with no intervention in the immediate post intervention period, at three to nine months, and also at 12 months. However there was no evidence for continued efficacy at 24 months and very limited evidence of efficacy at 36 months (only two studies). (147)

5.5.4. Programs for anxiety and depression.

Rasing et al. conducted a meta-analytic review that examined school and community-based CBT programs to prevent depression and anxiety among adolescents at risk of developing depression or anxiety. The factors that put them at elevated risk was not specified. The meta-analysis found that there was a small but statistically significant effect of depression prevention programs directly after the intervention, but no effect at three to six months or at 12 months follow-up. The anxiety prevention programs showed no immediate short-term effect, but a significant reduction of anxiety symptoms 3-6 months after the preventive intervention, but no significant decrease at 12 months follow-up. (148)

Hetrick et al. conducted a systematic review of CBT, third-wave CBT and IPT based interventions to prevent depression in children and adolescents. While the majority of trials were carried out in schools, other settings included colleges or universities, clinical settings, and mixed settings. The review found that universal prevention programs led to a small but statistically significant reduction in depressive *symptoms* among children and adolescents in the intervention groups compared to the control groups, but there was no effect for depression *diagnosis*. By contrast, targeted programs led to statistically significantly reductions in both depressive symptoms *and* diagnoses. Combining all studies, the review found that children and adolescents in the intervention groups demonstrated a small but statistically significant reduction in depressive symptoms immediately after the program and up to 12 months later, compared to those in control groups, and the risk of experiencing a diagnosis of depression was also reduced among children and adolescents in the intervention groups. (149)

Hetrick et al. conducted another review to examine whether program content influenced the results of school and non-school based programs. They found that preventive programs that utilise CBT strategies reduced the level of depression symptoms post intervention and at 12-month follow-up, and also reduced the risk of having a depressive disorder post intervention, and at three to nine month and 12-month follow-up. (150)

Stockings et al. undertook a review of the efficacy of universal, selective and indicated prevention programs to prevent depression and anxiety in children and adolescents (five to 18 years). Most studies were conducted in schools (n=113), with others conducted in health clinics (n=14), non-health community settings such as prison (n= eight), in the home (n= four), and online (n=two). The setting was not described in seven studies. Most interventions employed CBT or other psychological interventions. Other interventions included educational approaches (n=19), a combination of psychological and educational components (n=19), and physical activity-based interventions (n=three).

The review included 146 RCTs involving 46,072 participants that evaluated universal (54 trials), selective (45 trials) and indicated prevention (47 trials). Multivariate meta-analysis was used to examine the efficacy of the various preventive approaches on depression and anxiety outcomes separately, and the joint efficacy on both disorders combined. (151)

- The analysis found that **universal prevention** interventions led to significant reductions in depressive *symptoms* among participants in the intervention groups compared to control groups, post-intervention and at 12 months follow-up but these benefits decayed by 18 months. Significant reductions in anxiety *symptoms* were identified at post-test and up to six to nine months follow-up, but these positive effects decayed by 12 months. The analysis also found that universal prevention interventions significantly reduced the risk of developing a diagnosed depressive disorder post-intervention and up to six to nine months follow up. The risk of experiencing an anxiety disorder was also reduced among intervention participants immediately post-intervention, but there was no reduction in risk at any later time point.
- The analysis of **selective interventions** found a significant reduction in depressive symptoms post-test, but these were not retained at any other follow-up assessment. Significant reductions in anxiety symptoms were identified at one to three months post-intervention but were not at follow-up. The analysis also found that selective prevention interventions led to reductions in the relative risk of developing depression at immediate post-intervention and at months, but not beyond. Only one study examined the efficacy of selective interventions in preventing the onset of anxiety, and found no significant effect at 12 months follow-up.
- The analysis of **indicated interventions** found these interventions led to significant reductions in depressive symptoms post-test, and at six to nine months follow-up which decayed by 12 months. No significant reductions in anxiety symptoms were identified at any assessment. Indicated prevention also led to reductions in the relative risk of developing depression at six to nine months and 18 months post-intervention but not beyond. Only one study examined the efficacy of indicated interventions in preventing the onset of anxiety, with significant reductions in the risk of developing anxiety found at 12 months follow-up.

Based on this extensive data the authors concluded that universal, selective and indicated prevention interventions are all efficacious in reducing anxiety and depressive symptoms and disorders in the short-medium term to varying degrees. (151)

Tanner-Smith et al. reviewed 74 meta-analyses of universal prevention programs that targeted a wide range of outcomes, including externalising conditions, internalising conditions, social skills, AOD use, and sexual behaviours, among children and adolescents aged five to 18 years. Most but not all of the programs were conducted in schools. Fifteen of the meta-analyses examined the effect of universal externalising prevention programs and the review found these programs led to significant positive impacts. The largest average post-test effect was seen for knowledge and victimisation outcomes while smaller positive effects were noted for other measures of aggressive/disruptive behaviour, antisocial behaviour, general delinquency, and conduct problems. Eleven of the meta-analyses examined the effect of internalising prevention and social skills programs and found that these programs also led to significant positive effects with the largest positive post-test effect seen for social competence, and lower positive effects noted for measures of self-concept and internalising behaviours. (152)

5.6. Programs in primary care.

Rojas et al. undertook a systematic review of RCTs designed to prevent mental health conditions among children and young people aged 0-18 years through primary care services. The review identified 19 interventions focused on prevention (universal, selective or indicated) rather than treatment.

Two of the programs targeted infants, three focused on preschool children, six targeted school-age children, and eight targeted adolescents. Interventions included parenting interventions, psychoeducational materials, one-on-one counselling, interactive group sessions, telephone-based counselling and online or technology assisted counselling sessions. Overall, 11 of the 19 interventions produced positive results although some of these related to health risk behaviours rather than mental health outcomes. Seven did not produce significant differences between experimental and control conditions, and one had an iatrogenic effect. Critically, most of the interventions were not able to be fully delivered during a routine medical visit and required either the involvement of external non-clinic staff, or input outside the consultation time, thereby limiting their real world application. (153)

5.7. Conclusion.

There is a considerable body of research that has examined the potential benefits of wellbeing and prevention-focused initiatives in childhood and adolescence. We found numerous systematic reviews and meta-analyses which together covered hundreds of trials, involving tens of thousands of children and adolescents. This is heartening given that 50% of lifetime mental health conditions develop by age 14, and 75% develop by age 24, making childhood and adolescence a critical period for wellbeing and prevention initiatives.

The evidence from this research is overwhelmingly positive and indicates that there are a variety of interventions that can be used to enhance child and adolescent mental wellbeing or prevent common mental health conditions in childhood and adolescence. However, it needs to be noted that not every program produces positive results, and various factors relating to program design and program delivery can influence the impact of a particular program. Moreover, effect sizes are generally small and slowly dissipate over time.

The strongest and most consistent evidence relates to school-based interventions. While our review found a significant heterogeneity of approaches and a substantial degree of variation in the quality of research studies, overall there is considerable evidence to show that school-based SEL, resilience, and disorder specific prevention programs are effective in enhancing wellbeing and in preventing, or at least substantially delaying the onset of internalising and externalising conditions, and depression and anxiety among children and adolescents. SEL programs can also improve academic outcomes.

Universal programs typically produce smaller effects sizes than targeted programs (selective or indicated), although many universal trials are likely to have been underpowered. Some reviews of school-based programs have found the type of facilitator is important, with those delivered by mental health professionals achieving better results than those delivered by teachers, while other reviews have not found any significant difference, particularly for SEL programs or programs to prevent anxiety. It would appear that the characteristics of more effective interventions include a focus on teaching skills; balance universal and targeted approaches; provide a sufficient 'dose' of the intervention; focus on facilitator training and program fidelity, and embed programs within a multi-modal, whole-of-school approach.

There is also good evidence to show that parenting programs are effective for the prevention of internalising (emotional) and externalising (behavioural) disorders of childhood. On balance the evidence for these programs is stronger in relation to childhood onset conditions compared with adolescent onset conditions. The evidence is also relatively stronger in relation to externalising/behavioural disorders, compared to internalising/emotional disorders, however the systematic review by Yap et al. did find evidence of the benefits of parenting programs on these

groups of conditions as well. (97) Parenting programs also have a role in the prevention of child maltreatment, and can enhance parents own mental wellbeing. (See section 10)

Other potentially effective approaches include CBT, IPT and mindfulness and other psychological skills building programs delivered in non-school community settings and youth mentoring programs. The evidence for primary care delivered wellbeing and prevention programs is quite limited and more research is required before the approach can be recommended approach.

Given the weight of evidence, it is clear that school-based skills-building programs, particularly those that include CBT, IPT and mindfulness-based strategies provided within a whole-of-school approach, and structured parenting programs, both need to be regarded as critical pillars of any mental health and wellbeing framework. The way these programs are timed and sequenced is critical. Different programs target issues that are more relevant at certain ages and developmental stages compared to others and most require 'booster' sessions to ensure that benefits are maintained until young adulthood and beyond. This issue is discussed in more detail in the section on policy implications.

Last, it is worth noting that the third report by the U.S. National Academies of Sciences, Engineering, and Medicine on improving child and adolescent mental, emotional, and behavioural development and health through promotion and prevention activities recommends three core groups of strategies – parenting programs, school-based programs and primary care approaches that are focused on preconception and prenatal healthcare. (12)

6. Young adults (aged 18-24 years)

Section summary

A study undertaken by researchers from the University of Queensland, found 6% of young people experienced low mental wellbeing, 49% had moderate well-being, and 46% had high mental wellbeing as measured on the Mental Health Continuum Short Form, while national surveys suggest that around one in four young people aged 16 to 24 years will experience a mental health condition each year and overall, young adults have the highest prevalence of mental health conditions of any other age group.

As with other age groups, low mental wellbeing and mental health conditions can have serious consequences for young people. These conditions cause distress, derail relationships, limit study and employment outcomes, contribute to AOD use and offending behaviour, and increase the risk of suicide. Together, mental and substance use disorders account for almost half of the total disability burden among 15 to 24-year olds.

While there has been a surge of research into early intervention for youth onset mental health conditions in recent decades, far less research has been conducted into the promotion of mental wellbeing and the prevention of mental health conditions in this age cohort. Psychoeducational and psychological skills-building interventions have received the most attention, while online and settings-based approaches have also been trialled.

Best bets

- There is good evidence that psychoeducational and psychological skills-building programs can improve youth mental wellbeing, reduce stress and prevent, or substantially delay the onset of depression and anxiety conditions among young people. A range of psychological interventions are effective, including those based on CBT, IPT, ACT, and mindfulness. There is also good evidence for the benefits of social skills training and social support. Psychological interventions produce positive results in both face-to-face formats within a range of community settings, and online. Active skill-building, rather than just passive information provision, is critical.

Worth trialling and evaluating further.

- There is some evidence from individual studies that place-based community mobilisation approaches that focus on modifying the community level risk and protective factors that influence young people's mental wellbeing can reduce AOD use, offending behaviour and physical injury among young people. Further implementation and evaluation of such approaches is therefore warranted.

Potentially useful, but need more evidence.

- Whole-of-university based approaches, that draw on the principles of health promoting schools' initiatives and target key 'organisational' risk factors in these environments, such as teaching and assessment practices and university policies, may also potentially help to promote youth mental health and prevent mental health conditions in this cohort. More research is needed to elucidate the most important risk and protective factors to target, and the best strategies to impact them, but a combination of individual skills-building and organisational change is likely to be required.

6.1. The context for action.

In a recent nationally representative survey of young people aged 16 to 25 years undertaken by researchers from the University of Queensland, 6% of young people participating in the survey reported low mental wellbeing, 49% had moderate well-being, and 46% had high mental wellbeing as measured on the Mental Health Continuum Short Form. (154) Another survey involving 1,000 young people aged 16 to 25 years from Victoria, found most participants (75.3%) experienced normal levels of subjective wellbeing, a concept closely related to broader concept of mental wellbeing. However, a fifth (20.4%) reported scores in the 'challenged' range, and 4% had very low levels of subjective wellbeing. (155)

Surveys examining the prevalence of mental health conditions are far more common, and in Australia such surveys suggest that around one in four young people aged 16-24 will experience a mental health condition each year. They also show that young adults have the highest prevalence of mental health conditions of any other age group.(24) These conditions can have serious impacts. Mental health conditions cause distress, derail relationships, limit study and employment outcomes, contribute to AOD (AOD) use and offending behaviour, and increase the risk of suicide. Together, mental and AOD use account for almost half of the total disability burden among 15 to 24 year olds. (26)

A range of risk and protective factors are influential in this age group. Protective factors include resilience, family support, social support, income adequacy, and positive higher education and workplace environments. Risk factors include family conflict, study stress, loneliness, racism, LGBTIQ discrimination, workplace stress, financial stress, youth unemployment, and the continuing impacts of childhood adverse experiences.

Compared to younger cohorts, far less research has been conducted into the promotion of mental wellbeing and the prevention of mental health conditions among young adults. Psychoeducational and psychological skills-building interventions have received the most attention, while online and settings-based approaches have also been trialled.

6.2. Psychoeducational and psychological interventions

Conley et al. undertook a review of universal prevention programs targeted to higher education students. Studies focused on psychoeducational interventions and skills-building programs that used CBT strategies, relaxation skills, mindfulness, meditation, social skills and other strategies. Skills-training programs included both supervised and unsupervised self-directed approaches. The authors reviewed 103 interventions and found an overall statistically significant positive effect of the programs post-intervention on measures of social and emotional skills, self-perceptions, interpersonal relationships, stress, general psychological distress, anxiety, depression, and academic outcomes. (156)

A sub-analysis found that psychoeducational interventions yielded significant effects for anxiety, stress, general psychological distress, self-perceptions, and academics, but not for depression, social and emotional skills, or interpersonal relationships. By contrast, interventions with supervised skills practice yielded significant effects for all seven outcome categories, while skill-training interventions without supervised practice produced significant benefits on anxiety only. Averaged across all outcomes, interventions with supervised skills practice produced a significant positive effect at follow-up, whereas psychoeducational interventions did not. (156)

The review by Conley et al. also included a meta-analysis of programs targeted to depression prevention. This analysis found that young people in the intervention groups experienced significantly greater reductions in depressive symptoms than control groups. The pooled effect size of the interventions at post-intervention was $g = 0.37$. There were no significant differences in terms of the focus of study (universal or indicated), type of delivery (online, group-based, face to face, self-led), content (CBT, mindfulness, mind-body, other), type of support (self-help, peer support, professional, or trained student support) or type of control group. While it was not possible to investigate the effects on depression incidence, the authors concluded that there was good evidence to show that preventative psychological interventions were effective in reducing depressive symptoms among young adults compared to control conditions. (157)

In a separate meta-analysis, Conley and others focused on the indicated prevention of depression and anxiety targeted to higher education students experiencing subclinical difficulties. The studies used a range of interventions including psychoeducation, CBT, acceptance and commitment therapy (ACT), IPT, relaxation, resilience training mindfulness, meditation, social skills training, and social support. Overall, the meta-analysis found that indicated prevention programs were effective in reducing depression and anxiety symptoms among higher education students. Programs were effective at post-intervention and at follow up. Social skills training interventions yielded the highest effects, followed by CBT, relaxation, and general behavioural interventions. (158)

Breedvelt et al. conducted a systematic review and meta-analysis of interventions aimed at reducing the risk of major depression among young people. Twenty-six RCTs involving 2,865 young adults (aged 18 to 25 years) were included in their analysis. Twenty-five of the studies were conducted with university students. The studies assessed psychological or mind-body interventions targeting young people with no symptoms or past history of depression (universal prevention) as well as interventions targeted to young people with subthreshold symptoms (indicated prevention). Most interventions were based on CBT or Mindfulness-Based Stress Reduction (MBSR) delivered face-to-face or online. While it was not possible to investigate the effects of interventions on depression incidence, there was nevertheless evidence that psychological interventions were significantly more effective in reducing depressive symptoms in young adults in the intervention groups compared to control groups. The pooled effect size of the interventions versus control at post-intervention was $g = 0.37$ and this effect was sustained at follow-up. (157)

6.3. Online interventions

A meta-analysis undertaken by Davie et al. included 14 RCTs that trialled computer-delivered or web-based interventions to improve mental wellbeing or prevent depression and anxiety among university students. The majority of interventions were website-delivered, and most were based on CBT. The meta-analysis found while the interventions produced a statistically significant reduction in stress, anxiety and depression in comparison to inactive controls, there was no significant difference when interventions were compared to more active control conditions. (159)

A later review of online youth mental health promotion and prevention interventions undertaken by Clarke et al. included eight studies evaluating six mental health promotion interventions and 20 studies evaluating 15 prevention interventions. The review included RCTs, quasi-experimental studies and experimental studies without a comparison group targeting youth aged 12 to 25-year olds. While the results from the mental health promotion interventions provided some evidence that skills-based interventions have a significant impact on youth mental wellbeing, the low number of studies limits the finding. By contrast, the results from the online prevention interventions show that computerised CBT produced statistically significant improvements in anxiety and depression symptoms. (160)

Conley et al. undertook a review of technology assisted interventions that used computers, mobile phones, audiotapes or videotapes to deliver interventions. Their systematic search identified 22 universal and 26 indicated controlled trials involving 4,763 college, graduate, or professional students.

The interventions included CBT, mindfulness, psychoeducational interventions (e.g., information on how to cope or deal with stress or mental health issues), social skills interventions focused on building assertiveness or social support, relaxation interventions (e.g. progressive muscle relaxation), and online support groups. Nine outcomes were assessed including depression, anxiety, stress, general psychological distress, health (AOD use, sleep, exercise), social and emotional skills, interpersonal relationships, and spiritual outcomes. (161)

The meta-analysis found that across all studies both universal and indicated interventions led to statistically significant improvements across all outcomes among students in intervention groups compared to control groups at post-intervention. Only three of the 22 universal interventions and eight of the 26 indicated interventions assessed outcomes at extended follow-up, and in both instances positive benefits were maintained. Further analysis showed that skill-training interventions produced significant benefits in both universal and indicated studies, while non-skill-training interventions only led to positive effects in indicated prevention trials. Overall indicated interventions produced better results than universal approaches, and indicated interventions produced better outcomes where participants had access to support during the course of the intervention, either in person or through technology (e.g., email, online contact). (161)

6.4. Place or settings-based approaches.

6.4.1. Community settings.

Christensen et al. conducted a systematic review of universal, selective, and indicated community-based prevention programs for anxiety and depression among young people aged 11 to 25 years. The interventions included CBT-based programs, stress-management programs, exercise and other interventions. Overall, 18 anxiety and 26 depression studies were included in the review. For anxiety, approximately 60% of the universal and targeted trials led to a significant difference in anxiety symptoms between the control and experimental arm. For depression, 83% of the universal studies reported significant results for the full sample, while 47% of selective comparisons reported at least one positive depression outcome. CBT-based programs were more common than other interventions and were consistently found to lower symptoms or prevent depression or anxiety. (162)

6.4.2. University based programs.

Fernandez et al. conducted a systematic review of structural and organisational strategies to promote the mental health of students at the university. The review identified 19 studies that met their inclusion criteria. The authors found that the most promising strategies to promote mental wellbeing included changes in the way students were taught and assessed, while social marketing strategies had no impact on mental health. They noted that while universities should invest in creating supportive physical, social and academic environments that promote student and staff mental wellbeing, the current body of evidence is scarce, and more research is needed to recommend what the best structural or organisational strategies are. (163) It is worth noting that the recently published [Australian University Mental Health Framework](#) proposes a whole-of-university 'healthy settings' approach.

6.4.3. Local communities.

Place-based, community mobilisation approaches aim to tackle multiple community-level risk and protective factors. These approaches – sometimes called collective impact approaches – encourage broad-based community participation and decision making to define the nature of the problem and

possible solutions. External organisations work to support local community members and other key stakeholders to define the problem, determine the underlying risk and protective factors, generate possible solutions and then review these against research evidence.

The external organisations work to build the capacity of the local community to implement their chosen strategies and monitor the impacts of these activities. By their nature, these initiatives allow for the development of locally relevant solutions. (164) While no systematic reviews of these types of interventions were identified, there is good evidence that the Communities that Care model can prevent AOD use, offending behaviour and physical injury among young people. (165)

6.5. Mixed intervention studies.

A review by Colizzi et al. sought to summarise the evidence on promotion, prevention and early intervention in child and youth mental health. The authors noted a number of effective interventions for universal prevention of mental health conditions have been identified, including pharmacological interventions (lifetime omega-3 fatty acid, and probiotic supplementation), exercise and school-based behavioural interventions. In terms of selective prevention, the authors concluded that nurse home visits to expectant mothers and their families in difficult social circumstances assist in reducing child abuse, neglect, and criminal behaviour, while school-based stress and anxiety management programs may prevent mental health conditions in at-risk young people. In terms of indicated prevention they noted that psychoeducational, CBT, ACT, IPT, resilience training, relaxation, mindfulness, meditation, social skills training, social support, and forgiveness programs all had positive effects in reducing symptoms and the development of disorders, as well as in improving other areas of psychosocial adjustment. (166)

Last, a review by Salazar de Pablo et al. examined the literature on universal and selective interventions to promote good mental health or build mental health literacy in young people. The authors examined studies involving individuals with an average age <35 years (although they had no lower age limit) that used an intervention and a control group (randomized or non-randomized), and focused on a range of 'good' mental health outcomes. They excluded indicated prevention and treatment trials. Two hundred and seventy-six studies were included in the meta-analysis. Interventions and settings were quite varied. Overall, they found that relative to control conditions, prevention interventions were effective in promoting mental health literacy, self-perceptions and values, quality of life, cognitive skills, social skills, academic/occupational performance and attitude towards mental disorders. (167)

6.6. Conclusions.

Overall, there has been far less research into the promotion of wellbeing and the prevention of mental health conditions among young adults compared to children and adolescents. Of the evidence that is available, it is clear that psychoeducational and psychological interventions can lead to small but significant improvements in wellbeing and reductions in stress, anxiety and depressive symptoms among young people, immediately post intervention, and also at short-medium term follow up. A range of psychological interventions are effective, including those based on CBT, IPT, ACT, and mindfulness. There is also good evidence for the benefits of social skills training and social support. Psychological interventions produce positive results in both face-to-face formats across a range of community settings, or online.

The effectiveness of these interventions is somewhat greater for depression than anxiety, and for targeted prevention approaches (e.g. selective or indicated prevention) compared to universal approaches, but both these approaches produce positive results. Active skill-building, rather than just passive information provision, appears critical and while this can potentially be achieved through self-directed programs, the availability of a facilitator helps to produce better results – particularly online.

While the evidence for other approaches is limited, there is evidence from individual studies that place-based community mobilisation approaches can reduce AOD use, offending behaviour and physical injury among young people.

In addition, whole-of-university approaches that mirror the health promoting schools' approach may assist in promoting mental wellbeing and preventing mental health conditions among students. The recently released [Australian University Mental Health Framework](#) provides a local model for how this can be achieved.

7. Adults (aged 25 to 64 years)

Section summary

While the majority of mental health conditions tend to occur during childhood, adolescence and young adulthood, can occur at any age, including in adulthood. Indeed, it is estimated that one in five adult Australians will experience a mental health condition in a given year, and around half will experience some condition over the course of their lifetime. As with other age groups, low mental wellbeing and mental health conditions can have serious consequences for affected adults, and their broader circle of colleagues, friends, family members and partners. As with other age groups, most research into the promotion of mental wellbeing and the prevention of mental health conditions among adults, has focused on the use of psychoeducational and psychological skills-building interventions.

Best bets

- There is very good evidence that health behaviours, such as regular physical activity and adherence to high quality diets can reduce the risk of depression. These behaviours may also have some benefits in preventing anxiety.
- There is very good evidence that various psychological skills-building interventions can improve adult mental wellbeing, and prevent, or substantially delay the onset of depression and anxiety conditions among adults. A range of psychological interventions are effective in promoting mental wellbeing and/or preventing mental health conditions including mindfulness and positive psychology interventions, as well as CBT-, IPT-, and ACT-based strategies. It is important to note that impacts on mental wellbeing may vary depending on whether a person is generally well, or whether they have a mental health or physical health condition. Psychological interventions produce positive results in both face-to-face formats and online.

Worth trialling and evaluating further.

- There is some evidence that public education campaigns that promote the adoption of daily habits derived from health and positive psychology strategies, may be able to enhance mental wellbeing among people with and without a diagnosis of a mental health conditions. However, this is based on a limited number of individual studies, and further research is needed to determine the exact role of public education campaigns to promote mental wellbeing and/or prevent mental health conditions.
- There is some evidence that group-based psychological interventions can reduce depressive symptoms among people with sub-threshold depression, however the results do not appear to endure beyond the immediate post-intervention period, and refinements may be required.
- There is some evidence that arts-based approaches, such as music listening/playing and singing, may enhance wellbeing and prevent or reduce depression in adults across the life span, but further evaluation is required to determine the best ways to achieve enduring wellbeing and prevention benefits using these approaches.
- There is some evidence that nature-based interventions, such as exposure to natural environments and forest therapy, can increase positive affect, and reduce negative affect and depressive symptoms and may potentially help to prevent depression, but further evaluation is required to determine the best ways to achieve enduring wellbeing and prevention benefits using these approaches.

Potentially useful, but need more evidence.

- At this stage, there is not enough evidence to recommend primary care-based approaches to wellbeing and prevention.
- There is also very little evidence on the effectiveness of community awareness campaigns to promote mental wellbeing or prevent mental health conditions.

7.1. The context for action

While most adults enjoy good mental health, there are very few studies that examine the prevalence of good mental health among the Australian community. However, as with other age groups, there is better data in relation to the prevalence of mental health conditions among adults. Based on this data, it is estimated that one in five adult Australians will experience a mental health condition in a given year, and around half (45%) will experience a condition over the course of their lifetime. (24)

7.2. Mental health literacy programs and mental health promotion campaigns

A recent definition of mental health literacy (MHL) outlines four key components: understanding how to obtain and maintain good mental health; understanding mental disorders and their treatments; decreasing stigma related to mental disorders, and enhancing help-seeking efficacy (knowing when, where, and how to obtain good mental health care and developing competencies needed for self-care.(168) However, while MHL programs ostensibly focus on mental health and mental health conditions, the vast majority of programs and measurement scales focus on mental health conditions, rather aspects of good or positive mental health. (169)

As a result, while there are several systematic reviews relating to mental ‘illness’ literacy and the impacts of MHL programs on stigma and help-seeking, our search failed to find any systematic reviews or meta-analysis on positive MHL. Likewise, while our search of systematic reviews of mental health promotion campaigns uncovered reviews of anti-stigma campaigns, help-seeking and suicide awareness campaigns, we were unable to find any systematic reviews on community awareness campaigns to promote mental wellbeing or prevent mental health conditions. Findings were limited to single studies, such as program evaluations of the Act Belong Commit and Five Ways to Wellbeing mental health promotion campaigns.

Act-Belong-Commit originated as a community-focused mental health promotion campaign designed to enhance and maintain mental wellbeing at a population level. It is now also being applied in school, workplace and clinical settings. The campaign is focused on encouraging people to adopt particular behaviours designed to enhance their mental wellbeing. It is based on the notion that: “we become mentally healthy by engaging in mentally healthy activities.”(170)

The specific types of behaviours are summarised in the three elements. Act encourages people to keep alert and engaged by keeping mentally, socially, spiritually, and physically active. Belong invites people to develop a strong sense of belonging by keeping up friendships, joining groups, and participating in community activities, while Commit is about doing things that provide meaning and purpose in life like taking up challenges, supporting causes, and helping others. The campaign combines social marketing to raise awareness, improve mental wellbeing literacy, and generate community interest, with localised implementation through partnerships with local governments, schools, workplaces, community organizations, local sporting and recreational clubs and health services. Participating organisations are able to access a range of resources to facilitate implementation including a self-help guide for participants. (171)

Evaluations of the program are promising. This includes indirect data from a longitudinal study in Ireland that found that the more people engaged in Act, Belong and Commit type activities at study baseline, the higher their ratings on quality of life, life satisfaction and self-rated mental health during follow-up. The more actions the higher the wellbeing ratings. In addition, the data also showed that the more people engaged in Act, Belong and Commit type activities, the less likely they were to be diagnosed with anxiety or depression over time. (171, 172)

Five Ways to Wellbeing was developed by the New Economics Foundation in the UK. It encourages people to connect, be active, notice, keep learning and give. While the program has not been formally evaluated, two research studies provide empirical evidence that the five actions are significantly associated with mental wellbeing. Like the Irish Act Belong Commit study, these studies used data from an existing longitudinal study (in New Zealand) to examine the association between the routine adoption of Five Ways to Wellbeing type activities and mental wellbeing and found a significant positive correlation between the regular practice of these behaviours and high levels of flourishing. However, the relationship between the regular practice of the behaviours and future diagnosis of mental health conditions was not assessed. (173, 174)

7.3. Health behaviours.

7.3.1. Exercise.

Research suggests that regular physical activity may protect against the onset of depression. (175) A systematic review of prospective studies by Mammen and Faulkner examined the effects of physical activity in the prevention of depression and found that in 25 out of 30 studies baseline physical activity status was negatively associated with the subsequent risk of experiencing depression. The authors noted that even fairly low levels of physical activity can reduce the risk of future depression. (176) A later systematic review and meta-analysis of 49 prospective studies by Schuch et al. also found that people who were physically active had lower odds of developing depression, compared with people with low levels of physical activity. They noted that physical activity had a protective effect against the emergence of depression across a wide age range including youths, adults, and elderly persons. (175)

While observational trials show a consistent correlation between regular physical activity and lower rates of depression, they do not establish causality. To overcome this issue, Rebar and colleagues performed a meta-analysis of meta-analyses that had investigated the effect of exercise interventions on depression and anxiety in adult populations. The review identified eight meta-analyses of exercise trials among non-clinical populations which together included nearly 400 RCTs and more than 14,000 participants. Their meta-analysis found that physical activity significantly reduced depressive *symptoms* with a medium effect size and reduced anxiety *symptoms* with a small effect size. (177)

The review of meta-analyses conducted by Hu et al. also examined the impact of exercise interventions on the prevention of depression across the lifespan. Eight meta-analyses were included in the review. All focused on the general population or people at risk, rather than treatment trials. Six meta-analyses found significant positive effects of exercise interventions in reducing depressive *symptoms* in children, adolescents, adults and the elderly (effect sizes ranged from small to large), while two found non-significant effects. The authors concluded that exercise interventions have a significant positive effect on reducing depressive symptoms in the general population across a wide age-range and are likely to have a preventive benefit. (178)

7.3.2. Diet.

Observational studies also show a consistent association between poor diet quality and depression risk. People who consume low quality diets (e.g. high in processed foods) are at higher risk for depression than people who consume high quality diets (e.g. high intake of fruit and vegetables, fish, and whole grain products), independent of socioeconomic factors, lifestyle behaviours and body weight. These relationships do not appear to be explained by reverse causality. (179-181)

In addition to this observational data, there is also evidence that nutrition interventions can assist in reducing depressive symptoms. A systematic review and meta-analysis by Firth et al. examined the effects of dietary interventions on symptoms of depression and anxiety.

The review included 16 RCTs with outcome data for 45,826 participants; the majority of which included people with subthreshold depressive symptoms. The analysis found that dietary interventions significantly reduced depressive symptoms but there was no effect for anxiety. The authors concluded that dietary interventions hold promise as a novel intervention for reducing symptoms of depression across the population. (182)

A systematic review by Ljungberg et al. published in 2020 included 21 articles that examined the effects of diet interventions on depression (RCTs and observational trials). The review found that high adherence to a diet that includes vegetables, fruits, fibre, fish, whole grains, legumes and less added sugar and processed foods was associated with a reduction in depressive symptoms. (183)

7.4. Psychoeducational and psychological interventions.

7.4.1. Mindfulness-based approaches

Querstret et al. conducted a systematic review and meta-analysis of studies evaluating the impact of mindfulness-based programs on psychological health and well-being within the general population. The authors focused their review on two particular approaches – mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT). The meta-analysis included 49 studies involving 4,733 participants and found that compared with a passive control, mindfulness-based programs significantly improved quality of life/well-being and significantly reduced symptoms of rumination/worry, stress/psychological distress, depression, and anxiety. Overall, MBCT generated larger effect sizes than MBSR for all outcomes. (184)

A systematic review by Galante et al. examined whether mindfulness-based programs could promote mental health relative to no intervention or comparator interventions. The review included 136 trials (RCTs and cluster RCTs) involving 11,605 adult participants among the general population recruited through a range of non-clinical settings. The analysis found that compared with no intervention, mindfulness-based programs improved well-being, reduced psychological distress, and reduced symptoms of anxiety and depression in most but not all trials. When compared with *non-specific active control conditions*, mindfulness-based programs improved symptoms of depression but not anxiety in most but not all trials. There was no reliable data on well-being. However, when compared with *specific active control conditions* mindfulness-based programs were not superior to other psychological approaches. The authors concluded that mindfulness-based programs on average improve mental health outcomes among people in the general adult population across the medium term, with reductions in psychological distress showing the most robust improvement, well-being the smallest, and symptoms of depression and anxiety showing the most consistent improvement. (185)

7.4.2. Positive psychology interventions

Positive psychology interventions (PPIs) have been defined as “treatment methods or intentional activities that aim to cultivate positive feelings, behaviours, or cognitions”. (186) A wide range of PPIs have been described, such as: setting valued goals; imaging one’s best possible self; using signature strengths; savouring past or present pleasures; finding flow; being grateful for positive experiences; developing optimism; strengthening relationships; practicing kindness; developing grit; being courageous; engaging in post-traumatic growth; and practicing forgiveness. (187)

Sin and Lyubomirsky undertook a systematic review and meta-analysis of the impacts of PPIs on wellbeing and depressive symptoms. The authors focused on RCTs and quasi-experimental controlled trials of interventions such as mindfulness, gratitude, positive writing, wellbeing therapy and other positive psychology strategies. The meta-analysis, which included data from 49 separate trials examining wellbeing, found that in 96% of the trials participants in PPI interventions experienced significantly higher wellbeing scores post-intervention than participants in control conditions.

A sub-analysis that examined the impacts of PPIs on depression found that participants in PPI interventions experienced significantly lower levels of depression score post-intervention than participants in control conditions in 80% of trials. However it is important to note that the trials included individuals who were not depressed as well as those who were, and the moderator analysis found that depressed individuals experienced greater reductions in depressive symptoms from PPIs than non-depressed individuals. (186)

A systematic review and meta-analysis by Bolier et al. also focused on RCTs of PPIs that targeted either the general population or individuals with anxiety or depression. Forty articles, describing 39 studies involving 6,139 participants, met their inclusion criteria. PPIs were defined as a psychological intervention aimed primarily at raising positive feelings, positive cognitions or positive behaviour as opposed to reducing symptoms, problems or disorders. The authors excluded mindfulness interventions from their study. The outcome measures used were subjective well-being, psychological well-being and depression. Overall, the meta-analysis found that PPIs led to small, but statistically significant improvements in psychological well-being, subjective well-being, and depression among participants compared to controls. These benefits were sustained at three to six months follow-up, although effect sizes were smaller. (188)

A later review by White et al. reviewed the studies included in the systematic reviews and meta-analyses undertaken by Sin and Lyubomirsky and Bolier et al. and found that when small sample size bias was taken into account, the effect of PPIs on well-being were smaller than reported, but still significant (approximately $r = .10$). The effects on of PPIs on depression was more variable, dependent on outliers, and generally not statistically significant. (189)

A systematic review and meta-analysis by Weiss et al. published in 2016, examined whether psychological wellbeing could be increased through intervention. Twenty-seven RCTs involving 3,579 participants met their inclusion criteria. The review focused on RCTs that included a measure of psychological well-being as primary or secondary outcome measure (e.g. Ryff's Psychological Well-Being Scales or the Mental Health Continuum Short Form). Fourteen studies were conducted among non-clinical populations (e.g. employees, students) and 13 studies included people with mental health conditions, mostly affective disorders. Four studies targeted adolescents or young adults, 18 studies involved adults, and five studies focused on older people. Interventions included well-being therapy, PPIs, mindfulness interventions, life review, acceptance and commitment therapy, and identity interventions. Overall, the meta-analysis found that psychological interventions had a significant positive effect on participants' mental wellbeing compared to control conditions. There was a wide range of effect sizes (0.05 to 2.11), with an overall Cohen's $d = 0.44$. Interventions conducted among people with a mental health condition showed larger effects than those in non-clinical groups. (190)

A review by Hendriks et al. examined the effectiveness of multi-component PPIs (MPPIs). The review included 50 RCTs. The meta-analysis showed that an overall MPPIs led to small to moderate statistically significant increases in subjective well-being and psychological well-being in intervention groups compared to control groups, and small, but statistically significant reductions in symptoms of depression, anxiety and stress. Removing outliers led to a considerable decrease in effect sizes for subjective well-being and depression, a slight decrease for psychological well-being, and a strong increase in the effect size for stress. Removing low quality studies led to a considerable decrease in the effect sizes for subjective well-being, psychological well-being, and depression, and a slight decrease for anxiety, but a strong increase for stress. The authors concluded that MPPIs have a small effect on subjective wellbeing and depression, and a small to moderate effect on psychological well-being. In addition, they may have a small to moderate effect on anxiety and a moderate effect on stress, but definite conclusions of the effects of MPPIs on these outcomes cannot be made due to the limited number of studies. (191)

The most recent meta-analysis of (PPIs) studies was undertaken by Carr et al. The review examined the evidence for the mental health benefits of PPIs among children, adolescents and adults. Articles were excluded if they described qualitative studies, uncontrolled or non-randomised PPI trials, or RCTs of PPIs which did not include an outcome measure of wellbeing or strengths. Overall, data were extracted from 347 studies involving over 72,000 participants from clinical and non-clinical child and adult populations in 41 countries. One hundred and three studies (29%) included individuals with clinical problems including physical and mental health conditions while 71% involved non-clinical participants. The meta-analysis found that at post-test, PPIs had a significant small to medium effect on wellbeing ($g = 0.39$), strengths ($g = 0.46$), quality of life ($g = 0.48$), depression ($g = -0.39$), anxiety ($g = -0.62$), and stress ($g = -0.58$). Gains were maintained at three months follow-up. It is worth noting that the positive effect of PPIs on wellbeing, strengths, and depression was greater for those with clinical problems than for those without such difficulties. (187)

7.4.3. Stress prevention.

Van Daele et al. conducted a systematic review and meta-analysis of psychoeducation programs designed to reduce stress across the whole lifespan. The review examined both experimental and quasi-experimental trials with a control group. Nineteen studies met the inclusion criteria and 16 studies had data that could be used in the meta-analysis. Across all studies there was a small but statistically significant reduction in stress levels in participants in intervention groups versus control groups at post-test and at follow-up. Despite the considerable diversity in the type of psychoeducation approach used, and the age of study participants, the authors concluded that learning about stress and stress reduction techniques, may have a positive effect on people's mental health. (192)

7.4.4. Depression prevention.

van der Waerden conducted a systematic review and meta-analysis of psychosocial programs targeted to women from low SES backgrounds. The review included 14 studies focused on the selective or indicated prevention of depressive *symptoms* via interventions such as psychoeducation, CBT- or IPT-based strategies, stress-management, social support or counselling. On average programs led to significant reductions in depressive symptoms post-intervention among women in the intervention groups compared to control groups. More than half of the studies showed medium to large effect sizes, although differences were not significant at six and 12-month follow-up in the relatively few studies that included follow-up data. (193)

The systematic review of systematic reviews and meta-analyses by Bellon et al. identified 12 articles which collectively included 142 RCTs, 13 controlled trials, and one uncontrolled trial that focused on the preventive effects of psychoeducational or psychological interventions. Five of the systematic reviews and meta-analyses related to children and adolescents, four focused on specific populations (e.g. women after childbirth, low socioeconomic status), and three related to the general adult population. Seventy-five per cent of the articles concluded that psychoeducational or psychological interventions to prevent depression were effective post intervention. Effect sizes across the various meta-analyses were small in 32.8%, medium in 19.1%, and large in 18.2% of papers while 29.9% reported trials that were not effective. (194)

van Zoonen conducted a systematic review and meta-analysis of RCTs examining the preventive effects of psychological interventions in individuals with no depression diagnosis at baseline. The meta-analysis, which included 32 studies, found there was a 21% decrease in the incidence of depressive *disorders* among participants in the intervention groups compared to those in the control groups. Further analyses revealed no differences between type of prevention (e.g. selective, indicated or universal) nor the type of intervention (e.g. CBT, IPT, or other). (195)

7.4.5. Anxiety prevention.

Morena-Peral et al. undertook a systematic review and meta-analysis of RCTs that used psychoeducational and psychological strategies to prevent anxiety. Twenty-nine studies met their inclusion criteria, representing 10,430 participants from 11 countries. Nine RCTs related to children or adolescents, nine focused on adults (from 18 to 65 years), four were performed among older adults, six combined adults and elderly individuals, and one combined children and adults. The majority of the psychological interventions were CBT based. The meta-analysis found that participants in the intervention groups experienced significantly lower rates of anxiety *symptoms* compared to controls. The effect size of most anxiety prevention initiatives was small to medium ranging from 0.13-0.32. (196)

7.5. Online interventions.

A systematic review and meta-analysis by Sander et al. examined the effectiveness of internet-based anxiety and depression prevention programs. The review included RCTs of internet-based interventions targeting adults who did not have a diagnosis of a mental health condition at baseline (primary prevention). The authors identified 17 studies that met their inclusion criteria. Most studies examined the prevention of depression, anxiety or eating disorders, although two studies examined the prevention of posttraumatic stress disorder (PTSD) and examined the prevention of panic disorder. Universal prevention was less common than selective or indicated prevention in the trials. CBT was the most frequently used intervention. Only five studies reported incidence data assessed by means of standardised clinical interviews. Three of them found significant reductions in the onset of disorders among trial participants compared to control groups. Eleven studies found significant improvements in symptom severity with small-to-medium effect sizes in favour of the intervention groups. A specific sub-analysis for depression revealed significant positive impacts in favour of internet-based psychological interventions when compared with waitlist or care as usual at post-intervention, and also at short-term, medium-term and long-term follow-up. (197)

A later review by Deady et al. examined eHealth interventions for the prevention of depression and anxiety. The review included RCTs undertaken among people aged between 18 and 64 years. Ten trials were included in the systematic review and meta-analysis. All but one study utilised CBT-based strategies. Symptom reduction was the primary outcome in all studies. 'True' prevention in the form of reduced 12-month incidence rates was used as an outcome measure in only two studies. Overall, the meta-analysis found that the eHealth interventions produced a small but significant positive effect in reducing symptoms of depression and anxiety among intervention participants relative to control groups at post-treatment. The overall mean difference between the intervention and control groups was 0.25 for depression studies and 0.31 for anxiety studies. The effect sizes for universal and indicated/selective interventions were similar. There was inadequate evidence to suggest that such interventions have an effect on long-term disorder incidence rates. (198)

Rigabert et al. also examined the effectiveness of online psychoeducational and psychological interventions to prevent depression. The review included 21 RCTs that focused on participants with no diagnosis of depression at baseline and overall involved 10,134 participants from 11 countries. The interventions were predominantly based on CBT, with IPT and problem solving used in some trials. The meta-analysis found that participants in the online interventions experienced significantly lower rates of depressive symptoms post-intervention than control groups. Effect sizes were low and decreased slightly over time. Indicated prevention and interactive website delivery were associated with higher effectiveness. The authors concluded that online psychological and psychoeducational interventions can reduce depressive symptoms among non-depressed populations, and the quality of evidence is moderate. (199)

7.6. Group-based interventions.

Krishna et al. conducted a systematic review and meta-analysis of group-based CBT among adults with sub-threshold symptoms of depression. The review included eight RCTs and the meta-analysis found that overall, group interventions were effective in reducing depressive symptoms among intervention participants compared to participants in waiting list control groups at post-intervention but not in comparison to other active interventions, and also not at follow-up. The authors concluded that although group CBT interventions have a significant effect on depressive symptomatology post intervention for people with sub-threshold depression, this approach has minimal or no effect on depressive symptomatology during follow-up and does not appear to reduce the incidence of major depressive disorders. (200)

7.7. Mixed interventions and/or mixed settings studies.

A review by Maleki et al. focused on the prevention of depression and anxiety among healthy women aged 18 to 65 years. Twenty-three articles that included RCTs, non-randomized trials with a control group, before-after studies and community-based interventional studies were included in the review. Interventions included CBT, exercise, life skills training, motivational interviewing, and information on diet and family support services. Interventions took place in schools, universities, workplaces, health services or public community and relief organisation. Six studies were based on computer and internet interventions. Overall, depression and anxiety symptoms significantly decreased among intervention participants in over 70% of interventions. CBT and exercise were the most effective interventions. (201)

A recent systematic review and meta-analysis by van Agteren et al. provides valuable insights into the relative impacts of various psychological interventions among different population groups. The authors reviewed 419 RCTs that aimed to promote mental wellbeing among the general population or among people with a mental health or physical health condition. Three hundred and ninety three studies involving 53,288 participants were included in their meta-analyses (i.e. 274 general population studies, 61 studies among populations with a mental health condition, and 58 studies involving people with a physical illness). The meta-analysis found that different interventions led to different effects among the various cohorts. (4) For example:

- Among the general population singular PPIs, multi-component PPIs, expressive writing, compassion interventions, mindfulness interventions, reminiscence interventions, CBT, ACT, and multi-theoretical interventions all had significant positive effects on overall mental wellbeing (subjective and psychological wellbeing).
- Among people with a mental health condition CBT, mindfulness interventions, singular PPIs, multi-component PPIs and reminiscence interventions all had significant positive effects on overall mental wellbeing.
- Among people with a physical health condition, CBT, mindfulness interventions, multi-component PPIs and multi-theoretical interventions all had significant positive effects on overall mental wellbeing, while ACT had non-significant effects. The effect sizes for each type of intervention differed by the study population and by intervention intensity. (4)

Overall, mindfulness-based and multi-component PPIs demonstrated the greatest efficacy in both clinical and non-clinical populations in promoting mental wellbeing. Across the board, effect sizes were moderate at best. (4)

7.8. Arts-based interventions.

A systematic review by Daykin et al. examined the role of music and singing in promoting mental wellbeing among adults. The review included both quantitative (RCTs and other controlled trials) and qualitative studies. The most common activities were music listening and regular group singing.

Various wellbeing measures were used including quality of life and measures of anxiety and depression. Overall, the diversity of interventions, the often-small sample sizes and variable quality of the research, made it difficult to generalise about the benefits of these interventions, although the authors concluded that the studies they reviewed broadly supported the use of music and singing to enhance wellbeing and prevent or reduce depression in adults across the life span, with potentially better results among older people. (202)

7.9. Nature-based interventions.

Forest therapy involves engaging in a combination of forest-based activities to improve one's health or wellbeing. Rosa et al. conducted a review of systematic reviews and meta-analyses of primary studies relating to the effects of forest therapy on depression symptoms and found that compared to no intervention/usual care, forest therapy produced a greater reduction of depressive symptoms. However, the studies that were analysed included treatment trials as well as primary prevention trials. (203)

McMahan and Estes undertook a meta-analytic review of empirical research into the effects of contact with natural environments on emotional well-being. Thirty-two studies involving 2,356 participants were included in the analysis. The authors found that across the studies, exposure to natural environments was associated with a moderate increase in positive affect and a smaller, yet consistent, decrease in negative affect relative to comparison conditions. (204)

7.10. Primary care-based interventions.

Fernandez et al. conducted a systematic review of mental health promotion activities conducted by primary care professionals that were designed explicitly to promote and improve the overall mental health of adult patients rather than prevent or treat mental health conditions. They found very little research had been conducted in this field and concluded there was insufficient evidence to draw any conclusions about the benefits of promoting mental health in the primary care setting. (205)

7.11. Conclusions.

Overall, there is a reasonable level of research on ways to promote mental wellbeing and prevent mental health conditions among adults. As with other age cohorts, much of the research has examined the impacts of various types of psychological strategies. Other approaches include arts- and nature-based strategies, and mental health promotion in primary care.

Based on the research undertaken to date, there is very good evidence to show that psychological interventions can be used to promote mental wellbeing and reduce the risk of depression and anxiety disorders among adults. Different types of intervention appear to produce different benefits. For example, mindfulness-based approaches and various positive psychology interventions can enhance mental wellbeing in the general adult population, and among people experiencing physical or mental health conditions. CBT and ACT-based strategies can also enhance mental wellbeing. These strategies, along with IPT-based strategies are also effective in preventing, or at least delaying the onset of depression and anxiety conditions in adults. Mindfulness also has some preventive benefits, at least for depression. CBT strategies are just as effective when delivered online and there is some evidence that group-based CBT is effective for people with sub-threshold depression. Overall, the evidence for the preventive effects of psychological interventions is stronger for depression than it is for anxiety conditions.

It is worth that Munoz et al. estimate that between 22% to 38% of major depressive episodes could be prevented with currently available psychological interventions, which could be potentially delivered to large numbers of the population through Massive Open Online Interventions (MOOIs). (206, 207)

While the evidence for other approaches is less extensive, there is evidence that participating in music/singing and spending time in nature can enhance mental wellbeing and reduce symptoms of depression, although whether these interventions can prevent depression is less clear.

8. Older adults (aged 65 years and older)

Section summary

Older people generally enjoy high levels of mental wellbeing. They also have relatively low rates of depression, anxiety, and other mental health conditions compared to other age groups. While depression and to a lesser extent anxiety conditions may commence in old age, most older people who experience a mental health condition have generally had the condition during their adult life.

A range of risk and protective factors have been implicated in the development of depression among older people. These include sociodemographic factors, behavioural factors (e.g. physical activity, social participation, engagement in hobbies, use of modern devices, sleep disturbance, diet quality, smoking status, alcohol use), and psychosocial factors (such as social/family support, network size, loneliness, self-rated health, social sense of personal mastery). Of these factors, good social/family support, better self-rated health, engagement in physical activity, and participation in social activities appear to be particularly important protective factors, while sleep disturbance is a particularly important risk factor. While the list of potential protective and risk factors is quite extensive, prevention research to date has only focused on a handful of factors.

Best bets

- There is good evidence that regular physical activity can reduce the risk of depression among older people.

Worth trialling and evaluating further.

- The evidence for the benefits of psychological or psychosocial interventions among older people is less strong than the evidence that relates to younger populations. Interventions that involve a level of social interaction and life review appear to be the more effective, however, further trials are required to evaluate which interventions work for whom and under what circumstances.
- There is some evidence that mindfulness is effective in reducing depressive symptoms among older people already experiencing elevated symptoms, but its preventive benefits are less clear, and need to be evaluated further.
- There is good evidence that various interventions can reduce loneliness among older people, however, there is limited evidence that this contributes to the prevention of depression or other mental health conditions, and further trials are needed.

Potentially useful, but need more evidence.

- There is some evidence that internet delivered CBT is effective in reducing symptoms among older adults already experiencing mild to moderate depressive symptoms, but more research is needed to clarify its preventive benefits.
- There is some evidence that Tai Chi is effective in reducing negative emotions and anxiety and depressive symptoms among older people, however, relatively little research has been conducted on this approach, and more trials are required.
- While there is some evidence that arts-based approaches contribute to reductions in depressive symptoms and that companion animals can contribute to reductions in depressive and anxiety symptoms among older adults, most of this research is of low quality.

8.1. The context for action.

Older people generally enjoy good levels of mental wellbeing. They also have relatively low rates of depression, anxiety, and other mental health conditions compared to other age groups. While depression and to a lesser extent anxiety conditions may commence in old age, most older people who experience a mental health condition have generally had the condition during their adult life.

A range of risk and protective factors have been implicated in the development of depression among older people. These include sociodemographic factors (e.g. age, gender, education level, marital status, living situation, body mass index, socioeconomic status, employment status), behavioural factors (e.g. physical activity, social participation, engagement in hobbies, use of modern devices, sleep disturbance, diet quality, smoking status, alcohol use), and psychosocial factors (such as social/family support, network size, loneliness, self-rated health, social sense of personal mastery). Of these factors, good social/family support, better self-rated health, engagement in physical activity, and participation in social activities appear to be particularly important protective factors, while sleep disturbance is a particularly important risk factor. (208)

8.2. Exercise.

Seo and Choa conducted a systematic review of physical activity interventions targeted to older people. The review included seven RCTs and three quasi-experimental trials, and found that exercise interventions had a significant positive effect in reducing depressive symptoms immediately after intervention in community-dwelling older adults compared with controls, however, the studies included older people with a clinical diagnosis of depression as well as those with elevated symptoms, and so the review was not exclusively focused on prevention. (209) However, as noted the systematic reviews conducted by Schuch et al. and by Hu et al. show that regular physical activity reduces depressive symptoms and the risk of depressive disorders among all age groups, including the elderly. (175, 178)

8.3. Mindfulness

Hazlett-Stevens et al. conducted a qualitative review of mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT) approaches among older adults. The review included seven RCTs conducted exclusively with older adults. The studies focused on a range of outcomes, such as sleep, chronic pain reduction, cognitive performance and mental health conditions. One study found that MBCT effectively reduced symptoms of anxiety among older adults exhibiting elevated anxiety but not depression. Another study among older adults with anxiety and/or depression found that participants who received MBSR reported greater improvements in clinical measures of worry and depression than participants in control groups post-intervention, and also greater improvement in worry, depression, and anxiety measures at three- and six-month follow-up, however this was a treatment study rather than a prevention study. (210)

8.4. Mind body interventions.

Tai Chi Chuan (TCC) mind-body practice originates from Taoism philosophy and emphasises the coordination of mind and body and a focus on relaxation and concentration. Zhang et al. conducted a systematic review and meta-analysis of experimental studies using TCC among participants with no physical and/or mental health conditions. Participants ranged in age, but included older adults. The meta-analysis of 14 trials indicated a significant benefit of TCC on negative emotions and anxiety and depressive symptoms, compared to control groups. The authors concluded that TCC may help to prevent depression and anxiety among individuals across the adult lifespan, with older adults benefiting more than younger adults. (211)

8.5. Psychoeducation, psychological and psychosocial interventions

Lee et al. conducted a systematic review of RCTs that assessed the efficacy of psychological therapies in preventing depression among community-dwelling older adults with subthreshold depressive symptoms. The five studies they reviewed used various interventions including CBT, problem solving therapy, behaviour activation, bibliotherapy, and life-review and reminiscence therapy. Overall, four of the trials found that depressive symptoms were reduced more in the intervention group than control group, with life review showing the largest effect size and problem-solving therapy the smallest. The authors concluded that psychological therapies are effective at reducing depressive symptoms among older adults with subthreshold depression. (212)

Forsman et al. conducted a systematic review and meta-analysis of prospective controlled studies of physical and psychosocial interventions to prevent depression among older people. The review included 30 studies involving people over age 65 years without a diagnosis of depression. The prevention interventions included physical exercise, skill training, group support, reminiscence, social activities, and multicomponent interventions. The meta-analysis found that psychosocial interventions had a small but statistically significant effect on reducing depressive symptoms but no significant effect on new incident cases of depression. The sub-analyses found that while social activities were effective in reducing depressive symptoms among older people in the intervention groups compared to no-intervention controls, no statistically significant effect was found for physical exercise, skill training, reminiscence, or multicomponent interventions on depressive symptoms. The authors concluded that the current evidence base for psychosocial interventions for the primary prevention of depression in older people was weak, and further trials were needed. (213)

Niclasen et al. conducted a systematic review of factors and interventions associated with successful mental health promotion or prevention interventions among older adults aged 65 years or older. The review identified 58 RCTs that met their inclusion criteria. Interventions included those focusing on lifestyle, physical activity, cognitive functioning, psychologically oriented interventions and socially oriented interventions. The majority of participants were living in the community. Owing to the wide range of interventions, study designs and study quality, the authors noted it was difficult to derive firm conclusions. However, older people with elevated mental health scores at baseline seemed to benefit from the interventions across most studies, whereas those with scores within the normal range did not appear to improve their mental health. A number of factors appeared to influence outcomes including personal characteristics and motivation of participants, and the duration of the intervention and the quality of implementation. While the authors concluded that no specific interventions could be recommended on the basis of their systematic review, those with the most promise included social elements or were group-based. (214)

A systematic review by Krishna et al. examined the effectiveness of group psychotherapy for sub-clinical depression in adults aged 50 years and older. Four RCTs met their inclusion criteria. The review found that group CBT was effective in reducing depressive symptoms in older adults with sub-threshold depression in comparison to waiting list controls, however, the impacts were mostly related to the result of one particular trial. Moreover, the benefit of group CBT was not maintained at follow-up. The authors concluded there was insufficient evidence to support the use of group psychotherapies in sub-clinical depression to prevent the emergence of major depression in this age group. (215)

8.6. Online programs.

Xiang et al. conducted a systematic review of studies that examined the benefits of internet-based cognitive behavioural therapy (iCBT) for symptoms of depression in older adults. Nine studies met the inclusion criteria, involving 1,272 participants over the age of 50 years. The studies included RCTs, controlled trials without randomisation, uncontrolled trials, and naturalistic evaluations.

Two studies examined self-guided iCBT while seven studies tested iCBT with some level of therapist involvement. The overall meta-analysis found that older people in intervention groups experienced greater reductions in depressive symptoms post-intervention compared to those in control groups. The authors concluded that iCBT is a promising approach for reducing depressive symptoms among older adults with mild to moderate depressive symptoms although more research is needed. However, it is important to note that while some trials included older people with elevated symptoms of depression (indicated prevention studies) many included older people with a current diagnosis of depression (treatment studies). (216)

8.7.Social support.

Loneliness is associated with poor physical and mental health and early death. By contrast, social support is correlated with a reduced risk of depression among older adults. The association is consistent in studies of men but more variable in studies involving women. Spouses are the source of social support most consistently associated with protection from depression, followed by support from friends. The evidence around support from children and other family members is less consistent with a half to a third of studies respectively reporting an association. (217, 218)

Most social support programs have targeted older people in an attempt to reduce loneliness. Several interventions have been found to be helpful including:

- Social facilitation and leisure skill interventions. (219)
- Mindfulness-based group intervention programs. (220)
- Educational interventions with a psychosocial component and shared activities such as a chorale group or group aerobic activity. (221)
- Various technological interventions such as computer and internet training by volunteers, tele-care interventions, video game and 3D programs, a personal social management system to support social connectivity, online support groups, information sites, interactive sites, bulletin boards, self-help groups, and chat rooms. (222)

Franck et al. conducted a systematic review of interventions addressing social isolation and depression among older adults aged 60 years and older who were accessing community or residential aged care services. Six studies were included in the review. Two studies used an experimental design, one a pre-post-test with control group design, and two used a pre-post-test design with no control group. Interventions included group-based reminiscence therapy, social groups, an indoor gardening program, and a duo activity intervention in which aged care clients played a computer game in the company of an undergraduate research assistant once a week. Of the five studies, three reported reducing social isolation, however two of these three found no significant reduction in depression. The only intervention that successfully reduced both social isolation and depression was reminiscence therapy. The authors concluded that group interventions that offer support and social interaction facilitated by well-trained staff appear to be the most successful interventions addressing social isolation and depression among older adults accessing aged care services. (223)

Chen et al. examined the use of social robots in the management of depressive symptoms among older adults. Socially assistive robots are an artificial intelligence system designed to interact with humans. The review included seven RCTs with adults aged 55 years and older. Social robot interventions consisted of companion, communication, and health-monitoring robots. Three studies presented promising outcomes for reducing depressive symptoms in older adults following social robot interventions, and three showed non-significant decreases in depression scores (however the level of depression symptoms at baseline varied considerably across studies). The authors concluded social robots were a promising intervention for reducing depression in older adults, however the evidence was not strong enough to recommend their use in the prevention or treatment of depression in older age groups at this stage. (224)

8.8. Arts-based interventions

Dunphy et al. conducted a systematic review of arts-based interventions such as art, dance movement, drama, and music, in the management of depressive symptoms and depression in older adults. The number of studies on music interventions (n=41) was significantly more than other modalities such as art (n=17), dance (n=13), and drama (n=four). The authors note that research design, sample size and study quality varied considerably among the studies, which included controlled and uncontrolled studies and qualitative studies. Some studies focused on indicated prevention, others focused on treatment. Overall, 51 of the 75 studies they reviewed demonstrated either a significant quantitative or positive qualitative findings. (225)

8.9. Companion animals

Hughes et al. conducted a systematic review on the use of companion animals on the physical and mental health of older adults (aged 60+). The review included various study designs. In total, 27 articles examined the impact of companion animals on depressive symptoms. Thirteen reported positive effects on late-life depression, while the remainder showed equivocal effects, no effect or negative effects. Likewise, of the eight studies that explored the benefit of animal companionship on late-life anxiety, four studies identified a positive effect, and four found no effect. Moreover, the studies included a mix of prevention and treatment focused approaches. Overall, the authors noted that involvement with a companion animal may offer some benefit in reducing depressive and anxiety symptoms among older people, but more research is required to establish its preventive effects. (226)

8.10. Conclusions

Overall, research into the promotion of wellbeing and the prevention of depression and anxiety conditions among older people is relatively limited, compared to research undertaken with younger cohorts. As a result, it is difficult to draw firm conclusions about the best approaches to enhance the mental health and wellbeing of older Australians.

As with younger cohorts, there is good evidence that regular physical activity can reduce the risk of depression among older people. By contrast, the evidence for the benefits of psychological or psychosocial interventions among older people is less strong than the evidence that relates to younger populations. Interventions that involve a level of social interaction and life review appear to be the more effective than other approaches. There is also some evidence that mindfulness and internet delivered CBT are effective in reducing depressive symptoms among older people already experiencing elevated symptoms, but the preventive benefits of these approaches are less clear.

There is also good evidence that various interventions can reduce loneliness among older people, however, there is limited evidence that this contributes to the prevention of depression or other mental health conditions. Overall, more research is required to establish what psychological and/or psychosocial interventions can be used to promote mental wellbeing or prevent mental health conditions among older people, and under what circumstances they are likely to work.

In terms of other approaches, there is some evidence that Tai Chi Chuan is effective in reducing negative emotions and anxiety and depressive symptoms among older people, however, relatively little research has been conducted on this approach, and more trials are required. Likewise, while there is some evidence that arts-based approaches contribute to reductions in depressive symptoms among older adults, and the use of companion animals can contribute to reductions in depressive and anxiety symptoms among older adults most of this research is of low quality and further research is required before these modalities can be recommended.

9. Priority populations

Section summary

The prevalence of mental health conditions is not evenly distributed and there are some groups who experience poorer mental wellbeing and or higher rates of mental health conditions than others. These groups include:

- Children who have a parent with a mental health condition or AOD use problems.
- Aboriginal and Torres Strait Islander people.
- People who identify as LGBTIQ.
- People from Culturally and Linguistically Diverse Communities.
- People living in rural and remote Australia.

While the risk factors for mental health conditions vary considerably among these various priority population sub-groups, rejection, prejudice, discrimination and social exclusion are common across: Aboriginal and Torres Strait Islander people; people who identify as LGBTIQ; and people from Culturally and Linguistically Diverse Communities. Social disadvantage is a common problem among Aboriginal and Torres Strait Islander people; people from Culturally and Linguistically Diverse Communities; and people living in rural and remote Australia.

Best bets

- There is good evidence to show that psychoeducational and CBT-based parenting programs designed for parents who have a mental health condition or AOD problems, are effective in reducing the likelihood that their children will experience a mental health condition.

Worth trialling and evaluating further.

- There is some evidence that psychological interventions can reduce the likelihood of anxiety among children at risk of these conditions as a result of personal factors (e.g. sensitivity, being bullied) or family factors (e.g. parental anxiety disorder). However, some trials have included children who may already have a diagnosis of anxiety, and further evaluation is therefore needed to establish the preventative effects of these interventions.
- There is some evidence from program evaluations that Aboriginal community-led, holistic programs targeted to promoting connection to culture, language, and country, addressing practical needs, and tackling social disadvantage can improve social and emotional wellbeing among Aboriginal and Torres Strait Islander people. However, there is a dearth of rigorous studies, or studies that use culturally appropriate and psychometrically sound scales to measure social and emotional wellbeing outcomes.
- There is some evidence that school-based programs that aim to reduce discrimination against students who identify as LGBTIQ can increase feelings of safety and lower the risk of homophobic remarks and homophobic victimisation, however, the number of trials is limited, and most of the research relates to initiatives trialled in the USA.

Potentially useful, but need more evidence.

- There is very little research that examines the effectiveness of wellbeing and prevention strategies designed specifically for LGBTIQ, CALD and rural and remote communities.

9.1.Children and adolescents

9.1.1. Children who have a parent with a mental health condition.

Loechner et al. conducted a systematic review and meta-analysis of RCTs designed to prevent depression among children aged 18 years or younger whose parent experienced depression. The review focused on preventive studies where the child or adolescent did not have a diagnosis of depression at baseline. Interventions aimed to reduce depression risk by improving knowledge of depression within the family and building resilience to stress in parents and/or children. Most trials included varying degrees of psychoeducation and CBT-based strategies and were delivered over multiple sessions in a face-to-face, group-based setting. (227)

The meta-analysis included 14 publications reporting data from seven trials (n=935 children). The effect of the interventions (versus any control condition) on internalising and depressive symptoms at post-intervention follow-up (up to four months) was small but significant. The interventions also had a small but significant effect on depression incidence. Intervention effects were not present at short-term (up to 12 months post-intervention) or long-term follow-up (15 to 72 months post-intervention). The authors concluded that interventions targeting the offspring of depressed parents showed promise not only in reducing symptoms of depression but also in preventing the onset of depression, at least immediately after the intervention. (227)

Another review by Siegenthaler et al. examined the effects of preventive interventions provided to parents with a mental health condition on the mental health of their children. The review includes RCTs of cognitive, behavioural, or psychoeducational interventions that aimed to increase parenting skills among parents with a mental health condition or AOD use. In all, 13 trials involving 1,490 children were analysed. The children ranged in age from newborns to adolescents. Seven trials assessed symptoms and six trials assessed the incidence of mental disorders. Overall, there was a statistically significant reduction in internalising symptoms among children of parents in the intervention groups compared to control groups with a small effect size, but there was no significant difference in externalising symptoms between the two groups. In addition, interventions also decreased the risk that a child experienced the same disorder as their parent by 40%. (228)

Thanhäuser et al. focused on preventive interventions for children of parents with various mental health conditions (e.g. anxiety, depression, eating disorders and/or AOD use). The interventions included child-focused programs as well as parent- and family-focused programs, many of which used CBT techniques. The meta-analyses showed small, but significant positive effects of interventions on internalising symptoms at post-test and medium effect sizes at 12-month follow-up. The effects for externalising symptoms were not significant at post-test but were significant at 12-month follow-up with a small effect size. (229)

Havinga et al. conducted a systematic review of prevention programmes for children of parents with a mood/anxiety disorder. Twenty-two articles containing eight unique prevention programs were identified. Programs varied in the number and types of techniques, but all provided psychoeducation. The meta-analysis showed a significant difference in depression and anxiety *symptoms* between the experimental and control condition at post-treatment and 12-month follow-up. In addition, the analysis also showed that the risk of developing a depressive/anxiety *disorder* was significantly reduced in children in the experimental condition compared to those in the control condition at short-term and long-term follow-up. Overall, prevention programs reduced the risk of a depressive/anxiety disorder in offspring by 63% after one year and 29% after two years. The authors noted that prevention programs that combined psychoeducational elements with skills training and/or CBT elements appear to be effective in preventing depression and anxiety among the offspring of parents with these conditions. (230)

9.1.2. Vulnerable adolescents.

A systematic review and meta-analysis by Lawrence et al. examined psychological interventions to prevent anxiety among at-risk children and adolescents. Increased risk was defined on the basis of family factors (e.g. parental anxiety disorder) and child factors (e.g. heightened anxiety symptoms and sensitivity and being the victim of bullying). Interventions varied widely, although CBT-based approaches were the most common approach. (231)

The meta-analysis, which included 16 RCTs involving 2,545 young people, found that interventions led to a significant reduction in *self-reported* anxiety symptoms compared to non-attention controls at the end-of-program and at both six and 12-month follow-up. The interventions also led to significant reductions in *parent reported* outcomes at the end of the program and 12-month follow, but not at six-month follow-up. Two trials reported diagnostic outcomes, and these also showed a significant reduction in anxiety diagnoses post intervention, and at six and 12-month follow-up. However, while the review focused on children and adolescents with elevated anxiety symptoms, the presence of an anxiety disorder was not definitively ruled out among participants in 14 of the 16 studies and these studies might therefore be reporting results of mixed prevention/early intervention programs. (231)

Vogt et al. undertook a review that focused on empirical studies of individual-level interventions intended to improve mental well-being, life-satisfaction or happiness among adolescents aged ten to 24 years who were in any of 12 vulnerable groups at high risk of poor health outcomes. These included adolescents who were: 'looked after'/care leavers; homeless; young offenders; sexually abused; teenage parents; ethnic minorities; asylum seekers/refugees; victims of domestic/intimate partner violence; living in socio-economically deprived areas; unemployed; out of/excluded from school; or young carers. The authors focused on studies that included either a control group or before and after measures of mental wellbeing. School-based or clinical interventions were excluded. Thirty systematic reviews and 16 additional trials were identified. (232)

The review found that there was some evidence that CBT could enhance the mental health of homeless adolescents, young offenders and adolescents who have been sexually abused and that practical support services may benefit the mental health of homeless adolescents. There was very little evidence in relation to interventions targeting asylum seekers/refugees; ethnic minorities; adolescents exposed to domestic violence; or those living in socio-economically deprived neighbourhoods, and no evidence for unemployed; out of school/excluded; and young carers. Overall, the authors concluded the evidence was either conflicting, absent or too limited to identify individual-level interventions that could improve the mental health and well-being of various groups of vulnerable adolescents. (232)

Sangsawang et al. conducted a systematic review of interventions to prevent postpartum depression among adolescent mothers. Interventions included home-visiting, prenatal, antenatal or postnatal psychoeducation, CBT or IPT strategies, and infant massage training. Thirteen studies involving 2,236 participants were included in their review. Overall, six of the 13 studies noted that interventions were successful in reducing rates of postnatal depressive symptoms in adolescent mothers in the intervention groups compared to adolescent mothers in control groups. (233)

9.2. Aboriginal and Torres Strait Islander People

On average, Aboriginal and Torres Strait Islander people experience poorer mental health and wellbeing than non-Indigenous Australians. For example, the rate of high to very high psychological distress and the suicide rate is over twice as high among Aboriginal and Torres Strait Islander than the general population. In 2018–19, an estimated 24% of Aboriginal and Torres Strait Islander people reported a mental health or behavioural condition.

A wide range of factors contribute to these poorer outcomes including the ongoing impacts of colonisation and dispossession, loss of land and cultural connection, intergenerational trauma, forced removal of children, a greater likelihood of experiencing adverse life events and personal stressors, and the ongoing effects of racism and socioeconomic disadvantage. (234)

The term social and emotional wellbeing is preferred over the term mental health by Aboriginal and Torres Strait Islander people. There is no agreed definition of social and emotional wellbeing, but rather a range of ways in which the concept is understood and described by different Aboriginal and Torres Strait Islander Communities; however, there is significant overlap between various definitions. The Report *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice* describes social and emotional wellbeing as:

A multidimensional concept of health that includes mental health, but which also encompasses domains of health and wellbeing such as connection to land or 'country', Culture, spirituality, ancestry, family, and Community (p55). (235)

The *National Strategic Framework for Aboriginal and Torres Strait Islander Peoples' Mental Health and Social and Emotional Wellbeing 2017-2023* describes social and emotional wellbeing as:

The foundation for physical and mental health for Aboriginal and Torres Strait Islander peoples. It is a holistic concept which results from a network of relationships between individuals, family, Kin, and Community. It also recognises the importance of connection to land, Culture, spirituality, and Ancestry, and how these affect the individual (p6). (236)

Social and emotional wellbeing encompasses mental health, but is a considerably broader concept than Western concepts of 'good' mental health or mental health conditions. Specifically:

- It is a holistic term that encompasses physical, mental, social, and spiritual health and sees these elements as interconnected rather than separate.
- It recognises that the wellbeing of any individual is linked to the wellbeing of their family and Community.
- It acknowledges the influence of social and economic factors as well the importance of connections to, land, language, Culture, and Ancestors as contributors to wellbeing.

High levels of social and emotional wellbeing lead to a range of positive relationship, educational, employment, and health outcomes. It is a source of resilience which can protect against the impacts of stress and forms the basis of good Aboriginal physical and mental health. Diminished social and emotional wellbeing may lead to health, mental health, alcohol and other drug (AOD) or other challenges. Improving the social and emotional wellbeing of Aboriginal people, families and Communities can therefore make a significant contribution to reducing the incidence and impacts of physical and mental health conditions and suicide in the Community. (237)

Promoting social and emotional wellbeing requires a simultaneous focus on individuals, Communities, and society using a whole of lifespan approach. Individuals need to be able to access programs and activities that promote social and emotional wellbeing. They also need Culturally safe and holistic supports and services if they are experiencing health, mental health, AOD or other challenges. Strong social and emotional wellbeing also results from positive relationships between the individual and their family, Kin, and Community as well as their connection with their Culture, language, lore, and Country. Practising Culture can involve a living relationship with ancestors, teachings from Elders, ceremony, traditions, and connection to Country and language. (236, 238)

Social and emotional wellbeing is also influenced by social and economic factors. Experiences like racism and discrimination and limited access to education, income, employment, housing, or health and human services can diminish social and emotional wellbeing and contribute to poor health and mental health outcomes. Initiatives are therefore also required to strengthen Aboriginal and Torres Strait Islander Communities and address social negative social norms and socioeconomic disadvantage at the Community level, and individuals and Communities need support to improve their education, employment, income, and housing circumstances if they are experiencing challenges in these areas.

Last, social and emotional wellbeing is influenced by societal and historical factors. The social and emotional wellbeing of Aboriginal and Torres Strait Islander people and Communities continues to be impacted by the intergenerational trauma stemming from colonisation and harmful government policies. (239) Efforts to promote self-determination are therefore central to promoting social and emotional wellbeing.

The Gayaa Dhuwi (Proud Spirit) Declaration highlights that promoting social and emotional wellbeing can be achieved by:

- Taking a strengths-based approach rather than deficit-based approach to supports and services.
- Adopting a holistic approach and provide integrated physical, psychological, socioeconomic, and spiritual supports through multidisciplinary teams and service partnerships.
- Adopting Culturally informed understandings of social and emotional wellbeing to guide assessment and service provision.
- Recognising the centrality of family and Kinship groups and involve and support them in a person's care.
- Strengthening a person's connection to language, Culture, and country.
- Addressing ongoing societal issues such as racism, discrimination, inequality & disadvantage.
- Promoting self-determination and transfer power and resources to Aboriginal Communities and Community-Controlled Organisations to design and implement the programs, services and other initiatives required to nurture social and emotional wellbeing.
- Acknowledging and addressing the trauma that Aboriginal and Torres Strait Islander people have experienced through colonisation, dispossession, forced removal and other government policies that disrupted their languages, Cultures and ways of life. (240)

Day undertook a systematic review of the literature on psycho-social interventions that have been implemented to improve social and emotional wellbeing in Aboriginal and Torres Strait Islander individuals and communities. The review was published in 2013 and found that only a small number of program evaluations had been published that met the criteria for inclusion in a systematic review, making it impossible to articulate what might be considered evidence-based practice in this area. (241)

A later systematic review by Murrup-Stewart et al. assessed 33 social and emotional wellbeing programs across Australia to better understand what Aboriginal community members think about the programs and how they could be improved. The studies included a diverse range of programs and study designs. Broadly speaking, interventions included:

- mental health and social and emotional wellbeing programs (e.g. prisoner wellbeing, traditional healing programs, and suicide post-vention support).
- social work programs (e.g. housing and family violence).
- youth arts and culture programs, including parenting, peer support programs and Family Wellbeing Programs
- generalised community development programs, including early childhood health and a drink driving program.

In terms of study design, the vast majority were program evaluations. There were 26 qualitative (focus groups, semi-structured interviews, qualitative questionnaires), and seven mixed-methods studies (interviews, focus groups, questionnaires). The review did not examine the specific impacts of any of the programs, but rather the ingredients for success. These are discussed later in the section on implementation. (242)

Newton et al. noted that one of the barriers to evidence-based practice in the promotion of social and emotional wellbeing, was a lack of consensus around, and use of well-validated instruments to assess social and emotional wellbeing and how it changed over time as a result of intervention. While their review found a small number of measures that showed promise, the authors concluded that there was a need to develop psychometrically sound, comprehensive, culturally appropriate measures to operationalise social and emotional wellbeing at a population health, program evaluation, and clinical level.(243)

9.3. People who identify as LGBTIQ+

Research shows that on average LGBTIQ+ people experience higher rates of depression, anxiety and substance conditions and suicidality than heterosexual people. (244) The reasons vary, but many individuals from sexual and gender diverse minority group experience rejection, personal abuse, physical assault, prejudice, and homophobic and transphobic discrimination which creates an increased risk of mental health conditions. This is often referred to as minority stress. (245)

Schools based programs are one important approach to tackling these issues. Ancheta et al.'s systematic review found that that LGBTQ students in schools with more positive school climates report fewer depressive symptoms and are at lower risk of suicidality compared to students in less positive school climates. (246) A systematic review and meta-analysis by Marx and Kettrey focused on gay-straight alliances (GSAs) in schools. These alliances bring together lesbian, gay, bisexual, transgender, and queer youth and their allies in an attempt to improve school climate for sexual and gender minority youth. The meta-analysis evaluated the association between school GSA presence and youth's self-reports of school-based victimisation. The authors reviewed 15 primary studies and found that GSA presence in schools was associated with significantly lower levels of youth's self-reports of homophobic victimisation, fear for safety, and hearing homophobic remarks. (247)

McDonald found that lack of social support (or low social support) is associated with higher levels of depression, anxiety, alcohol or drug misuse, risky sexual behaviours, shame, and low self-esteem among LGBTQ adolescents. However, the author was only able to identify one intervention study that aimed to address this issue. (248)

A systematic review by Morris et al. focused on interventions to reduce health care student or provider bias towards LGBTQ patients. Their search identified 13 studies. Nine assessed training programs for health care profession students and four focused on health care providers. The authors found that bias-focused educational interventions were effective at increasing knowledge of LGBTQ health care issues. Experiential learning interventions were effective at increasing comfort levels working with LGBTQ patients. Intergroup contact was effective at promoting more tolerant attitudes toward LGBTQ patients. However, despite promising support for bias education in increasing knowledge and comfort levels among medical, nursing, and dental students and providers towards LGBTQ persons, the review did not identify any interventions that assessed changes in implicit bias among students or providers. (249)

9.4. People from Culturally and Linguistically Diverse Backgrounds

Uphoff et al. conducted a review of systematic reviews and meta-analyses of interventions focused on the promotion of mental wellbeing, prevention of mental health conditions, or treatment of common mental health conditions among refugees, asylum seekers or internally displaced persons. Systematic reviews specific to wellbeing and prevention were sparse and most reviews focused on the treatment of conditions, particularly post-traumatic stress disorder using psychological therapies such as CBT, narrative exposure therapy or other therapies. Far fewer examined depression and anxiety disorders. The authors were therefore not able to propose any specific recommendations about promotion and prevention strategies for this particular population. (250)

9.5. People living in rural and remote areas.

According to the National Rural Health Alliance people in rural areas regularly score better than their major cities counterparts on indicators of life satisfaction and feelings of wellbeing and with respect to mental health conditions. Data from the 2007 National Survey of Mental Health and Wellbeing suggests that the prevalence of mental health conditions is similar in metropolitan and non-metropolitan areas. However, there is also data to show that rates of self-harm and suicide increase with remoteness suggesting that there are still very significant mental health issues that need to be addressed among people living in rural and remote areas. While our search noted some individual studies relating to wellbeing and prevention among this cohort, it did not find any systematic reviews that examined the prevention of mental health conditions specifically within the Australian rural and remote context.

9.6. Conclusions

The literature review identified a relative dearth of systematic reviews and meta-analyses relating to the promotion of mental wellbeing and/or prevention of mental health conditions among various priority populations. However, it is important to note that this not necessarily reflect the level of activity in these areas, but rather than lack of published studies, and in particular those that involve study designs that are likely to be included in a systematic review or meta-analysis.

This is understandable, but problematic. Certain research designs, such as RCTs may not be culturally appropriate or safe, and there is a tendency to use various program evaluation approaches rather than more standardised empirical research designs making comparisons and evidence synthesis difficult due the heterogeneity of approaches and variations in the type of data collected.

Overall, the literature review found good evidence to show that psychoeducational and CBT-based parenting programs designed for parents who have a mental health condition or alcohol or other drug difficulty, are effective in reducing the likelihood that their children will experience a mental health condition. There is also some evidence that psychological interventions can reduce the likelihood of anxiety among children at risk of these conditions as a result of personal factors (e.g. sensitivity, being bullied) or family factors (e.g. parental anxiety disorder). However, some trials have included children who may already have a diagnosis of anxiety, and further evaluation is therefore needed to establish the preventative effects of these interventions.

With respect to other priority populations, there is some evidence from program evaluations that Aboriginal community-led, holistic programs targeted to promoting connection to culture, language, and country, addressing practical needs, and tackling social disadvantage can improve social and emotional wellbeing among Aboriginal and Torres Strait Islander people. However, the dearth of more rigorous research studies, or studies that use culturally appropriate and psychometrically sound scales to measure social and emotional wellbeing outcomes make generalisations about specific programs difficult.

There is also some evidence that school-based programs that aim to reduce discrimination against students who identify as LGBTIQ can increase feelings of safety and lower the risk of homophobic remarks and homophobic victimisation, however, the number of trials is limited, and most of the research relates to initiatives trialled in the USA. Last, there is very little research which examines the effectiveness of wellbeing and prevention strategies designed specifically for LGBTIQ, Culturally and Linguistically Diverse and rural and remote communities and this is an area that needs considerably more attention.

10. Interventions to reduce risk factors.

Section summary

A wide range of biological, psychological, social and socioeconomic risk factors have been implicated in the development of low mental wellbeing and the onset of mental health conditions. Risk factors vary in their prevalence, the strength of their association with low mental wellbeing and mental health conditions, and in how modifiable they are. They also vary by age and stage of development. Risk is present from conception, in the form of genetic and other biological vulnerabilities, can accumulate over time, and then manifest as poor mental health and wellbeing in the absence of mitigating protective factors.

Some of the most potent risk factors for mental health conditions, such as child maltreatment, exposure to family violence, bullying and socioeconomic disadvantage, occur in childhood and adolescence. Efforts to minimise children and young people's exposure to these factors is imperative, however the risk reduction needs to continue across the lifespan. Particular attention needs to be given to the prevention of Intimate Partner Violence among women, racism and discrimination, loneliness and social isolation, job stress and other workplace psychosocial risk factors, low social cohesion and low social capital in local communities, and socioeconomic disadvantage.

Best bets

- There is very good evidence to show that bullying perpetration and victimisation can be prevented among children and young people through school-based anti-bullying programs. The evidence is less strong in relation to preventing bullying targeted to LGBTIQ young people, and workplace bullying. It is also unclear to what degree the prevention of bullying then translates into improvements in mental wellbeing and reductions in the incidence of mental health conditions.
- There is good evidence that workplace mental health and wellbeing programs that aim to build employee resilience or that address workplace psychosocial risk factors, can lead to improvements in mental wellbeing and reductions in work-related psychological injury and mental health conditions.
- There is good evidence that home nurse visiting programs and some parenting skills-building programs can contribute to positive parenting practices, and these programs may also potentially decrease the occurrence of child maltreatment, although many of the studies that examine these programs fail to directly measure this key outcome.

Worth trialling and evaluating further.

- There is some evidence that certain healthy relationships education programs may contribute to a reduction in gendered violence, however, more rigorous evaluations are required to determine the best approach to the primary prevention of intimate partner violence.

Potentially useful, but need more evidence.

- There is little evidence around what works to prevent racism and discrimination and socioeconomic disadvantage, and also whether any changes then translate into improved mental health outcomes.
- Overall, based on the strong links between the various risk factors described above and mental health conditions, it is imperative that far more efforts are made to build the evidence base in the area of risk reduction in mental health.

10.1. The context for action

A wide range of biological, psychological, social and socioeconomic risk factors have been implicated in the development of low mental wellbeing and the onset of mental health conditions. Risk factors vary in their prevalence, in the strength of their association with low mental wellbeing and mental health conditions, and in how modifiable they are. They also vary by age and stage of development.

The timing and the total number of risk factors that an individual experience over the life course has an important influence on their mental health and wellbeing at any given point in time. Risk is present from conception, in the form of genetic and other biological vulnerabilities, and may accumulate over time. It may then potentially manifest as poor mental health and wellbeing, in the absence of mitigating protective factors.

Some of the most potent risk factors for mental health conditions occur in childhood and adolescence. The term adverse childhood experiences (ACE) has been coined to describe a group of highly-stressful or traumatic experiences that may impact children and young people aged 0 to 18 years. While different researchers include slightly different experiences under this umbrella, the most commonly described ACEs include child maltreatment (physical, emotional, sexual abuse or neglect), exposure to family violence, having a parent with a severe mental health condition, alcohol/substance use disorder or history of incarceration, and living in poverty. (251, 252) Some researchers also include bullying in the list of ACEs. There are strong inter-relationships between various ACEs, and children exposed to one, are often exposed to others.

Children and young people exposed to ACEs are at significantly increased risk of a wide range of mental health conditions in childhood, adolescence and adulthood. They are also at increased risk of future self-harm and suicide. (253-255) The greater the number of ACEs a child experiences, the greater the odds that they will experience a mental health condition at some point in their life. Given the strong links between ACEs and mental health conditions, it is likely that a focus on the prevention of ACEs would have considerable benefits. (256) In line with this, a large survey conducted by the World Health Organization reported that eradication of childhood adversities would lead to a 29.8% reduction of any lifetime mental disorder, and an even higher reduction when considering childhood-onset (38.2%) and adolescence-onset (32.3%) cases. The possibility of preventing one in three childhood-onset mental disorders is of crucial importance when considering that the experience of a mental disorder "kindles" a cascade of events which make recurrence later in life more likely. (257) Efforts to minimise children and young people's exposure to these factors needs to be a mental health policy imperative.

However, the reduction of risk needs to continue across the lifespan, and particular attention needs to be given to Intimate Partner Violence among women, racism and discrimination, loneliness and social isolation, job stress and other workplace psychosocial risk factors, low social cohesion and low social capital in local communities, and socioeconomic disadvantage.

10.2. The prevention of child maltreatment

Child maltreatment, including emotional and physical neglect, and emotional, physical, and sexual abuse, is strongly and causally linked to conditions as diverse as depression, anxiety disorders, eating disorders, personality disorders, and schizophrenia as well as to self-harm and suicide. (254, 258-261) Overall, child abuse and neglect accounts for 2.2% of Australia's total burden of injury and disease and 11.8% of the burden related to mental health conditions. (262) Other research suggests that for females, 33.0% of self-harm, 30.6% of anxiety disorders and 22.8% of depressive disorders burden is attributable to child abuse, while for males 23.5% of self-harm, 20.9% of anxiety disorders and 15.7% of depressive disorder burden is attributable to child abuse. (263)

10.2.1. Legal interventions.

Child maltreatment is a criminal offence under state and territory legislation. These laws also govern the way in which child maltreatment is reported, investigated, and managed by child protection services. Most states have mandatory reporting provisions, although each jurisdiction differs in who is mandated to report and the circumstances under which they are required to do so. The impact of these approaches was not assessed in this review.

10.2.2. Media campaigns.

Poole et al. undertook a review of media campaigns focused on the prevention of child physical abuse (CPA). Interventions included various forms of mass communication (e.g., TV, radio, billboards, posters, report cards) or those delivered via community services with broad population access (e.g. hospitals, paediatric offices or schools). The review included 17 studies featuring 15 campaigns. Seven studies used experimental designs, but most used quasi-experimental designs. Several studies found significant reductions in negative parenting, child problem behaviours and parental anger as well as increases in parental self-efficacy and knowledge of concepts and actions relevant to preventing child abuse. CPA incidence was assessed in only three studies and decreased significantly in two of these. Overall, the authors concluded that while there were some promising findings, the current level of evidence is not enough to draw solid conclusions about these types of interventions and more research is needed. (264)

10.2.3. School education.

School-based education programs aim to prevent child sexual abuse (CSA) by providing students with the knowledge and skills to recognise and avoid potentially sexually abusive situations, as well as equipping them with strategies to physically and verbally repel sexual approaches by offenders and seek help in the event of abuse or attempted abuse (i.e. the 3 Rs of recognise, resist and report). They also aim to equip adults with strategies to respond quickly and effectively to disclosures and protect children from further abuse. (265)

Walsh et al. conducted a systematic review that included RCTs, cluster RCTs, and quasi-RCTs of school-based approaches to the prevention of CSA. The review included 24 studies involving 5,802 participants and found that knowledge and self-protective skills increased significantly more in intervention groups compared to the control groups post-intervention and knowledge gains were retained at six months. However the findings regarding disclosure of abuse were inconclusive and it is unknown whether gains in skills and knowledge actually decreased the likelihood of child sexual abuse. (265)

10.2.4. Home visiting programs.

Home visiting programs are one of the most common approaches that have been trialled to prevent child maltreatment. There are several types of home visiting programs including layperson, para-professional, professional and nurse home visiting programs. All programs feature in-home visits and the provision of practical support; demonstrations or assistance in daily activities; problem-solving; and emotional support. Programs commence during the pre-natal, neonatal, or infant stage of development, and span the first few years of the child's life. Most programs target 'at-risk' families with young children who are at risk of poor developmental outcomes. (266, 267)

While measures vary across studies, many studies have shown positive impacts on parenting practices and some aspects of child cognitive, social and emotional development. However, the impacts in reducing child maltreatment as measured by substantiated cases of child abuse and neglect, hospital attendance, foster care or out-of-home-care placement are mixed and vary from program to program, with the most consistent evidence being for the Nurse Family Partnerships program. (268-270)

10.2.5. Other parenting programs.

Other types of structured parent skills-building programs have also been studied for their ability to prevent child maltreatment. Such programs aim to enhance parents' knowledge and understanding of child development, reduce parental stress, and improve positive parenting practices. These programs can be delivered universally or be targeted to high-risk families. (271)

Chen and Chan conducted a meta-analysis of parenting programs designed to prevent child abuse. The review included a mix of home visiting and parenting skills building programs used for primary, secondary, or tertiary prevention. The meta-analysis of 37 RCTs found the overall random effect size was 0.296 and the authors concluded that parenting programs were successful in reducing self-reported and substantiated child maltreatment reports when applied as primary, secondary, or tertiary child maltreatment interventions. (272)

The review by Altafim et al. examined the evidence specifically around primary prevention programs. The review identified 23 research studies that reported 16 different types of parenting educational programs designed to prevent child maltreatment from occurring. Outcome measures included parenting (e.g., parenting practices, parenting stress, parenting beliefs, and behaviours), parent anger management, parent mental health (e.g., depression and anxiety), perception of social support, and family conflict; and child outcomes. One study evaluated the program through population indicators of child maltreatment. (273)

Overall, the review reported that parenting programs led to an increase in positive parenting practices and less use of coercive or aggressive parenting strategies such as physical punishment and verbal threats, as well as improved child behaviour outcomes. The only study that directly measured child maltreatment outcomes found a positive effect of the program on substantiated child maltreatment recorded by child protective services staff, child out-of-home placements recorded through the foster care system, and child hospitalisations and emergency room visits attributable to child maltreatment injuries in geographic locations using the program compared to those not using the program. (273)

Desai et al. conducted a review of systematic reviews and meta-analyses of parenting programs designed to prevent child maltreatment. The authors examined the impacts of these programs on multiple outcomes including mental health, intimate partner violence (IPV) and child maltreatment. The reviews that reported the effects of parenting programmes on parental (primarily maternal) mental health generally found that interventions had significant positive post-intervention effects for depression, anxiety, anger, guilt and partner relationships compared to parents in control groups. These were maintained at six months post intervention but disappeared at one year. The reviews that focused on IPV found most nurse home visiting programs had little impact in preventing IPV, except the Nurse Family Partnership program. The reviews that focused on child maltreatment reported very mixed findings, and overall it appeared that NFP and Triple P were responsible for most of the positive results. (274)

In 2018 the US Preventive Services Taskforce published a systematic review which included 22 RCTs that were designed to prevent child maltreatment among children and adolescents with no history of maltreatment. The studies included home nurse visiting, parent education to promote positive parenting programs, and psychotherapy to improve caregivers' coping skills and strengthen the parent-child relationship. Studies included direct measures such as evidence of physical, sexual, or emotional abuse or neglect; reports to child protection services; and removal of the child from the home as well as indirect measures such as injuries likely to be caused by abuse, visits to the emergency department or hospital, and failure to provide for the child's medical needs. (275)

The review found limited and inconsistent evidence regarding the benefits of such interventions. In particular, no significant association was found between interventions and reports to child protective services within one year of intervention completion, or removal of the child from the home within one to three years of follow-up. In addition, no statistically significant associations were observed between the interventions and outcomes for emergency department visits in the short term (<2 years), hospitalisations, and prevention of death. (276) As a result, the US Preventive Services Taskforce concluded that the current evidence is insufficient to assess the balance of benefits and harms of current interventions to prevent child maltreatment. (275)

More recently, van IJzendoorn conducted an umbrella synthesis of meta-analyses on child maltreatment antecedents and interventions. The authors examined five meta-analyses of interventions targeting child abuse potential with self-reported child maltreatment as outcome measures, and 11 meta-analyses of programs designed to prevent substantiated cases of child maltreatment. The results were mixed, and positive trials generally produced small effect sizes. Overall, parenting programs that involved parent training were more effective than programs that only provided support. The authors concluded that “the current types of home visiting and parenting programs seem insufficiently effective at significantly reducing the number of maltreatment cases reported to child protection services”. (277)

The most recent meta-analysis comes from Branco et al. The authors reviewed 18 studies. Two were conducted in low-income countries, five in middle-income countries, and ten in high-income countries. A wide range of programs were trialled. Studies included a range of research designs including RCTs, non-randomised control trials, pre-post-designs with no control group and post-intervention data only. All studies assessed parenting outcomes, and 89% showed the programs were effective in promoting positive changes in parenting practices in the intervention groups. Ten of the 11 studies that measured changes in physical punishment and harsh discipline noted a significant reduction. Overall, there were generally positive, although more mixed results, in relation to parental mental health, couple relationships, co-parenting, and coping ability of parents. In addition, across 18 studies nine evaluated child behaviour outcomes with eight showing a decrease. The authors concluded that “the positive changes in parenting and child behaviour outcomes encourage the implementation of parenting programs as a universal prevention strategy” although they noted the variable quality of the studies, with only 17% rated as strong. Problematically, however, very few studies actually measured changes in actual child maltreatment rates. (271)

Indeed, the results of rigorously designed trials and trials where child maltreatment is directly measured are less promising than those which focus on changes in parenting practices. The meta-analysis conducted by Euser et al. is a case in point. Interventions included a mix of home visiting and other parenting programs. The meta-analysis only included RCTs. Twenty different intervention programs targeting parents in the general population, as well as at-risk or maltreating families were tested in the studies included in the meta-analysis. Of these only five (25%) programs effectively prevented or reduced child maltreatment. The authors found programs with a focus on parent training, were significantly more effective than programs that solely provided support. (278)

10.3. The prevention of Intimate Partner Violence

Intimate partner violence (IPV), including psychological, physical, and sexual abuse, is associated with higher levels of depression and anxiety among victims compared to the general population.(279) IPV is causally linked to homicide and violence, suicide and self-inflicted injuries, alcohol use disorders, depression, and anxiety. In 2015 in Australia, IPV contributed 41% of homicide and violence burden, 19% each of suicide and self-inflicted injuries and depressive disorders burden, and 12% of anxiety disorders burden in females. (262) Preventing IPV may therefore prevent a considerable proportion of mental health conditions among females.

The *primary* prevention of IPV is a relatively new field of research with most of the focus to date placed on strategies to keep women safe and respond to the violence after it has occurred. Primary prevention programs addressing IPV consist of school or community-based respectful relationship programs targeting adolescents before victimisation or perpetration occur; public education campaigns; bystander empowerment and education; creating safe school and workplace environments; and structural initiatives that aim to reduce gender inequality. (280)

A recent systematic review that focused on workplace-based approaches to preventing IPV found relatively few studies had been conducted. Most interventions focused on recognising signs of abuse, responding to victims, and providing referrals to community-based resources rather than prevention. Most led to some improvements in participants knowledge of IPV, willingness to intervene, and likelihood of providing information or resources. (281)

A systematic review of healthy relationships programs published by Whitaker et al. in 2013 focused on studies that targeted partner violence victimisation and/or perpetration. The review focused on studies that included a comparison or control group, and measured knowledge, attitudes, beliefs, or IPV behaviour. Nineteen studies met the inclusion criteria for the review. Fifteen used randomised designs, none of which were rated as using rigorous methods. Four of the nine studies were school-based studies and only one of these found an unqualified positive impact on IPV behaviour. Another found an IPV preventive effect for boys only. Five of the nine more rigorous studies were conducted in community settings, including two that worked with couples, two group-based interventions in the community, and one that worked with parents to promote dating violence prevention with their teenage children. All five of these studies noted positive impacts on IPV behaviour. (282)

Other interventions have focused on sexual violence, particularly among young people. One review found that educational programs can lead to increased knowledge of teen dating violence and attitudes that are less accepting of violence in relationships among program participants compared to controls, although the programs did not show any reductions in dating violence perpetration and victimisation. (283) Another review of sexual violence prevention programs conducted by DeGue et al. found that the majority of sexual violence prevention strategies focus on brief, psycho-educational interventions that aim to increase knowledge or change attitudes, however none have shown any evidence of effectiveness on sexually violent behaviour using a rigorous evaluation design. According to these authors, only three of the 140 outcome evaluations they reviewed demonstrated significant effects on sexually violent behaviour in a rigorous outcome evaluation including Safe Dates, Shifting Boundaries and funding associated with the 1994 U.S. Violence Against Women Act. (284)

A systematic review and meta-analysis of primary prevention programs conducted by Graham et al. examined a mix of sexual violence, dating violence and IPV prevention programs targeting adolescent or adult males. Their review included nine unique studies of seven distinct programs, most of which were undertaken with undergraduate university students. Most consisted of educational sessions that covered topics such as abusive behaviour, masculinity/male gender roles, the effects of violence, healthy relationships, and ways in which bystanders can prevent IPV. The review identified only nine studies that used randomised designs to evaluate these programs. The authors noted “this small body of research showed substantial heterogeneity across intervention approaches, study design, measurement of perpetration outcomes, and findings regarding intervention effectiveness. Therefore, no firm conclusions can yet be drawn regarding “what works” in sexual violence/domestic violence/IPV perpetration prevention programs designed for boys and men.” (285)

Recently, Spencer et al. examined the effectiveness of web-based anger management programs and relationship education programs designed to reduce IPV. The review, which included six studies of online programs for the prevention of IPV, found positive results for the online Prevention and Relationship Enhancement (ePREP) program, the Our Relationship program, the Interpretation of Bias Modification for Hostility Program, and an internet-based cognitive-based intervention. Overall, the meta-analysis found that online relationship education programs and online anger management programs produced significant, medium effects on decreasing levels of anger, emotional IPV perpetration, and physical IPV perpetration and also had a significant, large effect in decreasing depressive symptoms between pre-post-test and at follow-up for the intervention groups compared to control groups. (286)

10.4. The prevention of bullying

Bullying is defined as any aggressive behaviour that is intended to harm, is repetitive in nature, and involves a clear power imbalance between perpetrator and victim. (287) Homophobic bullying refers to bullying that targets lesbian, gay, bisexual, transgender, and “questioning” students, based on the victim's perceived or actual sexual orientation. (288) Recent epidemiological studies suggest that bullying is causally linked to the occurrence of mental disorders. Overall, it is estimated that 7.8% of the burden of anxiety disorders and 10.8% of the burden of depressive disorders in Australia are attributable to bullying victimisation. (289)

A number of anti-bullying programs have been designed to prevent child and adolescent bullying within schools. These programs often take a multi-level approach. Individual approaches include universal skill-building activities that support students to develop social and emotional competencies and learn how to respond effectively to bullying behaviours, as well as work directly with bullies and victims. Peer level approaches include formal and informal peer involvement and bystander approaches. Other approaches include information for parents and involvement of parents (parent level), information for teachers and teacher training (teacher level), classroom rules and classroom management (class level) and anti-bullying policy, increased supervision and whole of school approach that focuses on setting, modelling and monitoring behavioural expectations and creating a positive school climate. (290)

A systematic review and meta-analysis by Jiménez-Barbero et al. that included 14 RCTs of anti-bullying programs targeting adolescents aged seven to 16 years concluded that such programs significantly reduced bullying and victimisation frequency, and enhanced the school climate. (291) Other reviews have noted similar benefits. For example, a meta-analysis by Gaffney et al. included 100 evaluations of school bullying intervention programs. The trials included a range of research designs including RCTs, quasi-experimental designs and age cohort designs. The review found that school-based intervention programs were effective in reducing bullying perpetration by approximately 19–20% and school-bullying victimisation by approximately 15–16%. (287)

However, while anti-bullying programs are effective, the research also shows that programs vary in how much they reduce bullying perpetration and victimisation. A review by Cantone et al. found that whole-school bullying interventions tended to deliver better results than interventions delivered through classroom curricula or social skills training alone. (292) The review by Gaffney et al. also examined the elements that made anti-bullying programs effective. Their review found that the components that increased the effectiveness of programs with respect to *bullying perpetration* included a whole-school approach, anti-bullying policies, classroom rules, information for parents, informal peer involvement, and work with victims, while informal peer involvement and information for parents were associated with larger effect sizes for *bullying victimisation* outcomes. (293)

Cyberbullying can also have serious impacts on people's mental wellbeing and anti-cyberbullying legislation and programs have been created to tackle this harm. A recent systematic review and meta-analysis found that cyberbullying intervention programs can reduce cyberbullying perpetration by approximately 10%–15% and cyberbullying victimisation by approximately 14%. (294)

10.5. The prevention of racism and discrimination

Racism is associated with an increased risk of experiencing physical and mental health conditions. (295, 296) Racism and discrimination are particularly powerful issues for Indigenous peoples globally, including Aboriginal and Torres Strait Islander people in Australia where these experiences are associated with poorer mental health and wellbeing among young people and adults. (297)

Anti-racism interventions typically rely on laws, regulations, and public education approaches. Compared to the research on the health and mental health impacts of racism, there is relatively little published research on primary prevention interventions, and no systematic reviews of primary prevention approaches were identified.

10.6. The prevention of workplace psychosocial risk factors

Work is generally a protective factor for good mental health while unemployment is a risk factor; however, certain work-related factors can increase the risk of depression, anxiety, and PTSD. Key risk factors include high (or low) demand/low control/low support jobs; high effort/low reward and recognition jobs; poor procedural or organisational justice in the workplace; interpersonal conflicts; workplace bullying; harassment and discrimination; poor people management from team leaders; poorly communicated organisational change; job insecurity; exposure to workplace violence or trauma; and a low psychosocial safety climate. (298, 299) Psychosocial safety climate refers to employees' perceptions of whether their employer takes their mental health and wellbeing seriously and is committed to taking steps to prioritise this. (300)

While there have been long-standing efforts to prevent physical injury and illness in the workplace, the prevention of psychological injury and workplace-related mental health conditions is a relatively new area of endeavour. Broadly speaking, many current workplace-based prevention programs focus on individual workers with the aim of assisting them to better manage personal and work-related stressors (i.e. stress management or resilience programs) while others focus on influencing the organisational factors that contribute to poor mental health.

Successful employee-focused strategies include those that promote healthy behaviours (e.g. diet and exercise), CBT-based stress reduction courses, employee resilience training, and workplace mindfulness programs delivered face-to-face or through online mechanisms. (301-306) Studies that combine various approaches (e.g. CBT, acceptance and commitment therapy approaches and mindfulness) are more effective than single approaches. (307)

There is also good evidence that organisation level initiatives can enhance job satisfaction; improve group cohesion, teamwork, and employee initiative; reduce staff turnover; improve employee wellbeing; and reduce work-related stress and mental health conditions. Such interventions include:

- Work engagement programs.
- Leadership and manager training and development.
- Communication and cooperation-based programs.
- Shared social activities and other workplace social capital interventions.
- Employee participatory strategies.
- Interventions to reduce workload or increase workers' control over their work.
- Flexible work arrangements that promote work-life balance. (301, 302, 304, 306, 308-311)

Workplace bullying is also a significant risk factor. Despite this, the evidence-base around workplace anti-bullying interventions is less robust than for school-based programs. A recent Cochrane systematic review found that one organisational level intervention – Civility, Respect, and Engagement in the Workforce – produced a small increase in civility that translated to a 5% increase from baseline to follow-up, as well a small decrease in workers experience of incivility from their supervisor, but not from co-workers. The review also found that an expressive writing intervention produced some small reductions in bullying, while a multi-level program combining organisational policies, stress management training, and training to raise awareness of negative behaviours did not produce any reductions in workplace bullying. (312)

10.7. The prevention of local neighbourhood risk factors

Community levels factors have also been shown to influence the onset on depression among children and young people. A recent systematic review and meta-analysis found a significant association between community safety and ethnicity-based discrimination and depressive symptoms in school-aged children. (313) Among people aged 50 years or older in high income countries, perceived neighbourhood disorder and lack of social cohesion are significantly associated with depression, and this association is even higher among post retirees. (314) By contrast, high social capital can be protective and reduce the risk of mental health conditions. (315, 316)

Wind and Villalonga-Olives propose that interventions to build social capital can be categorised into individual level interventions, community level interventions or multi-level combined interventions. (317) A systematic review conducted by the same authors found 17 articles that met their inclusion criteria. Nine out of 17 articles used a follow-up design with pre-post intervention evaluations. Eight out of these nine showed a positive effect on social capital and/or the health outcomes evaluated after the intervention, including one study related to mental health. (318)

The systematic review by Flores looked more specifically at the effectiveness of social capital-based interventions on mental health outcomes. The review included controlled studies, quasi-experimental studies or pilot trials. Seven studies were included in the review. The interventions included community engagement and educative programs, cognitive processing therapy and sociotherapy for trauma survivors, and neighbourhood projects. There was substantial heterogeneity in the definitions of both social capital and mental health conditions among the studies, which prevented the authors from calculating pooled effect sizes. The review showed that both social capital scores and mental health outcomes improved over time but there was little evidence of benefit compared to control groups in the long term. The authors noted that further high-quality trials are needed to assess the benefits of these approaches. (319)

10.8. The prevention of socio-economic disadvantage

While mental health conditions may affect people of all ages and backgrounds, their prevalence is heavily influenced by people's living conditions and social position. People with lower levels of educational attainment and those who experience unemployment, homelessness, or live on low incomes are more likely to experience a mental health condition than people from more advantaged backgrounds. (320, 321) This social gradient occurs along a continuum with individuals at the higher end of the socioeconomic status (SES) spectrum having lower rates of mental health conditions than people in the mid-range, who in turn have lower rates of conditions than people at the lower ends of the SES spectrum.

Within this context, job loss, underemployment and unemployment are associated with poorer mental wellbeing, while employment and reemployment are protective for mental health and is associated with a lower risk of depression. (322-325) Income inadequacy and debt are also associated with higher levels of suicidal ideation and depression and homelessness is associated with mental health conditions among children, young people and adults. (326)

While healthy public policy has been instrumental in achieving change in relation to smoking, alcohol and substance misuse, and road trauma, public policy approaches for the prevention of mental health conditions have received less attention. As a result, while public policies that aim to achieve greater equality and more equitable access to social determinants such as education, work, income and housing are likely to contribute to the prevention of mental health conditions, at this stage there is a little research into whether such initiatives may help to prevent mental health conditions.

10.9. Conclusions

There are ultimately two main ways to promote mental wellbeing and prevent mental health conditions from occurring. We can either increase people's exposure to the protective factors that enhance wellbeing or reduce the likelihood of mental health conditions, or we can reduce their exposure to risk factors that have a detrimental effect on wellbeing, or increase the likelihood of experiencing a mental health condition. Most of the evidence presented to date, has focused on modifying individual level or environmental-level protective factors. This chapter focuses on whether or not we can prevent people's exposure to key risk factors.

Overall, there appears to be considerably less evidence relating to risk factor reduction, than to the enhancement of protective factors. Perhaps the strongest evidence relates to the prevention of bullying perpetration and victimisation among children and young people. The literature review identified several systematic reviews and meta-analyses which pointed to the positive effects of school-based anti-bullying programs. The evidence is less strong in relation to preventing bullying that is targeted to LGBTIQ+ young people, and workplace bullying. Based on the available evidence, it is also unclear to what degree the prevention of bullying then translates into improvements in mental wellbeing and reductions in the incidence of depression and anxiety, although this is quite likely.

There is also good evidence that workplace mental health and wellbeing programs that aim to build employee resilience or address workplace psychosocial risk factors, can lead to improvements in mental wellbeing and reductions in work-related psychological injury and mental health conditions. Likewise, there is good evidence that home nurse visiting programs and some parenting skills-building programs contribute to positive parenting practices, and these programs may also potentially decrease the occurrence of child maltreatment, although many studies on this issue fail to directly measure this key outcome.

The evidence in relation to other risk factors is less robust. While there is some evidence that certain healthy relationships education programs may contribute to a reduction in gendered violence, there is very limited evidence around other effective strategies, and more rigorous evaluations are required to determine the best approach to the primary prevention of intimate partner violence given its major impacts on women, but also on children who witness domestic violence.

Overall, the lack of rigorous scientific research into the primary prevention of key risk factors for low mental wellbeing and mental health conditions is alarming. All the risk factors listed in this section have a powerful negative impact on mental health and wellbeing as evidenced by cross-sectional and longitudinal research studies, yet we found very few systematic reviews that specifically examined what works to prevent these issues, and in some cases, we could not find any systematic reviews for particular risk factors whatsoever.

Moreover, there appears to be very little research into whether any changes in the types of risk factors listed above then directly or indirectly translates into improved mental health outcomes. Based on the findings of this literature, it is clearly imperative that far more effort is made to build the evidence base around risk factor reduction in the area of wellbeing and prevention.

11. The economics of promotion and prevention

Over the last decade or so, there has been a steady increase in the volume of economic analyses that have examined the benefits of promotion and prevention efforts in the mental health field. For example, economic modelling conducted by Bonin et al. found that parenting programs can reduce the likelihood that conduct disorder will persist into adulthood and are cost-saving to society within five to eight years under base case conditions. (327)

A systematic review by Schmidt et al. examined the cost-effectiveness of mental health promotion and prevention programs for young people. Their review found nine studies that met their inclusion criteria – most of them evaluating school-based interventions. The authors noted that four studies evaluated the cost-effectiveness of CBT-based interventions for the prevention of depression or anxiety, with mixed results, while cost-effectiveness estimates for mental health promotion and anti-bullying interventions were more promising. However, owing to the limited number of studies, they concluded more research was required. (328)

A later systematic review by Schmidt and others examined economic evaluations of universal mental health interventions for children and adolescents aged six to 18 years. Nine studies were included in the review. The interventions included a parenting program (All Children in Focus); several depression prevention programs (Depression in Swedish Adolescents, an unnamed CBT programme, Resourceful Adolescent Programme); an anxiety prevention program (FRIENDS); a social and emotional learning program (Promoting Alternative Thinking Strategies); two anti-bullying interventions (Against bullying and Olweus Bullying Prevention Programme); and a suicide prevention programme (Youth Aware of Mental Health). Overall, the review found that the parenting program and the SEL program produced favourable cost-effectiveness ratios. By contrast, the results for the school-based CBT-based depression and anxiety prevention interventions were mixed. On the one hand, unfavourable cost-effectiveness results were found for interventions aimed at reducing anxiety in children (aged nine to ten years) and depression in adolescents (aged 12 to 16 years) in the UK, while on the other hand, favourable results were reported for school-based depression prevention interventions for Swedish and Australian children and adolescents aged 11 to 17 years. Two Swedish studies also found moderate to good cost-effectiveness results for two different anti-bullying interventions implemented at primary and secondary schools. (329)

A more recent systematic review of cost-effectiveness studies by Le et al. focused on economic analyses of trials designed to promote mental wellbeing or prevent mental disorders. A total of 65 studies met their inclusion criteria of which, 23 targeted children and adolescents, 35 targeted adults, and the rest targeted older adults. The most common primary method of economic evaluation used was cost-effectiveness analysis, followed by cost-utility analysis and return on investment. A large number of studies focused on prevention of depression and/or anxiety disorders, followed by promotion of mental health and well-being, suicide prevention and the prevention of other conditions (e.g. eating disorders). Despite some mixed findings, the authors noted that most studies consistently found that interventions for mental health promotion and prevention were cost-effective or cost saving. In children and adolescents, screening plus psychological interventions (e.g., CBT) at school were the most cost-effective interventions for prevention of mental disorders, while parenting interventions had good evidence in mental health promotion. In adults, strong evidence supported screening plus psychological interventions for mental health condition prevention, while workplace interventions targeting employees in general were cost-effective. There was inconclusive evidence for mental health promotion and preventive interventions in older adults. (330)

12. The limitations of current research.

While there has been a steady growth of research in promotion and primary prevention in the mental health field, many studies have methodological flaws that may impact the validity of the results and the generalisability of any benefits described.

One of the common criticisms of these studies is the wide variation in research designs. While this review found numerous RCTs and cluster RCTs, many trials of wellbeing and prevention programs include less rigorous designs such as non-randomised trials, non-controlled trials, and pre-post designs. This does not negate positive results, however, the less rigorous the design, the more the risk that a positive result may have occurred by chance, or be the result of bias, confounding or error, making it necessary to exercise caution when considering the results.

Even among well-designed trials, issues have been raised. For example, many trials use a 'no intervention' or non-active control group design, which may produce potentially inflated positive findings compared to trials involving active control groups.

Another concern is that most studies rely on self-report measures of wellbeing or mental health conditions rather than independent diagnostic interviews for the latter, and some trials use unvalidated scales. The lack of an agreed definition of mental wellbeing, and routinely used measurement scales is also highly problematic, as it makes it difficult to compare interventions when outcomes are measured so differently. Moreover, prevention trials often focus on measuring symptoms rather than the incidence of new onset disorders, and many do not include a sufficient follow-up period to be sure that conditions are 'prevented' rather than delayed.

In defence of these limitations, it is important to note that prevention research is complex. While the best direct outcome variable for prevention research is a reduction in incident cases of a condition over the months following the intervention, this measure is not always used because the expected number of incident cases is often low, and would require very large sample sizes or prolonged follow-up to detect differences. This is especially true for universal prevention trials where the background rate of new cases among the study sample is lowest. For example, Munoz notes that a RCT of a universal depression prevention study would require 17,253 participants in the experimental group and 17,253 in the control group to detect a 22% reduction in incidence (i.e. from the usual incidence of 1.7% per year to 1.3%). An intervention that is twice as effective (i.e., incidence reduced by 44%), would need 3,933 participants per condition. By contrast, an indicated prevention initiative would only need 735 participants per condition to detect a 22% reduction in incidence (from 30% to 23.4%), and only 176 participants per condition would be needed to detect a reduction of 44% (from 30% to 16.8%). (206) However, it should be noted that, even reducing the level of symptoms confers considerable benefit, including reduced disability and service use.

Another concern is that even wellbeing and prevention programs that are effective only tend to produce small-moderate effect sizes rather than large effects. The counterargument is that a small effect spread across a large population is important as it will still contribute to meaningful reductions in incident cases at the population level. This is part of the prevention paradox whereby the majority of cases of a condition come from populations at low or moderate risk of that condition, rather than from high-risk populations, since the former is numerically larger than the latter. At any rate, as discussed, sample size limitations probably help to explain why universal interventions tend to yield fewer positive results than targeted interventions, as the former require very large samples to detect differences in incidence between experimental and control conditions compared to targeted trials.

Limited follow times are a problem, particularly since the positive effects of most of the programs that effective appear to wane over time; however, it is impossible to track people over the entire course of childhood, adolescence, youth or adulthood following a prevention intervention to see if they ever experience a condition. Munoz et al. therefore argue for a more pragmatic approach to defining prevention noting that while ideal preventive intervention would be administered once, as early in life as possible, and would last a lifetime, this is unrealistic. A more realistic way to think of prevention may be that of delaying onset of clinical conditions for as long as possible in a person's life. (206) Others suggest it is reasonable to use a minimum of 12 months follow-up to determine whether prevention has occurred or not. (162)

The other common criticism of wellbeing and prevention research is the considerable variability between the outcomes of different studies that aim to achieve the same outcome. Many of the meta-analyses that report an overall 'pooled' benefit, generally include at least some studies where the intervention is no better than the control. While this may be partly explained by differences in study designs, it is clear from this literature review that some programs are simply more effective than others, and program content, the quality of delivery and other implementation factors play an important role in determining whether a program 'works' or not.

Not all wellbeing and prevention programs are equal, and it is important to select those that have the most consistent evidence of effectiveness. It is also important to apply them with fidelity. At any rate, wellbeing and prevention programs should not be expected to work equally well for everyone, just as treatments do not equally well for everyone either. Instead, researchers and implementers need to explore the critical environmental circumstances and contexts that moderate the impacts for different types of programs, participants, and outcomes using a process of continuous improvement, so as to maximise their overall benefits.

Last, the limited number of studies that were found on certain issues – for example risk factor reduction – underscores the complexity of undertaking certain types of research. It is clearly easier to undertake a RCT of psychological interventions to prevent depression and anxiety, than it is to conduct a trial of social policy changes that aim to avert depression through changes to employment status. As a result, the weight of research evidence is stronger for some interventions than others. This does not mean that these other interventions are ineffective, but rather they are harder to research.

13. Implementation issues

The effectiveness of many wellbeing and prevention programs appears to be influenced by various moderators. These include the target population (age, gender, SES), the content (psychological or other), the type of intervention (universal, selective, indicated), who it is delivered by, and how well it is implemented.

For example, various factors can influence the effectiveness of home nurse visiting programs. One review noted that delivery by a skilled workforce, visits commencing in the antenatal period, visits offered over a longer period, and visits offered to families experiencing greatest adversity or complexity tend to enhance the effectiveness of these types of programs. The evidence also suggests these programs need to build partnership between the family and visitor, focus on goals that parents prioritise, build competencies, be non-stigmatising, and maintain continuity of care. (266)

Another review found that effective home visitation programs include content related to normal child development and child behaviour; teach parents how to face their problems and develop strategies to effectively overcome their obstacles; provide advice on home cleanliness, safety, accident prevention, and first aid; and highlight the importance of and how to access social support. In addition, education and discussion need to be driven by a lesson plan, discussions should focus on problems or issues that the family is currently facing, and skills need to be actively demonstrated by home visitors, peers, or a video. (331)

The meta-analysis of 156 home visiting interventions conducted by Casillas et al. found that intervention role play demonstrations, staff training and supervision, and program fidelity were all important in enhancing program effectiveness. This review also found that programs targeting high-risk groups led to greater effect sizes than those that targeting the general population. (270) A separate review by Levey et al. found that the factors associated with greater efficacy included intervention starting in pregnancy and continuing for at least two years, weekly visits in the immediate post-partum period, longer follow-up post-intervention, and specificity of intervention content. (269)

In terms of school-based programs, the most effective school based SEL, resilience and disorder specific prevention programs tend to be embedded in a child or adolescent's day-to-day learning, are highly interactive and use a variety of educational tools, addressing both specific and general skills. While delivery by mental health professionals can sometimes improve outcomes, teachers can deliver these programs successfully if they are properly trained, supported and resourced. Program fidelity is important. Ideally, these programs need be part of the curriculum and be supported by a whole-of-school approach that aims to create a positive and supportive school environment through its teaching practices, policies and procedures, and links to parents and the broader community. (120, 135)

In their review, Weare and Nind listed the following characteristics as being central to the effectiveness of school-based mental health promotion interventions:

- Skills-building is vital, and programs should aim to teach students skills focused on positive mental health, particularly those derived from CBT.
- Implement programs within the context of day-to-day academic learning rather than in isolation.
- Balance universal and targeted approaches, while noting that although universal approaches are easier to implement, carry less stigma, and reach more children, they generally have lower effect sizes than more targeted approaches, and so a balance is required.
- Start early with the youngest children and continue with older ones. Once an effective intervention has run, regular booster sessions with older students appear to be helpful to overcome the recurrent problem of diminution of effects of intervention in the longer term, which in many cases is as little as six months.

- Support and train people in program delivery. While some programs use clinically trained staff, for interventions to be sustainable, and embedded in the life of the school, regular school staff, and in particular teachers, need to take over, and they need training and support to do this work.
- Embed initiatives within a multi-modal/whole-school approach which includes such features as changes to the curriculum including teaching skills and linking with academic learning, improving school ethos, teacher education, liaison with parents, parenting education, community involvement and coordinated work with outside agencies. (135)

With respect to Aboriginal and Torres Strait Islander programs Murrup-Stewart et al.'s systematic review of 33 social and emotional wellbeing programs across Australia found that participants appreciated holistic interventions that addressed multiple aspects of social, emotional, physical, spiritual, and cultural wellbeing. Participants particularly valued the use of yarning. They also appreciated programs that connected participants to other services and supports (e.g., parenting classes, financial aid, housing support, education systems, justice system advocates), integrated holistic services into delivery, and used outreach methods. Programs without these elements were considered inadequate. Cultural safety and appropriateness and the involvement of Aboriginal and Torres Strait Islander staff were also regarded as essential elements of a program. Relationships were critical to success, with participants identifying the complexities of Indigenous staffing, the need for respect and building trust with communities and participants, and the dangers of discrimination, misunderstanding and intimidation. (242)

With respect to online programs, there is evidence that some level of external support assists with program completion and better outcomes compared to purely self-directed approaches. (160)

Last, the U.S. National Academies of Sciences, Engineering, and Medicine report titled *Fostering Healthy Mental, Emotional, and Behavioral Development in Children and Youth: A National Agenda* states that there is now a good understanding of what is required for effective implementation and scaling of promotion and prevention strategies that benefit children and young people. While their report relates to child and adolescent programs, the enablers of effective implementation that they list are clearly applicable to other age groups. These include:

- active leadership within organisations responsible for delivering the intervention.
- a well-trained workforce delivering the interventions that is provided with ongoing professional development opportunities.
- active engagement of stakeholders (community members, service providers, funders, policy makers, purveyors, and researchers).
- the development of strong community coalitions that can muster sustained support for the intervention and provide community-level leadership.
- a system for monitoring the quality and outcomes of implementation efforts, barriers to successful implementation, trends in risk and protective factors and other influences on social and emotional development, and other relevant data.
- learning through evaluation, including which interventions work for whom, and sharing what is learned among networked programs.
- multiple methods of communication to publicise and share the intervention objectives with stakeholders and the community at large. (12)

14. Summary

This literature review aims to synthesise the evidence relating to the promotion of mental wellbeing and the primary prevention of mental health conditions across the lifespan. It seeks to answer the question, “What interventions have been shown to promote mental wellbeing or prevent mental health conditions among children, youth, adults, and older adults?”

The review found that while no wellbeing or prevention program works for everyone, every time, overall, it is clear that mental wellbeing can be enhanced, and a sizeable proportion of common mental health conditions could be prevented from occurring if we applied the most evidence-based initiatives at scale. This point is echoed by several other reviews. (12, 13, 206, 332, 333) Moreover, there is good evidence to show that many initiatives are cost-effective and would produce considerable cost-savings to governments.

In terms of ‘what works’, there is very strong evidence from numerous systematic reviews and meta-analyses that psychoeducational and psychological skills-building programs that draw on CBT, IPT, mindfulness and other clinical, positive and health psychology strategies are effective at promoting individual mental wellbeing and reducing the likelihood of emotional and behavioural disorders in children, and depression and anxiety conditions across the lifespan. These programs can be delivered one-to-one or in groups, within education settings and workplaces, as well as online.

There is also very good evidence that various parenting programs, including home nurse visiting and structured skills-building programs, are effective in enhancing parenting skills, improving parental wellbeing, and in reducing the risk of child maltreatment and child and adolescent internalising and externalising disorders. In addition, there is also very good evidence that anti-bullying programs in schools can prevent bullying, and this is likely to have flow-on benefits in reducing the risk of depression and anxiety disorders among children and adolescents, as well as later in life.

There is good evidence for the effectiveness of other wellbeing and prevention strategies as well including:

- Whole-of-school programs to promote mental wellbeing and prevent common emotional and behavioural disorders of childhood, and anxiety and depression.
- Workplace-based initiatives to prevent psychological injury.
- Place-based community mobilisation programs for the prevention of anti-social behaviour and alcohol and other drug use.
- Social support initiatives targeting loneliness and social isolation among older people.

There is some, but more mixed or lower quality evidence for:

- Creative arts approaches.
- Mind-body wellbeing therapies.
- Nature based programs.

Despite their significant influence on mental health and wellbeing, there is not enough strong or consistent evidence on what works to address key risk factors such as:

- Child maltreatment (with the exception of parenting programs)
- Intimate partner violence.
- Racism and discrimination.
- Homophobia, biphobia and transphobia (with the exception of some “safe-schools’ style programs).
- Socioeconomic disadvantage.

15. Policy implications

The findings from this review have several policy implications. First, it is clear that the promotion of mental wellbeing and the prevention of mental health conditions need to be seen as whole-of-life endeavours. The accumulation of risk for low mental wellbeing and mental health conditions starts from conception, in the form of genetic predisposition and other biological vulnerabilities, and continues over the life-course. Risk can occur at any age. It is also cumulative. Timing is therefore important, and promotion and prevention efforts need to start from conception, be maximised during ages 0 to 25 years – the period when our brain and mind is evolving most rapidly and when mental health conditions are most likely to occur – and continue over the lifespan. Moreover, many wellbeing and prevention programs have been specifically designed for certain age groups or to avert certain disorders which manifest at a particular time over the life course. A developmental approach is therefore essential.

Second, the literature suggests that our mental health and wellbeing is influenced by a wide array of biological, psychological and socioeconomic factors. Some appear to be more influential than others, but each plays a role. Individual (intrinsic) factors, our own actions, and our home, educational, work, community and broader social environments all have an influence over our mental health and wellbeing and a simultaneous focus on individual-level and environmental factors is crucial. An ecological systems approach is also essential.

Third, the literature review highlights the critical importance of psychoeducational and psychological interventions for wellbeing and prevention. In essence, there are certain psychosocial ‘life-skills’ or competencies that people can be taught that will then help them to them promote and/or protect their own mental wellbeing, negotiate stress and adversity, and reduce their risk of experiencing mental health conditions. There are also skills that parents can be taught to promote secure attachment, and healthy child and adolescent development, and skills that organisational and community leaders can be taught to create mentally healthy schools, workplaces, and local communities. It is therefore clear that a focus on skills-building is critical.

Fourth, the literature review highlights that while many skills-building programs achieve positive results, these benefits gradually wane over time. Some form of ‘booster’ is likely to be required until these skills are fully consolidated into a person’s day-to-day life and behaviours. This may require a ‘scheduling’ approach. For example, home nurse visiting parenting programs offered in the perinatal/early childhood period could be followed by structured parenting programs during primary school targeted to externalising disorders and anxiety, with booster sessions in secondary school for depression prevention. Likewise, children could be exposed to a sequence of different SEL, resilience or disorder specific skills-building programs over the course of their primary and secondary schooling, with booster sessions provided post-secondary school through training and further education settings. Team leaders and managers in workplaces may benefit from ongoing professional development in people skills and organisational change management.

Fifth, a balance between universal, selective and indicated prevention initiatives is needed. Universal prevention programs tend to produce smaller effect sizes; however, these benefits are spread over a larger population, do not require any screening or stratification process, and are generally regarded as less stigmatising. Selective prevention programs may produce somewhat larger effect sizes, although it can be difficult to determine what factors to include to inform risk stratification as not all people with a particular risk (e.g. family history) are equally vulnerable, and some people without an obvious risk factor can experience a mental health condition. Indicated prevention approaches overlap significantly with early intervention, and could arguably be considered a mental healthcare approach, rather than a population mental health.

On this point, there is some evidence to suggest that reorienting the clinical mental healthcare system towards indicated prevention may have benefits in terms of reducing incidence.

Sixth, not all programs work equally well, and it is important to select those with the strongest and most consistent evidence of impact based on rigorous research and evaluation. However, while it is important to prioritise programs based on the current evidence, it is also critical to invest in building the evidence base related to wellbeing and prevention programs by implementing and evaluating programs that show promise based on preliminary trials, but need to be developed and assessed further.

Seventh, the quality of program implementation is critical. What works in experimental conditions does not always work in the real world, unless the same attention to program fidelity and implementation quality occurs. At present, this is difficult, as many interventions – particularly those in education settings and workplaces – rely on personnel that may not have any specific training in mental health. Two solutions exist. We must either ensure that non-mental health professionals receive appropriate training, supervision and support to implement programs effectively and/or we need to develop a skilled, mental health promotion workforce to take on this responsibility. While some clinical professionals could potentially become the basis of this workforce, it may be better to skill-up a dedicated mental health promotion workforce, much as we have done in health promotion, so as not to further aggravate workforce shortages that exist for clinical services.

Eight, no single intervention on its own can promote wellbeing and prevent every condition. Likewise, no single organisation nor any single sector can implement all the strategies that are required. As in the field of physical health promotion, success in the mental health promotion field requires a sustained, multi-modal, cross-sectoral approach that includes the evidence-based programs described above, as well as healthy public policies to reduce inequality and improve people's living conditions and social position. This requires leadership, coordination and a whole-of-government approach supported by strong governance structures to ensure successful planning, commissioning, oversight and the coordination of activities on the ground. There is little doubt that a dedicated 'quarantined' budget for wellbeing and prevention initiatives would help to improve practice and achieve better population level outcomes.

Last, it is clear that more research and evaluation is needed to advance the fields of wellbeing and prevention. While there has been a steady increase in research into wellbeing and prevention over the last couple of decades, there is still so much to learn. Research is the engine room of innovation and improvement, and investment in research to find new and better ways to promote mental wellbeing and prevent mental health conditions needs to become a policy priority. Research into risk factor reduction, particular the prevention of child maltreatment is particularly important. Child maltreatment is the single biggest risk factor for low mental wellbeing and mental conditions and suicidality across the lifespan, yet so little is known how to prevent it from occurring in the first place.

This literature review shows that mental wellbeing can be enhanced, and a sizeable proportion of common mental health conditions can be prevented from occurring. The priority now is to implement what we currently know works, while we also invest more heavily in research to promote mental wellbeing and prevent mental health conditions from occurring.

Glossary

Acceptance and Commitment Therapy

A unique and creative model for both therapy and coaching, based on the innovative use of mindfulness and values. The aim of Acceptance and Commitment Therapy is to maximise human potential for a rich, full and meaningful life; to cultivate health, vitality and well-being through mindful values-based living.

Cognitive Behavioural Therapy

Programs that teach people how to use the natural relationship between thoughts and feelings to manage negative thoughts and create positive actions and moods.

Early intervention

Early intervention is a form of mental healthcare offered to individuals who have a diagnosable disorder where the intervention occurs at an early stage and/or before the disorder becomes severe. While the term mainly refers to early treatment of a first illness episode, it can also be used to describe early treatment of a recurrence or relapse, or the prompt management of a mental health crisis.

Effect size

In experimental studies, the effect size gives an indication of the magnitude of any positive impact of an intervention. The larger the effect size, the larger the difference between the effect of the intervention in the intervention group compared to the control group. Effect sizes are usually classified into small, medium, and large. A small effect size still indicates there is a statistically significant difference between the intervention group and the control group, although the impact of the intervention is not as great as one with a medium or large effect size.

Interpersonal therapy

Programs help people to communicate better with others and address any interpersonal issues that can contribute to depression or anxiety. E.g. an Interpersonal Therapy Program may aim to help a patient communicate firmer boundaries when dealing with a particular person they are experiencing challenges with.

LGBTQI+

Refers to people's sexuality and gender identity, including people who are lesbian, gay, bisexual, transsexual, or transgender, intersex, queer, or questioning. However, it is important to note that this literature review uses the term that was actually used in the systematic review or study being cited (e.g. LGB, LGBTQ).

Mental health conditions

Mental health conditions are the diagnosable conditions described in manuals like the World Health Organization International Classification of Disease or the American Psychiatric Association Diagnostic and Statistical Manual that have negative impacts on a person's thoughts, feelings, perceptions, and behaviours and that cause distress, interfere with relationships and impair day-to-day functioning.

Mental healthcare

Mental healthcare focuses on the provision of personal supports and services for individuals living with a mental health condition to support their recovery, and their carers. It includes assessment and diagnostic services, therapeutic services (e.g. case management, psychological therapy, medical therapy), family and carer support, psychosocial recovery services (residential and community based), financial support, employment support, housing support and other forms of assistance that support people through their recovery. Mental healthcare services are typically provided through one-to-one approaches, although family and group work are also used

Mental wellbeing

The term mental wellbeing is often used in place of the term mental health which, over time, has been conflated with mental health conditions. Mental wellbeing (or 'good' mental health) is a positive state that can be defined as feeling good emotionally, and functioning well psychologically and socially. It includes two main dimensions – hedonic wellbeing and eudaimonic wellbeing. Hedonic wellbeing is the balance of positive and negative emotions – whether we feel generally happy or sad, relaxed or worried, calm or angry, satisfied or dissatisfied – as well as how well we can recognise and regulate our emotions. Eudaimonic wellbeing relates to our psychological functioning, our interpersonal relationships, our contribution to those around us and our sense of purpose or meaning in life.

Mindfulness

The intentional and non-judgemental awareness of experience in the present moment. It is characterised by an openness to and acceptance of all internal and external stimuli, and an ability to switch awareness between stimuli.

Primary prevention

Primary prevention aims to prevent the occurrence or onset of a mental health condition by reducing people's exposure to risk factors and/or increasing their exposure to protective factors for these conditions. Primary prevention can be sub-classified according to the target group for the intervention.

- Universal prevention initiatives target the whole population regardless of risk.
- Selective prevention initiatives target subgroups that are at higher-than-average risk of developing a particular mental health condition.
- Indicated prevention targets individuals with detectable but subthreshold symptoms of a mental health condition.

This literature review uses the term prevention interchangeably with primary prevention since the focus is on what can be done to avert the onset of mental health conditions, rather than to prevent the progression of a mental health condition *after* it has occurred.

Population mental health

Population mental health is an umbrella term for nonclinical interventions and activities that are intended to improve mental health outcomes, and the determinants of these outcomes, among a group of individuals that are defined by shared geography, sociodemographic characteristics, or source of clinical services utilisation. This term is used interchangeably with the term public mental health. It is also sometimes used interchangeably with the term mental health promotion; however, in this case it is important to distinguish between mental health promotion as an umbrella term for population-level activities, versus its use as a synonym for 'promoting mental wellbeing', which is just one specific stream of population mental health activity.

Positive psychology

Positive psychology interventions have been defined as "treatment methods or intentional activities that aim to cultivate positive feelings, behaviours, or cognitions". A wide range of positive psychology interventions have been developed including focusing on signature strengths, practicing gratitude, and self-compassion.

Promoting mental wellbeing

"Mental health promotion" or "promotion" activities aim to enhance individuals' ability to achieve developmentally appropriate tasks (competence), and a positive sense of self-esteem, mastery, wellbeing and social inclusion, and strengthen their ability to cope with adversity.

Protective factors

Protective factors are biological, psychological, and social variables that enhance mental wellbeing and reduce a person's likelihood of experiencing a mental health condition.

Psychoeducation

Psychoeducation initiatives aim to enhance people's overall mental health literacy and improve their knowledge in relation to how to promote and protect their mental wellbeing, the symptoms of mental health conditions and their treatments, decreasing stigma related to mental health conditions, and enhancing help-seeking efficacy.

Risk factors

Risk factors are biological, psychological, and social variables that may impact on mental wellbeing and increase a person's likelihood of experiencing a condition. Most conditions are multi-factorial and result from a combination of multiple risk factors rather than a single risk factor operating in isolation.

Secondary and tertiary prevention

While these terms are often used in the health promotion field, their use is less common in the mental health field because they conflate 'prevention' and 'treatment'. Secondary prevention refers to actions to detect the early stages of a disorder to avert its progression. Tertiary prevention refers to actions taken to prevent or reduce the impacts of an established disorder on an individual's functioning, quality of life and longevity.

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