# Turning the tide on depression

## A vision that starts with Australia's youth

Black Dog Institute

Celebrating 20 YEARS

October 2022

Science.
Compassion.
Action.


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Black Dog Institute acknowledges the Traditional Custodians of the lands we are on, the Gadigal people of the Eora Nation, and pays respect to their Elders past, present and emerging. Black Dog Institute recognises and respects their cultural heritage, beliefs and relationship to their ancestral lands, which continue to be important to First Nations peoples living today.

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# Executive summary

This report presents research to investigate current concerns about rising rates of depression in Australia's youth. We ask if rates of depression are in fact rising in children, adolescents and young adults. In doing so, we consider how childhood, adolescence, and young adulthood have changed over the past 2 decades, and whether social factors may be increasing young people's risks for depression. We also examine the unique experiences of depression in young First Nations people and how use of culturally invalid data on depression may perpetuate, rather than reduce, health disparities among First Nations populations.

In chapters 1, 2 and 3, we present **new data from our own research programs,** and the latest national surveys. We find that the prevalence of depression has risen in adolescents and young adults over the past decade, particularly among young girls and women. Although an increase was not evident for children under 12, increases in symptoms of depression following the COVID-19 pandemic suggest that children may be at higher risk in the future.

To understand what may be driving **rising rates of depression in adolescents,** we investigate the relationships between depression and digital media use, social interaction and sleep. We find that although a greater amount of screen time is linked with depression in teens, none of the suspected mechanisms – including cyberbullying, negative self-evaluation, social relationship factors, or disturbed sleep – explain this link. We raise the possibility that the association may be reversed; rather than screen time causing depression, depressed teens may turn to digital media as an accessible, although not always effective, way of coping.

To understand **why depression may be increasing in young adults,** we highlight the role that loneliness, financial strain and social inequality play in depression for young people making the transition into adulthood. We observe a clear need to increase access to mental health services for young people within the LGBTQIA+ community and those from culturally diverse backgrounds.

Chapter 4 considers the **unique perspectives of First Nations peoples,** and the role that specific social determinants play in young First Nations individuals' social and emotional wellbeing. We illustrate why culturally validated tools for assessing social and emotional wellbeing are needed to reduce the gap in health outcomes for this community.

Finally, we issue a **call to action** for government to initiate and expand coordinated efforts across Australia to build more holistic approaches to preventing and addressing the concerning and rising rates of depression in young Australians.

**Professor Sam Harvey**
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# Recommendations

We provide 10 recommendations, which, if implemented in a coordinated manner and funded at scale, could make significant progress toward reducing rising rates of depression in youth. These recommendations focus on expanding data on depression, enhancing prevention and early intervention programs, and improving treatment and service delivery.

## Expand data on depression determinants and prevalence in young Australians

1. Commit to regular nationally representative surveys of mental health and wellbeing, including for under 16-year-olds
2. Fund research to investigate the disproportionate increase in depression and self-harm among girls and young women, including First Nations girls and women
3. Cease use of inappropriate measures of social and emotional wellbeing among First Nations communities, and invest in development of more culturally responsive measures

## Enhance efforts in prevention and early intervention

4. Develop national guidelines for evidence-based mental health and wellbeing programs in schools
5. Include student wellbeing as an outcome measure in the next Intergovernmental Schools Agreement
6. Increase economic support payments for at risk young people
7. Facilitate community-led initiatives and infrastructure to strengthen young people's social connections and involvement with their community

## Improve youth mental health treatment and service delivery

8. Ensure that all new and existing youth mental health services are rigorously evaluated, with ongoing funding contingent on efficacy
9. Expand access to evidence-based new models of care such as digital, blended and collaborative care to meet demand, especially in tertiary education settings
10. Invest in the development, delivery and evaluation of tailored mental health services for gender and sexuality diverse young people

# Introduction

The annual Black Dog Institute report is now a key part of Australia's Mental Health Month. Our aim with each new report is to stimulate discussion about a key topic by bringing together new data, the latest science, and the shared voices of researchers, clinicians, other stakeholders and those with a lived experience of mental ill health. In 2020 the focus of our report was suicide prevention, and in 2021 we focused on how changes to the ways we work are beginning to influence the mental health of Australians.

This year marks the 20th anniversary of the establishment of the Black Dog Institute. This meant we had a choice with the focus of this year's report – should we take the opportunity to look back and celebrate how much we have achieved over the last two decades, or use this moment to reflect on the mental health challenges Australians continue to face? Given the Black Dog Institute's mission to create a mentally healthier world through science, compassion and action, the decision about where to focus our attention was easy. This report will not focus on the past and our prior achievements, for that is not what is needed in Australia at this moment in our history. As we emerge from a global pandemic the need to improve the mental health of Australians has never been greater.

In 2004, the World Health Organization (WHO) predicted that by 2030 depression would be the single largest cause of disease burden in the world (WHO, 2008). As we emerge from a period that has included fires, floods, COVID-19 and many other disruptions to our lives, it appears that we may be on track to meet this undesirable outcome even sooner (Santomauro et al., 2021). New data is emerging that shows depression is already the leading cause of disability both in Australia and globally (Friedrich, 2017; Harvey et al., 2017).

Within Australia, we lose more than 3,000 people each year to suicide, an average of 9 deaths every day. Four out of every 10 deaths among Australians aged 18 to 24 are now due to suicide, with the rate being 2–3 times higher in young First Nations people. The aim of this year's report is to bring together new data to answer two key questions: is depression becoming more common among young Australians, and if so, why?

While the focus of this report is not our prior achievements, it is still important to reflect briefly on where we have come from and the unique perspective the Black Dog Institute can bring to these types of questions.

Born out of the Mood Disorders Unit at Prince Henry Hospital in 2002, the Institute was established to help transform the assessment and clinical treatment of depression and other mood disorders. Our mission was not only to find what works for depression, but also to put research evidence directly in the hands of health professionals, policy makers and the community. That way, the Institute's pioneering clinical researchers would be able to extend their impact far beyond the number of individual patients they treated in the clinic.

This focus on research translation, of combining science and action, has continued and remains a great strength of the Institute, although the key questions we have focused on have evolved over time. In the early years, a priority was advancing the diagnostic accuracy of mood disorder subtypes to improve precision in management and treatment. This has evolved into the Institute pioneering novel treatments for patients with depression. Trials to optimise transcranial magnetic stimulation (TMS) began in the early 2000s, culminating in the recognition of repetitive TMS as an effective new treatment that became eligible for the Medicare rebate in 2021. Our work to improve treatment options for those experiencing depression continues, with work on new pharmaceutical treatments, including ketamine and psychedelics, as well as our internationally recognised work on digital treatment programs.

While the Black Dog Institute's origins may have focused on improving the clinical treatment of mood disorders, over time its growth allowed for an expansion of our research and implementation programs beyond depression to include anxiety disorders, post-traumatic stress disorder, self-harm and suicide prevention. We have also been able to expand our focus to include Australians of all ages, particularly children and adolescents.

A key part of this expanded focus has been a drive to understand what we need to be doing as a society to prevent depression from occurring in the first place, not just how to better treat those with established symptoms. By understanding what factors may be contributing to depression or other mental health problems, we have been able to develop some of the world's best mental health prevention programs. In 2020 we published the first ever controlled trial demonstrating that a smartphone app was able to prevent cases of depression among workers (Deady et al., 2020). Currently, Black Dog Institute is running the Future Proofing Study – the largest Australian school-based mental health study so far – to test whether programs delivered in schools can prevent youth depression (Werner-Seidler et al., 2022).

This journey and these experiences have led us to ask the key questions of this report: Are young Australians experiencing higher rates of depression than in the past, and if so, why? The 'why' question is crucial. As outlined above, what we have learnt over the last two decades is that once you understand why something is occurring, you can begin to develop solutions. To date many of our solutions have focused on individuals and the types of skills we can teach them in schools, workplaces and healthcare settings to reduce the risk of future mental health problems. This report seeks to outline a more holistic approach for future prevention work, one that also considers how broader social and economic factors influence young people's risk for depression and capacity for resillience.

The world we live in has changed immeasurably over the last 20 years. Some of these changes are improvements, but many are challenging. Throughout this report we consider how changes in our society may have affected the mental health of Australian children, adolescents, young adults, and First Nations youth. We bring this new evidence together to consider what actions are needed to turn the tide on rising youth depression and bring about a more mentally healthy world.

> Depression is a common mental health condition characterised by persistent feelings of sad mood, loss of interest or enjoyment in pleasurable activities, as well as other symptoms like sleep and appetite disturbances, feelings of worthlessness, trouble concentrating or making decisions, and often, thoughts of suicide or self-harm. Depression can look very different from person to person, and it can have many different causes.

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# 1 Depression in children

Depression in children is rare. However, there have been concerns that we may be seeing an increase in depression emerging at an early age. In this section, we consider how childhood and risk factors for depression in children have changed over the past two decades. Next, we examine findings from a new meta-analysis that assesses whether the prevalence of depression in children has increased over time.

# Childhood as a critical window of opportunity for depression prevention

The mental health field has struggled to recover from the myth that children do not experience depression. It wasn't until the 1980s that depression was recognised as a disorder that could occur in childhood (American Psychiatric Association, 1980) and only recently have we begun to understand that it may occur as early as 3 years of age (Luby, 2010). Accordingly, depression in children often goes unrecognised. Given that childhood represents a 'window of opportunity' where the critical foundations of emotion regulation are built, delayed recognition of depression impedes opportunities to prevent dysfunctional emotional and behavioural patterns from crystallising into serious disorders.

A lack of early intervention can have lifelong consequences. Compared to depression that first emerges in adolescence or adulthood, depression that emerges in childhood is associated with risk for poorer health outcomes, including increased emergency department visits and hospitalisations (Klein et al., 1999; Korczak & Goldstein, 2009), greater suicidality (Zisook et al., 2007), and increased risk for other psychiatric conditions (Klein et al., 1999). Although evidence supports a range of interventions for childhood depression (Clark et al., 2012), many healthcare professionals report a lack of training in how to manage depression in children (Olson et al., 2001). As a result, parents seeking help for their child with depression are less likely to receive appropriate treatment than are parents seeking help for their adolescent (Sawyer et al., 2019).

# How has childhood changed?

Children today are expected to live longer than ever before. Compared to previous decades, children suffer fewer lethal injuries from accidents, fewer children smoke or drink alcohol, and childhood mortality rates have decreased; especially for those aged 1-4 (Australian Institute of Health and Welfare [AIHW], 2022a). As couples are choosing to have fewer children (AIHW, 2022b), children often have a greater share of their parents' time and resources (Lawson & Mace, 2009; Sandberg & Hofferth, 2001). In parallel, rising parental concerns over child safety (Commonwealth of Australia, 2010) mean that children have greater restrictions placed on their levels of independence. Children now spend more time at home with their parents, and more time on sedentary screen-based activities, than in previous decades (Mullan, 2019). To combat rising rates of childhood obesity, public health campaigns promote children's engagement in sport and other physical pursuits (Government of New South Wales, 2018; National Institute for Health and Care Excellence, 2009). This funnels children into organised, supervised activities, which contrasts with the unsupervised, independent play that formerly characterised childhood.

Although children's overall health and wellbeing has improved on many fronts, below we consider whether some of the changes that have occurred may be coinciding with changes in key risk factors for childhood depression.

## Sleep, diet, and exercise

Depression is associated with a range of lifestyle factors, including poor diet, a sedentary lifestyle and disrupted sleep. This relationship is bidirectional: diet, exercise and sleep all influence risk for depression, and depression, in turn, makes it more difficult to maintain a healthy diet, have a consistent sleep schedule, and engage in physical activity (Fang et al., 2019; Pinto Pereira et al., 2014; Polivy & Herman, 2005; Quach et al., 2018).

Evidence suggests that there have been significant changes to the lifestyles of children in terms of their sleep, body weight/size, and physical activity in recent years. The most recent population study of Australian children's health found that 1 in 7 children experience sleep problems almost every day (Redmond et al., 2016). Furthermore, only around 1 in 4 children get the recommended 60 minutes of physical activity a day, with children over the age of 9 likely to be more sedentary (AIHW, 2022a).

## Changes in family stress and parenting

Family stress and parenting behaviours have an impact on a child's mental health. Factors such as parental abuse and neglect are among the strongest predictors of depression in children (Hankin, 2015), and have increased over time (AIHW, 2022a). Exposure to domestic violence, which remains high in Australia and was exacerbated by the COVID-19 pandemic (Piquero et al., 2021), also increases a child's risk for depression (Evans et al., 2008). In addition to these well-studied risk factors, there is some evidence for the potential adverse mental health impacts of overly involved and negative parenting styles. An overly involved parenting style is one that is controlling and overprotective. A negative parenting style is one that lacks warmth or is overly critical of a child's performance. Children of parents who exhibit these parenting styles may fail to develop important coping skills, may lack self-assurance, and may be more prone to anxiety and depression (McLeod et al., 2007; Segrin et al., 2013; Hudson et al., 2019).

Some research suggests that parenting behaviours have changed over the past 2 decades. Parents today spend more time with their children than they did in previous generations, and spend more time monitoring, supervising, and scheduling their children's activities (Dotti Sani & Treas, 2016). These changes may lend themselves to a more overly involved parenting style. While parental involvement may help to foster child safety, overprotection can be a risk factor for psychosocial problems. In addition, although parental involvement can have positive effects on children's achievements and performance, parental academic pressure has the opposite effect (Boonk et al., 2018).

## Screen time

Children are more connected with technology than ever before – using technology to access social media, entertainment, and education. Many health authorities recommend that children's screen time should not exceed 2 hours per day (American Academy of Pediatrics, 2013), but this limit is often exceeded. For example, in Australia, the average daily screen time is over 2 hours for those aged 4-5, and over 3–4 hours for those aged 12-13 (Yu & Baxter, 2015). Greater screen time may impact physical activity levels for children (ten Velde et al., 2021) as well as the amount and quality of children's sleep (Sharma et al., 2021). However, more research is needed to better understand how screens are being used to determine if there is any potential link between screen time and children's risk for depression.

# How many children experience depression?

## What research on childhood depression prevalence tells us

There has been recent discussion about whether depression in children and young people is on the rise. This is not a new question. In the early 2000s there were similar concerns about rising rates of depression in children and teens due to an increase in prescriptions of antidepressant medications and data showing an increase in teen suicides (Costello et al., 2006). In response to these concerns, a meta-analysis (i.e., a study of studies) examined rates of depression diagnoses in studies comprising nearly 60,000 children and teens born between 1965 and 1996. The results indicated that depression prevalence among children was not in fact increasing (Costello et al., 2006).

Much has changed since the early 2000s, yet data on the recent prevalence of depression in Australian children is limited. To date we have data from just 2 time points (1998 and 2013-14), obtained from the Australian Child and Adolescent Survey of Mental Health and Wellbeing. The data reveals a slight increase in depression prevalence in girls but not in boys (Figure 1).

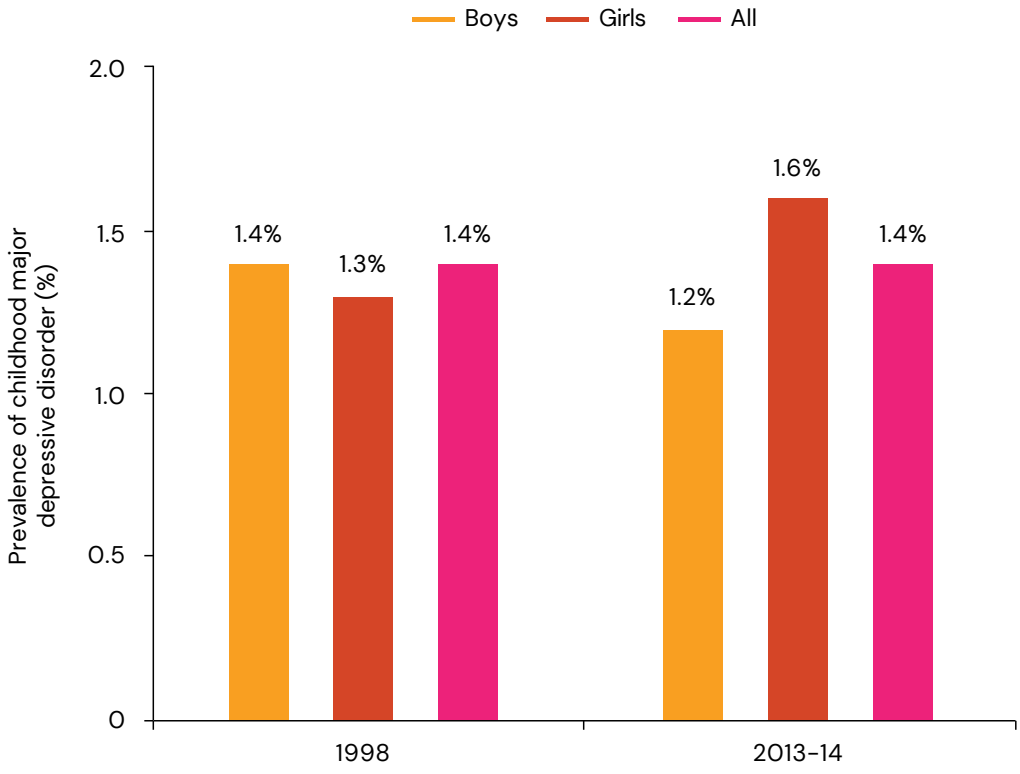


***Figure 1.*** *Prevalence of major depressive disorder in the 2 most recent population-based cohorts of Australian children aged 6-11 years (Lawrence et al., 2015).*

## Has the prevalence of childhood depression changed over the past 2 decades?

As we currently lack recent data on the prevalence of depression in children, the Black Dog Institute conducted a rapid review and meta-analysis to examine whether rates of childhood depression have changed over the last 2 decades. This review included all studies that provided prevalence estimates for diagnosed depression in children under 13 years old using data that was representative of the general population. As this was an update to the meta-analysis by Costello and others (2006), all studies published since 2004 (the upper time frame for studies included in this prior analysis) were included. In total, 33 studies were identified and included, with the most recent eligible study being published in 2019.

The estimated prevalence of childhood depressive disorders overall was found to be 1.4%. In terms of individual depressive disorder diagnoses, we found childhood prevalence estimates of 0.86% for major depressive disorder; 0.35% for dysthymia; and 2.47% for disruptive mood dysregulation disorder. In terms of gender differences, the estimated prevalence of depressive disorders overall was 0.99% for girls and 1.13% for boys.

A change in childhood depression prevalence over time would be indicated by higher rates of depression in children in recent years compared to those of children of the same age in previous years (known as a 'birth cohort effect'). Our results showed no evidence of birth cohort effects, indicating that the prevalence of childhood depression has likely not changed significantly from 2004 to 2019. However, we found that a child's age was a significant predictor of depressive disorder prevalence; for every extra year older a child was, their prevalence of depression increased by 0.27%.

> **The data indicates that, on average, older children have higher depressive disorder prevalence than younger children, but that the relative pattern of depressive disorder prevalence within children has not changed over time.**

## Depressive symptoms in children since the COVID-19 pandemic

It is important to note that none of the studies included in this latest meta-analysis included data collected beyond 2019. This is likely because diagnoses of depression in children usually require an in-person diagnostic interview from a clinician, and this would have been more challenging in the context of pandemic-related restrictions. Beyond 2019, all relevant studies focused instead on assessing depressive symptom severity using parent or child self-report questionnaires, which can be administered more easily online or over the phone.

Depressive symptoms that are self-reported are not directly comparable to depression that is diagnosed by a clinician. Evaluating the severity of depressive symptoms, however, can provide some insight into the proportion of children who are experiencing depressive symptoms that are elevated beyond the normal ranges observed for that age group.

Accordingly, as a precursory consideration of what the current childhood depression prevalence rates since the COVID-19 pandemic might look like, we present here results of a recent study conducted by the Black Dog Institute that evaluated depressive symptom severity in a sample of Australian children (Sicouri et al., 2022).

Data on depressive symptom severity was obtained from a sample of 602 Australian children from May to November of 2020 using a validated depressive symptom scale. We used a specific cut-off based on normative pre-pandemic symptom data in children to identify children in our sample who had levels of depressive symptoms considered to be clinically significant (i.e., above a normal range). Using this self-report scale, we would expect 2% of children to score in the clinically significant range for depressive symptoms, which is slightly above, although broadly consistent with, the population prevalence estimates observed for diagnosed depression in the Australian Child and Adolescent Survey of Mental Health and Wellbeing. Our data showed that during the pandemic, 23.4% of children scored in this range (Figure 2). This is substantially higher than expected and indicates that rates of depressive symptoms in Australian children during the COVID–19 pandemic were elevated well beyond normal levels.

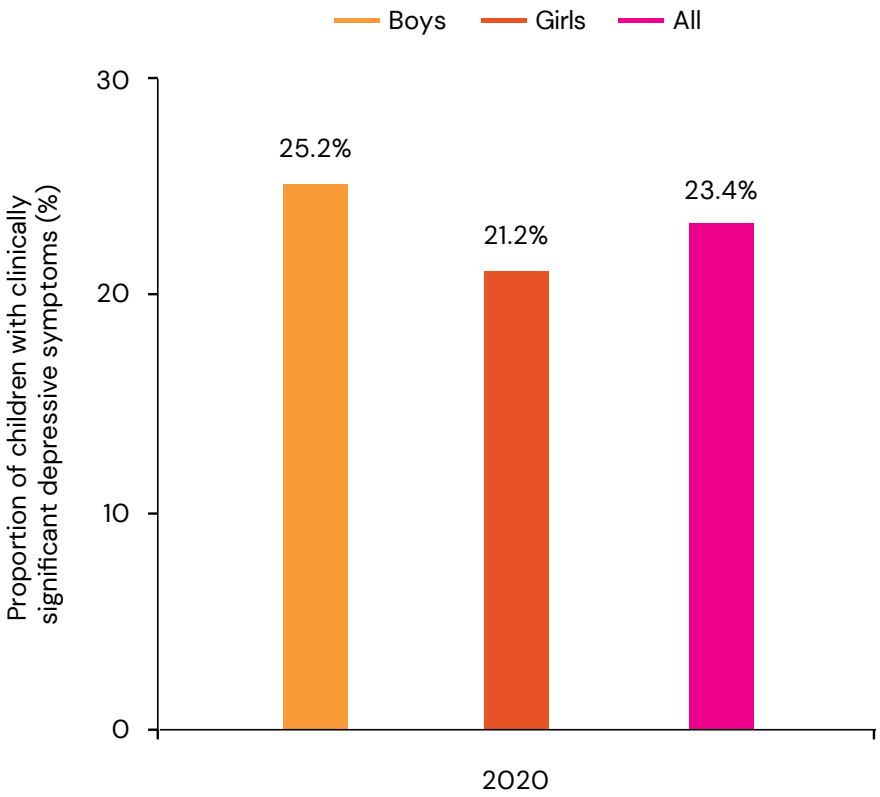


***Figure 2.*** *Proportion of Australian children aged 4–12 years of age experiencing clinically significant levels of depressive symptoms during the COVID-19 pandemic (n = 602).*

### Changes in the severe consequences of depression in children

While not an outcome that is unique to depression, suicide is nevertheless a potentially severe outcome of depression (Hawton et al., 2013), so it also makes sense to consider whether suicide rates in children have changed over time. Suicide amongst children is rare; Australian suicide rates for those aged 14 or under have remained below 0.0008% between 2010 and 2020 and have not changed significantly over time (AIHW, 2022c). Increasing trends are instead more relevant for older adolescents and young adults (AIHW, 2022c).

Similarly, self-harm can also be a negative outcome of depression, and is particularly relevant when considering antidepressant treatments (Fortune & Hawton, 2005). In Australia, there was a marked jump in cases of self-harm for children aged 14 or under after 2012, which was particularly prominent for girls (AIHW, 2022a). Furthermore, there is some evidence that rates of self-harm amongst children have increased during the COVID-19 pandemic (Ougrin et al., 2022).

## What factors account for the increase in depressive symptoms in children since the COVID-19 pandemic?

The data from our review suggests that rates of diagnosed depression in children, at least prior to the COVID-19 pandemic, were not increasing. However, since the COVID-19 pandemic, there has been an increase in clinically significant depressive symptoms. A complex interaction of biological (e.g., genetic factors, pubertal onset) and environmental factors (e.g., lifestyle factors, family stress) contribute to the onset and maintenance of childhood depression. The reason one child experiences depression may differ vastly from the reason another child experiences depression. In the next part of this section, we consider whether specific factors have changed during the COVID-19 pandemic that may account for the increase in depressive symptoms.

### Increased parental stress

Recent data from the United Kingdom showed that parent stress was higher during the COVID-19 restrictions. These effects were particularly pronounced for parents of children aged 4 to 11 years old, compared to those of secondary or pre-school aged children, and were also stronger for parents who were living in a single-parent household (Skripkauskaite et al., 2022). This may reflect the demands of caretaking and home schooling. Research has also shown that families who applied for government financial assistance during COVID-19 reported higher levels of child depressive symptoms, indicating that increased financial hardship during COVID-19 may account for an uptick in child depressive symptoms (Sicouri et al., 2022).

## Changes in children's diet, sleep and exercise

The disruption in children's routines as a result of school closures may have exacerbated unhealthy lifestyle factors among children during the pandemic. Around one-third of children aged 8 to 11 reported worse sleep quality during the COVID-19 restrictions than before, and these changes in perceived sleep quality were associated with poorer wellbeing (Illingworth et al., 2022). Physical activity and fruit and vegetable consumption in children aged 3 to 16 were also lower during COVID-19 restrictions than before (López-Bueno et al., 2020).

## Technology use

Children's use of technology has increased since the COVID-19 pandemic (Stagi et al., 2020), with estimates of daily screen use increasing by 50 minutes on average for children aged 3 to 7 years (Ribner et al., 2021). While technology use can be an important avenue for children to connect socially with their peers, there are concerns that increased technology use may further displace healthy behaviours such as physical activity and sleep. In addition, significant amounts of unmonitored screen time in children may increase their risk of negative online experiences such as cyberbullying or exposure to harmful content.

> The data from our meta-analysis suggests that rates of diagnosed depression in children, at least before the COVID-19 pandemic, were not increasing. However, depressive symptom data collected in Australia since the pandemic suggests that we have seen a significant increase in the number of children experiencing clinically significant levels of depressive symptoms. A key question is whether this increase in symptoms reflects a commensurate increase in the prevalence of depression diagnoses in children. We need urgent research to understand the current rates of depressive disorders in Australian children so that we can better address children's mental health needs in the coming years.

# Perspective from Child and Family East (CAFE)


CAFE is a multi-disciplinary mental health team in South East Sydney that provides specialised mental health services for children aged 0 to 12 and their families. Depression is a common issue we encounter, along with anxiety, challenging behaviours and trauma.

From early infancy, children naturally seek out a responsive caregiver for safety, reassurance, and to ensure that their needs are being met. When caregivers can be responsive to the child's needs, the child is likely to form what is known as a 'secure attachment'. Securely attached children are more likely to experience safety and trust in loving relationships, to have good emotion regulation skills, and to have feelings of confidence and self-worth. A secure attachment is therefore one of the most important resources children have when it comes to managing their mental health.

At CAFE, we often see first-hand the degree to which social and economic factors can impede the development of a secure attachment between a child and their caregiver. Factors such as unemployment, financial strain, housing instability, and food insecurity can mean that parents may lack the resources necessary to meet their child's basic needs; a lack of maternal care and social isolation can leave parents with insufficient physical and social support to manage their own health and wellbeing; domestic and family violence represents fundamental attack on the parent-child bond and can make it impossible for parents to create a safe and secure environment for their child.

Compounding this, many parents who experience these stressors have themselves come from generations of struggle and inequality. Many did not experience safe, supportive care from a caregiver when they were a child, and so lack a blueprint for what this should look like as they move through parenthood themselves. From this standpoint, it is abundantly clear how social and economic circumstances perpetuate the intergenerational transmission of depression from parent to child. Despite their best efforts, parents who experience social and economic adversity are not afforded the support, time, or resources required to foster the development of a secure attachment in their child.

At CAFE, a key component of our approach to treating childhood depression is to help build this positive bond between a child and their caregiver. The effectiveness of our interventions would be substantially improved with the introduction of policies that could better support families in accessing social services that help them provide a safe, consistent and predictable home environment. These include domestic violence services, trauma-informed and violence-informed child protection services, in-home NGO services, and responsive adult mental health services. This must go hand-in-hand with economic policies that ensure that families experiencing unemployment can afford housing, food and healthcare.

By better supporting parents, parents can better support their children.

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# 2 Depression in adolescents

It has become increasingly clear that rates of depression among adolescents are rising. In this section, we examine how adolescents' lives have changed over the past 2 decades. Next, we use new data from Australia's largest study on adolescent mental health, the Future Proofing Study, to better understand what aspects of adolescents' modern lives might be driving rising rates of depression.

## Adolescence as a time of growing social and emotional independence

Adolescence, the period between the ages of 10 and 19 (World Health Organization), is a time of significant physical, psychological and social development. It is also a time marked by a sharp rise in the onset of depression. When depression occurs during the teenage years, it can have a host of adverse consequences that derail a young person's academic, social and emotional development. For example, adolescents with depression miss up to 20 days of school each year (Lawrence et al., 2019), and are more likely to have poor quality friendships compared to those without depression (Field et al., 2001; Schwartz-Mette et al., 2020).

# How has adolescence changed?

Adolescence has changed in many ways in the past 2 decades. How are these changes influencing adolescents' risk and resilience against depression? Data from around the world suggests that adolescents are taking longer to reach adult milestones. For example, fewer Australian adolescents are obtaining their driver's licence these days relative to previous decades (Household, Income and Labour Dynamics in Australia). This kind of change has occurred alongside similar declines in the number of adolescents working in paid roles, going out without their parents, having romantic relationships, and drinking alcohol (Twenge & Park, 2017).

Alongside a slower progression through adult milestones, there has been a concurrent rise in adolescents' exposure to adult (or at least developmentally inappropriate) content through digital media, particularly with the ongoing growth of social media platforms (Uhls et al., 2017). Almost two-thirds of adolescents report exposure to online content that depicts suicide, self-harm, drug taking, pornographic content, or violent material (eSafety Commissioner, 2022). Together, these factors paint a picture of modern adolescence as a time of fewer opportunities for practising maturity and independence in day-to-day life, coupled with increasing exposure to mature content in the digital world.

Next, we highlight how these changes may be coinciding with changes in key risk factors for depression.

## Technology and changes in social interaction

Adolescence is considered a critical period for social development (Blakemore & Mills, 2014). Peer relationships become increasingly important during the teen years and poor peer relationships increase risk for depression (Schwartz-Mette et al., 2020). With the introduction of the iPhone in 2007, there has been a significant change in how adolescents socialise and engage with their peers relative to previous decades. Recent estimates indicate that adolescents spend, on average, 14.4 hours each week online (eSafety, 2021), and approximately one-third of teenagers now spend an equal amount of time interacting with their peers online as they do in person (Rioseco & Vassallo, 2021).

Online platforms offer adolescents a wide range of opportunities for social interaction, including chat groups, sharing and viewing video content, and social games. Adolescents from traditionally marginalised groups, such as those who identify as gender or sexuality diverse, report significant benefits in terms of finding supportive online communities and the ability to connect with other like-minded people (Hanckel & Chandra, 2021). For example, adolescents in these minority groups have been found to use online networks to explore their identities and engage with others in the community (Charmaraman et al., 2021). Furthermore, the internet has become the third most common place that adolescents experiencing psychological distress turn to for help, after friends and family (Brennan et al., 2021). These benefits make online forms of communication a critical new tool for helping adolescents form meaningful social connections and a support network they can tap into.

However, not all forms of online social interaction are beneficial. Four in 10 adolescents report having had negative online experiences with peers or people they don't know. These include being contacted by a stranger; receiving inappropriate, unwanted sexual or violent material; being deliberately excluded from social events or groups; receiving online threats or abuse; and having things said online to damage their reputation (eSafety, 2021). In approximately one-third of cases, these negative online experiences were an extension and amplification of bullying that occurred at school, and this was more common in younger (under 14) adolescents (eSafety, 2021).

Although online social interaction provides adolescents with many benefits to expand their social support networks, unmonitored technology access – particularly among younger adolescents – may also expose them to harmful interactions that increase their risk for mental health problems such as depression.

## A rise in adolescent loneliness

Data from the Young Australian Loneliness Survey indicates that 1 in 6 Australian adolescents experience problematic levels of loneliness, and that those who do are more likely to experience depression (Lim et al., 2019). Some have speculated that the shift toward digital forms of communication may have displaced face-to-face interaction among adolescents (Foulkes & Blakemore, 2021), leading to detrimental impacts on their mental health. Although we lack comprehensive data on the relationship between online social interaction and loneliness in Australian adolescents, data from the United States provides some clues as to the nature of this relationship. Specifically, findings from nationally representative adolescent groups showed that loneliness increased significantly between 2010 and 2017. Importantly, adolescents were found to have higher levels of loneliness if they had higher levels of social media use, but only if this was coupled with low levels of in-person social interaction (Twenge et al., 2019). These findings suggest that online social interaction alone may not be problematic. Rather, online social interaction may become a risk factor for loneliness and depression for adolescents who also have low levels of face-to-face peer interaction.

## Disruptions in sleep

Sleep disturbances and depression often occur together in adolescents (Lovato & Gradisar, 2014). Worryingly, adolescents today are less likely to get sufficient sleep at night, with findings from a large adolescent cohort study in the United Kingdom showing that, on average, the proportion of adolescents getting fewer than the recommended 8 hours of sleep a night increased from 5.7% in 2005 to 11.5% in 2015 (Patalay & Gage, 2019). Sleep disturbances appear to be more common in adolescent girls than in adolescent boys (Hysing et al., 2013), although the reasons for this are not well understood.

Among the many possible explanations for insufficient sleep among adolescents is that an increase in digital media use, particularly at night, may be interfering with adolescents' sleep. Indeed, observational studies across multiple countries show that greater amounts of screen time are associated with a range of adverse sleep patterns in adolescents, including later bedtimes, difficulty falling asleep, and difficulty staying asleep (Hale et al., 2019). Although these correlational studies appear compelling, studies that have directly manipulated adolescents' screen use and then measured sleep patterns have not consistently found evidence for a direct causal link (Hale et al., 2019). This suggests that the association between screen time and poor sleep is more complex than it appears.

## Concerns about a threatened future

Finally, several environmental and socioeconomic factors have converged in recent years in a manner that may be heightening adolescents' concerns about their future. Climate disasters like bushfires, floods, and extreme weather events are increasing in frequency (Commonwealth Scientific and Industrial Research Organisation, 2020). When asked directly, 78% of young Australians report that they are concerned about climate change but only 13% feel that they are listened to by leaders in government (Australian Institute for Disaster Resilience, 2020). A recent Australian study found that adolescents with persistent climate change worries throughout adolescence had worse depression symptoms at age 18–19 years (Sciberras & Fernando, 2022).

Changes in the labour market over recent decades have also meant that young people face increasingly tough competition for places at university (Australian Government, 2021) and for entry-level jobs (Anglicare Australia, 2021). This has coincided with increased pressure on adolescents to succeed academically in high school. Nearly half of Australian school students report feeling very stressed when they study, and 67.5% reported feeling very anxious even if they were well prepared for a test – this is substantially higher than the OECD average of 55.5% (Organisation for Economic Co-operation and Development, 2017). These levels of stress were exacerbated during the COVID-19 pandemic, when approximately one-third of students reported that the stress of study was so bad that it was having a major impact on their mental health (ReachOut, 2021).

When taken together, all these factors converge to suggest that a more uncertain future may play a role in adolescents' risk for depression.

**In the previous part of this section we considered how the lives of adolescents have changed in recent years, and whether such changes may have increased risk factors for depression. In the following section we will look at data on the prevalence of adolescent depression to determine how it has changed over time.**

# Depression prevalence in adolescents

## International epidemiological data indicates that adolescent depression has been on the rise over the past 2 decades

Depression is almost 3 times as common in adolescents as it is in children, with the most recent Australian estimates from 2013–14 indicating a prevalence of approximately 5% (Lawrence et al., 2015).

Worryingly, rates of adolescent depression appear to be increasing over time. The most recent data from the United States shows that, between 2008 and 2020, the percentage of adolescents aged 12–17 who reported having experienced at least one major depressive episode in the past 12 months more than doubled, from 8.3% in 2008 to 17.0% in 2020 (Figure 1). This increase was especially pronounced among adolescent girls.

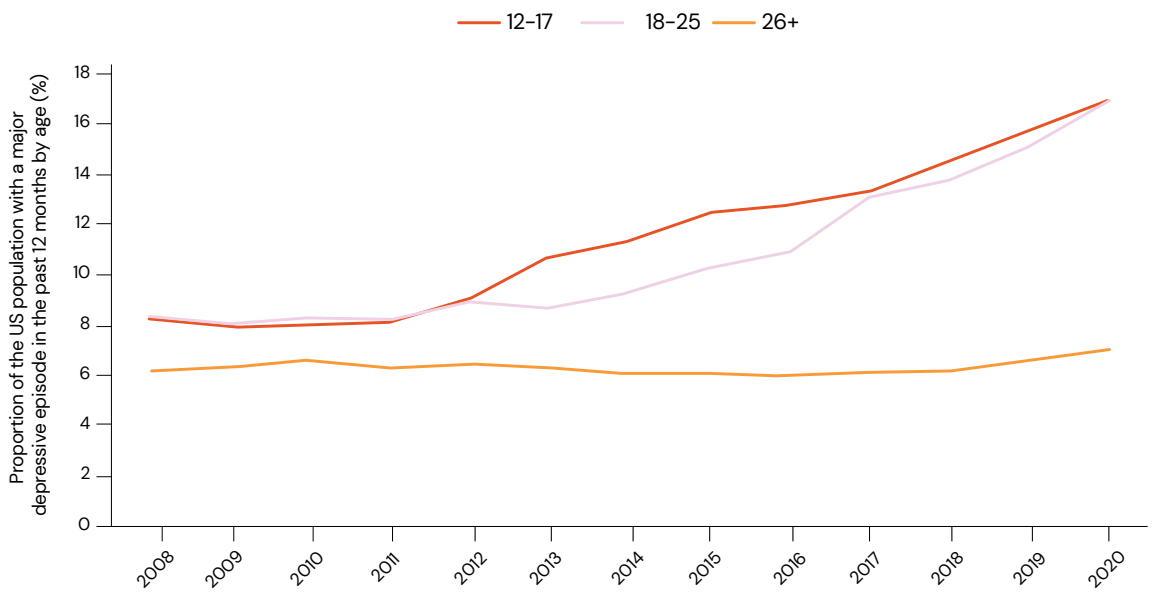


***Figure 1.*** *Proportion of the US sample that had experienced a major depressive episode in the past 12 months from 2008–2020, grouped by age.*
***Data sources:*** *US Substance Abuse and Mental Health Services Administration.*

Although we lack year-by-year data on adolescent depression in Australia, there is a similar pattern for rates of hospitalisation due to intentional self-harm – which can be an indirect indicator of depression (Figure 2). Adolescents themselves recognise the rising burden of mental health conditions, describing mental health as being among their top concerns (Brennan et al., 2021).

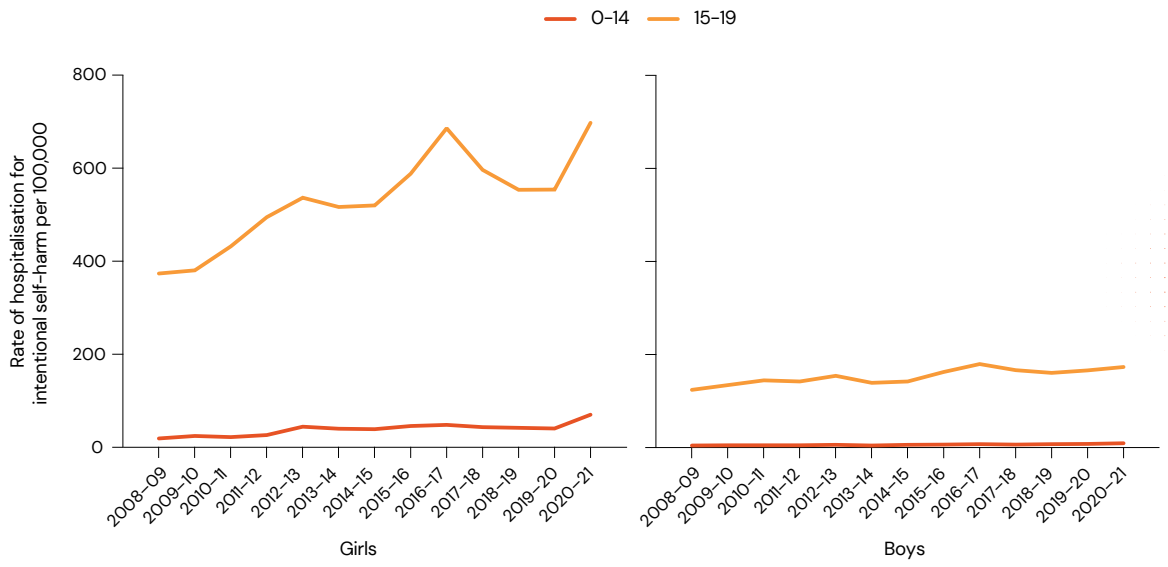


***Figure 2.*** *Rate of hospitalisation for intentional self-harm from 2008 to 2020-21 among girls (left) and boys (right) under age 20.*
***Data source:*** *Australian Institute of Health and Welfare 2020–21 National Hospital Morbidity Database – Intentional self-harm hospitalisations.*

There is also evidence to suggest that this steady increase in the prevalence of adolescent depression is overlaid by another more rapid increase in the severity of depressive symptoms among adolescents since the COVID-19 pandemic. Rates of clinically significant symptoms of depression among adolescents doubled globally during the initial wave of COVID-19 (Racine et al., 2021). This increase has been mirrored in data from Australian adolescents, with 19.4% of girls and 7.8% of boys aged 13–14 years reporting clinically significant depressive symptoms during 2020 and 2021 (Werner-Seidler et al., 2022).

In the first part of this section, we showed evidence that the prevalence of depression diagnoses (US data), as well as the prevalence of the severe consequences of depression, such as intentional self-harm (Australian data), have been increasing in adolescents since about 2011–12. In the next part of this section, we use new data from Australia's largest study on adolescent mental health to understand whether the factors discussed earlier in this section (screen time, loneliness, sleep disruption and concerns about the future) are associated with depression among adolescents.

# New insights from the Future Proofing Study

In 2019, the Black Dog Institute launched the Future Proofing Study, which is now the largest and most comprehensive cohort study of adolescent mental health in Australia. The study was designed to advance knowledge about the risk and protective factors associated with the onset of adolescent depression, anxiety, and other mental health conditions. A total of 6,388 high school students from 134 Australian schools are participating, with cohort demographics representative of the Australian adolescent population (Werner-Seidler et al., 2022).

Students complete annual questionnaires covering a comprehensive range of topics, including mental health, wellbeing, quality of life, resilience, sleep, schooling, peer relationships, bullying, technology use, early life experiences, and puberty. Students commenced the study when they were in Year 8 (mean age 13.9 years) and will continue to be followed up annually at school for 5 years.

In this report, we use baseline data from Year 8 students who took part in the study to better understand the factors that may be linked to rising rates of depression in adolescents. This data was collected between August 2019 and March 2022.

## Proportion of adolescents with clinically significant symptoms of depression

In the Future Proofing Study, symptoms of depression were measured using the Patient Health Questionnaire for Adolescents or PHQ-A (Johnson et al., 2002), which is a widely used depression assessment tool. To determine clinically significant symptoms of depression, we used scores reflecting moderately severe symptoms or higher.

Across the sample, 15.1% of adolescents reported clinically significant symptoms of depression, with the proportions being significantly higher in girls (19.1%) compared to boys (7.6%). Approximately 12.5% of the sample identified as gender and/or sexuality diverse. Alarmingly, the rate of depression was significantly higher in these groups, with 43.5% of sexuality diverse adolescents, and 58.9% of gender diverse adolescents showing clinically significant symptoms of depression (Figure 3).

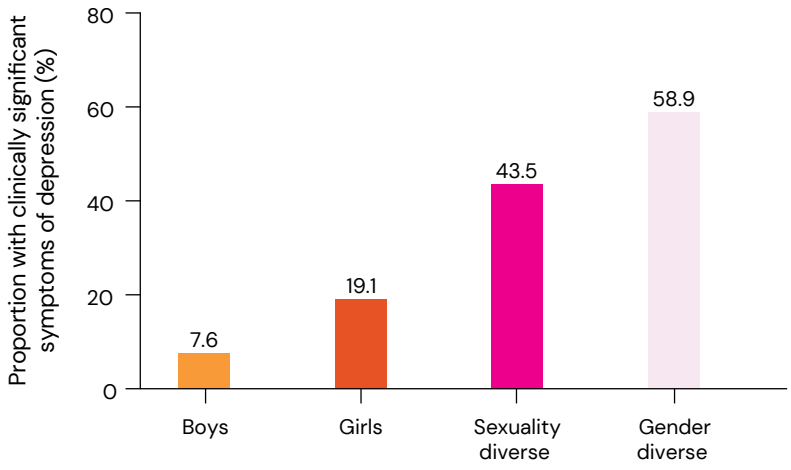


***Figure 3.*** *Proportion of Year 8 adolescents in the Future Proofing Study sample who reported clinically significant symptoms of depression on the PHQ-A.*

## A picture of the severe consequences of depression in adolescents

We examined the association between symptoms of depression and the severe consequences of depression, including self-harm, suicidal ideation, and suicide attempts in the past 12 months. We also examined the impacts of depressive symptoms on daily activities like being able to do schoolwork, participate in social and physical activities, and perform basic self-care tasks like showering and getting dressed.

The presence of clinically significant symptoms of depression was associated with a marked increase in rates of intentional self-harm (over 4 times the rate of non-depressed adolescents), suicidal ideation and suicide attempt in the past 12 months (both over 10 times the rate of non-depressed adolescents).

Adolescents with clinically significant symptoms of depression also showed greater difficulty with daily functioning. When compared with non-depressed adolescents, depressed adolescents were 3 times more likely to have difficulty participating in schoolwork and social and physical activities, and were 5 times more likely to have difficulty performing daily self-care tasks.

Further analyses showed that, among depressed adolescents, girls were significantly more likely to engage in intentional self-harm than boys, although depressed boys and girls did not differ in likelihood of suicidal ideation or suicide attempt (Figure 4).

Among depressed adolescents, no gender differences were found in functional impairments related to schoolwork, participation in activities, or in daily self-care.

In contrast, gender and sexuality diverse adolescents who were experiencing symptoms of depression showed significantly higher rates of self-harm, suicidal ideation, suicide attempt, and functional impairment related to schoolwork, participation in activities, and daily self-care, than cisgender and heterosexual adolescents who were experiencing depression.

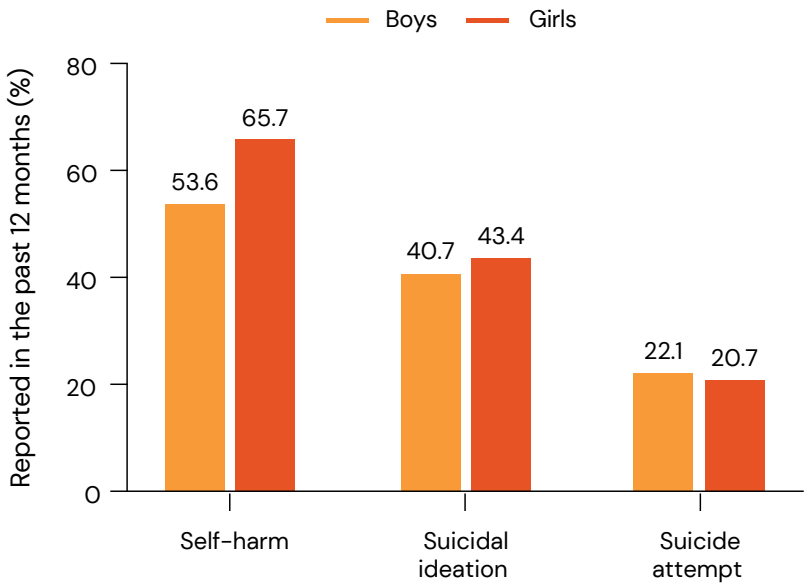


***Figure 4.*** *Proportion of adolescents with clinically significant symptoms of depression who reported self-harm, suicidal ideation, or a suicide attempt in the past 12 months. A greater proportion of adolescent girls than boys engaged in self-harm in the past 12 months.*

## Association between adolescent depression and screen time

We found that screen time and symptoms of depression were closely linked, with more screen time being associated with higher rates of clinically significant symptoms of depression in adolescents, and a more pronounced association evident in girls (Figure 5).

Our data showed that, compared to adolescent boys, a greater proportion of adolescent girls engaged in high levels of recreational screen time (4 or more hours a day).

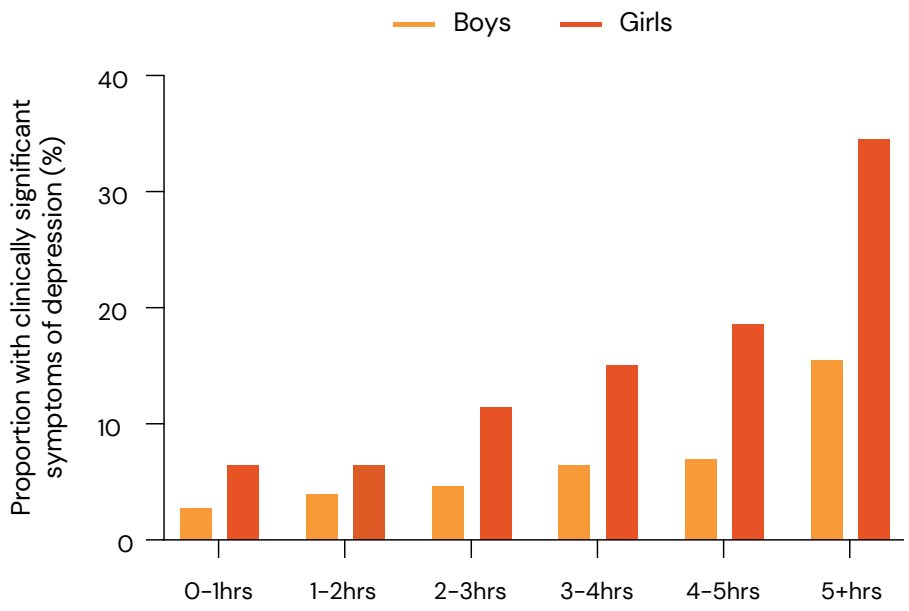


***Figure 5.*** *Proportion of adolescent boys and girls with clinically significant symptoms of depression (PHQ-A) plotted according to the average number of daily hours they spend on screen time. The relationship between greater amounts of screen time and depression was stronger for girls than boys.*

## What explains the stronger relationship between screen time and depression in adolescent girls?

### Negative social evaluation from social media use?

One mechanism by which screen time may lead to greater depression in girls is through feelings of negative social evaluation associated with social media use. To explore this idea, we asked adolescents to rate the extent to which they experienced these feelings when using social media (e.g., *When I update my social media and no one comments on it, I tend to be disappointed*). We then evaluated whether increased negative social evaluation explained the stronger link between screen time and depression in girls.

We found evidence of a clear linear relationship between increasing levels of screen time and negative social evaluation in girls but not in boys. This emerged with as little as 1 hour of screen time a day for girls but was only evident at the highest levels of screen time (5+ hours a day) for boys.

However, further analyses showed that the stronger relationship between screen time and depression in girls remained, even when controlling for negative social evaluation associated with social media use. Feelings of negative social evaluation did not fully explain why screen time was more strongly linked to symptoms of depression in girls than in boys.

### Erosion of positive social support networks?

Having a strong social support network to turn to during challenging times can protect adolescents from experiencing mental health difficulties. There is some evidence to suggest that, for girls, social support may play a more prominent role in mental health than it does in boys. For example, on average, women more readily use social support as a means of coping with mental health problems (Kelly et al., 2008) and girls are more likely than boys to experience depression due to interpersonal or social stressors (Hankin et al., 2007). At the same time, research has suggested that online interactions, even with close friends, are less intimate and meaningful than in-person interactions (Scott et al., 2022). It is therefore possible that girls might be more negatively affected by increased screen time because of how it changes their patterns of social interaction.

We examined three separate aspects of adolescents' social support networks that tapped into both positive and negative social interactions: positive support from friends, negative peer interactions, and loneliness. Our analyses showed that all three social factors were associated with screen time in both boys and girls. We also found that these social factors were associated with depression severity in both genders; however, associations were significantly stronger in girls.

Nevertheless, we found that the stronger link between screen time and symptoms of depression in girls remained significant, even when we controlled for these social factors. This indicates that social factors do not by themselves explain why higher levels of screen time are more strongly linked to depression in girls.

### Cyberbullying?

Cyberbullying involves repeated hostile or aggressive acts online by an individual or group of individuals that is designed to harm others (Tokunaga, 2010). Increased time spent online puts adolescents at greater risk of experiencing cyberbullying (Zhu et al., 2021), and cyberbullying has a bidirectional relationship with depression; targets of cyberbullying often experience increasing depression, while those with depression are also more likely to engage in cyberbullying. Prior evidence suggests that girls are more likely than boys to be the target of cyberbullying (Eyuboglu et al., 2021). Accordingly, higher levels of screen time may be more strongly associated with depression in girls as it increases their likelihood of exposure to cyberbullying.

We found that increased screen time was associated with a greater likelihood of being the victim of cyberbullying, and that a higher proportion of girls (22%) than boys (15%) reported being the target of cyberbullying in the past year. Further, cyberbullying was associated with more severe symptoms of depression in girls compared to boys.

However, the stronger relationship between screen time and depression in girls remained even when controlling for rates of cyberbullying. That is, even if we removed the effects attributable to cyberbullying, there was still a stronger association between screen time and depression in girls.

### Detrimental impacts on sleep?

Increased screen time has a negative impact on adolescents' sleep. In turn, sleep disturbances are a risk factor for depression in adolescents (Lovato & Gradisar, 2014). Accordingly, one possibility we considered is that higher levels of screen time may increase risk for depression to a greater degree in girls compared to boys because of differences in sleep.

To assess sleep difficulties, we asked adolescents whether they regularly had difficulty falling asleep or staying asleep. We found that a greater proportion of adolescents with high levels of screen use reported sleep problems than those with lower levels of screen use. We also found that a greater proportion of girls compared to boys had sleep difficulties.

Although sleep disturbances were associated with greater levels of depression across the sample, these were not more strongly associated with depression in girls than in boys. Further, even when controlling for sleep disturbances, the stronger link between higher levels of screen time and depression in girls remained. This indicates that sleep disturbances do not explain the stronger association between screen time and depression in girls.

### If not these factors, then what? Some alternative explanations

In this section so far, we have examined several likely factors that could explain why screen time may disproportionately influence depression in girls. Our analyses show that none of these proposed factors, by themselves, fully explain the stronger links between the higher levels of screen time and depression that were observed among girls compared to boys. Simply quantifying screen time as a single measure of adolescents' online behaviour also limits any conclusions that can be drawn about healthy and unhealthy patterns of digital media use.

Another explanation to consider is whether the association between screen time and depression occurs in the opposite direction to what is typically assumed. That is, rather than being a consequence of higher levels of screen time, depression may actually lead adolescents to engage in higher levels of screen use. Digital technologies can have a powerful influence over our emotional state (both good and bad), and an emerging body of evidence suggests that adolescents may use digital technology as a means of regulating their emotions (Wadley et al., 2020). For adolescents who use digital media to play games or to actively engage with friends online, turning to digital technology as a means of regulating negative emotions may be an effective strategy. However, for adolescents who use digital technology in a more passive way (e.g., scrolling through images on Instagram), this strategy may be less effective in helping them regulate their emotions, and may in some cases make them feel worse, putting them at increased risk for depression. This is a hypothesis we will examine in detail as the Future Proofing Study progresses, with longitudinal data allowing us to explore causality in these relationships over time.

## What do adolescents themselves say about their concerns?

Finally, we examined adolescents' top self-reported concerns by asking them: 'What issues are concerning you at the moment? These could relate to you, your community or the world. You can list up to three.'

**Over 10,000 valid responses were received, which fell into the following top 6 categories:**

1. School and academics (e.g., falling behind in schoolwork; getting bad grades)
2. COVID-19 (e.g., sport stopping again because of COVID; worried my grandparents will get the virus)
3. Social relationships (e.g., I feel like I don't fit in; being judged by my friends; people bully me)
4. Mental health and wellbeing (e.g., how my anger gets out of control; the pain in my chest due to anxiety; my parents being disappointed in me)
5. Family and home life (e.g., my family arguing and falling apart; my parents are stressed because they are running out of money)
6. Environment, society, and the world (e.g., climate change; overpopulation; poverty)

Overall, top concerns did not differ substantially between girls and boys, between adolescents from different geographic locations, or between adolescents attending different types of schools. Although school-related concerns topped the list overall, for depressed adolescents, the top concerns were more often about mental health and social relationships. This may indicate that, in the school context, providing support around peer relationships is more important for students experiencing depression. Unsurprisingly, top concerns also included COVID-19, as well as big-picture concerns about the environment, society, and politics. This likely reflects the growing political and environmental awareness in young adolescents today.

# Perspective from the Black Dog Institute Youth Advisory Group

*The Youth Advisory Group represents young people (aged between 12-25) who provide a valued and consistent voice to research projects focusing on youth populations at the Black Dog Institute. Each member has their own lived experience of mental health challenges. The group brings insights from their diverse experiences, not only from age, but also in cultural backgrounds, locations (including rural and remote areas), abilities and aspirations.*

As a group of young people with lived experience of depression, we see that the influences, obstacles, and opportunities are broad.

High on the list of negative impacts on young people living with depression are things beyond our immediate control: the isolation of the COVID-19 pandemic; widespread misinformation and negative commentary about mental health on social media; a daily influx of bad news; and long waiting times to access support.

## Finding solutions

We need a rapid reduction in barriers that are preventing access to care. This can only be done if there is more funding directed toward improving service delivery.

The time spent waiting to see a health professional is hugely distressing. We need reduced fees to ensure equity of access, increased funding to employ more healthcare workers, and shorter waiting periods to get help. We need standardised practices for young people, for them to be given resources and support while they wait to be seen by a medical professional. Even online interventions, or brief check-in calls, would go a long way to reducing distress while waiting for services.

Current approaches to service intake, which often involve categorising a young person's risk of causing harm to themselves or to others, are also unhelpful. Young people often fall through the cracks if they are assessed as being at a low level of risk when they first reach out for help. This means they don't get access to help until much later, and their distress becomes more severe. A more holistic approach to risk categorisation should be considered. This includes looking at functional impairment in addition to safety risks.

Schools are a vital part of the solution. Adolescents spend most of their time at school, which makes schools and peer groups one of the first places they turn to for support. More resourcing should be provided to schools to manage students' wellbeing. Importantly, we want to see a focus that extends beyond current counselling priorities, which frequently focus on completing schoolwork instead of providing holistic support. Young people would also benefit from more training in how to support their friends, including how to acquire the knowledge and skills to manage conversations about mental health.

It is also time to consider social media safeguards to limit the spread of false information about mental health. We saw how fact checks could work for information about COVID-19 vaccination, and how social media navigation guides were applied. Mental ill-health is the new pandemic, and it is an issue that deserves the same attention.

Building up a supportive sense of community and belonging offline is a key protective factor against depression. This face-to-face community has been significantly disrupted by social isolation during the COVID-19 pandemic. Investing resources in helping young people build connections within their communities is critical. This maximises the chances that if they do find themselves in need of support, there will be someone they feel they can turn to for help.

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# 3 Depression in young adults

In this next section we look at national data on depression prevalence in Australia's young adults – those aged 18 to 34 – to determine whether the rising depression prevalence in adolescents discussed in the prior section is also evident in older age groups. We then present new data on young adults using (1) Vibe Up, a new digital mental health application, and (2) a university-based health service, to show how certain demographic, social and economic factors are associated with depression severity and mental health service use in young people.

# Young adulthood as a time of risk and opportunity

Young adulthood, defined as the period between the ages 18 and 34, is a period of rapid personal development. For most people, it is a time marked by major life transitions, including leaving home, beginning tertiary education, entering the workforce, first experiences with financial independence, forming relationships, and early parenthood. Australia's geographic sprawl means that young adults often leave the community they grew up in to pursue further schooling or employment opportunities elsewhere. Similarly, our globally competitive universities attract a sizeable population of young adults who travel internationally to Australia to pursue higher education.

While this period represents a significant opportunity for new autonomy and independence, the stripping away of early family and social support structures can also make young adulthood a time of increasing vulnerability to stress and mental health problems. Furthermore, a young adult's pursuits can be formative for later phases of their life. The impact of social inequalities can be amplified during this time, creating lasting impacts on a person's economic mobility, social circumstances, and mental health.

### Why depression in young adults matters

In Australia, young adults experience high rates of mental health problems. Results from the 2020–21 National Survey of Mental Health and Wellbeing indicate that the 12-month prevalence of any mental disorder was highest in individuals under age 35: 32% of people aged 16–34 reported having had a mental illness in the preceding 12 months. Furthermore, data from the 2021 Census showed that the highest proportion of individuals with a chronic mental health condition occurred in those aged 20–24 (12.3%) and 25–29 (11.9%). For many young adults, then, mental health problems are not transient conditions.

Depression is the second most common mental health condition affecting young adults. Although anxiety disorders are more prevalent, the lifetime comorbidity between anxiety disorders and depression can be as high as 70% (Kalin, 2020), and the two conditions share many overlapping risk factors. Depression is, however, of particular importance in this developmental period. Unlike anxiety disorders, which typically emerge in childhood and early adolescence, the peak age of onset for depression is 19-20 years of age Solmi et al., 2022) – making young adulthood a critical period for depression prevention and early intervention.

## Have the lives of young adults become more challenging?

Australia's young people are currently entering adulthood in a time of soaring house prices, rising rental prices, and growing job insecurity. Here we examine how the lives of young adults have changed over the past 20 years, and whether times are becoming more challenging.

### Slow income growth

The risk for depression rises as the level of income inequality in a country's population increases (Patel et al., 2018). Accordingly, gaps in wage growth between younger and older adults may lead to increased risk for depression in younger people.

Today's young adults are expected to be the first generation not to experience income gains relative to the generation before it (Wood et al., 2019). Wage growth for those under 35 has declined since 2008 (Productivity Commission, 2020), with imbalances between labour supply and demand likely playing a role. Older, more experienced workers are retiring later, and a rising number of university graduates has increased the supply of workers with tertiary degrees who are competing for jobs. As a result, young adults are now more likely to obtain work in lower-ranked, lower-paid occupations than comparably skilled young adults before 2008 (Productivity Commission, 2020). Moreover, income support payments and allowances that are often used by young people, such as Youth Allowance, may keep them below the poverty line and are not benchmarked to wages. This means that young adults both in and out of the workforce are often subsisting on incomes that are lower than other age groups, and also comparatively lower than young adults of the same age in previous years.

## Rising cost of living

At the same time, the rising cost of living in Australia means that the income young adults do receive now buys them less. Nationally, rates of home ownership have decreased for each successive generation (Australian Institute of Health and Welfare, 2022a), however this decrease has been largest for young adults aged 30–34. In 2021, 49.7% of Australians aged 30–34 owned a home (2021 Census) compared to 57.3% in 2001 (2001 Census).

Rising house prices have been accompanied by a sharper increase in the proportion of Australians who rent, and this increase has been greater for those under the age of 35 compared to older Australians (Australian Institute of Health and Welfare, 2022a). Although rents are cheaper than mortgages, rents across Australia have now risen at the fastest rate in 14 years (CoreLogic, 2022), with students and lower wage earners at times being refused tenancy. Commonwealth Rent Assistance, which is designed to alleviate rent pressure for those who receive income support and allowances, is indexed in line with the Consumer Price Index, and this has lagged behind rents for several years.

In response to this financial strain, the proportion of young adults relying on financial support from their parents has grown substantially, as has the number of young adults continuing to live at home after they leave high school (Productivity Commission, 2020). Although financial support from parents may buffer them against financial pressures, young adults who are unable to live with family or whose family is unable to support them financially continue to be disproportionately affected by economic factors, increasing their risk for depression.

## Changes in the requirements of entry-level employment

Many people enter the workforce for the first time during young adulthood. This transition is important not only in terms of future economic security, but also because unemployment (and underemployment) are two of the strongest risk factors for depression in young adults (Crowe & Butterworth, 2016).

Recent evidence indicates that the requirements for entry-level employment in Australia have changed. There has been a progressive decline in jobs that do not require qualifications or work experience, from 22% in 2006 to 10% in 2019. There are currently, on average, 27 job seekers competing for each entry-level job (Anglicare Australia, 2021). Faced with a tighter job market, many young adults have had to move down the jobs ladder and this is having a lasting impact on their longer-term career prospects (de Fontenay et al., 2020). For young adults without a university degree, job opportunities have decreased substantially over time (de Fontenay et al., 2020).

## Increased employment precarity

There has been an increase in casualised and 'gig' economy work in recent decades, and young adults make up a significant proportion of people employed in this form of work. Although this type of work can offer workers greater flexibility and control over when and how they work, its downsides include limited leave entitlements, inconsistent working hours or pay, sudden cessation of employment, and limited upward mobility. Gig work also leads to significant gender-based inequalities; a report commissioned by the state of Victoria found that women were half as likely as men to participate in gig-based jobs, and earned 10% to 37% less than their male peers (Williams et al., 2021).

## More complex tertiary education pathways

Higher education is typically protective against depression, with the benefits in terms of mental health being greater for younger adults, women, racial minorities, and those from low socioeconomic backgrounds (Bauldry, 2015). The proportion of Australians participating in higher education has risen over the past 20 years. Approximately half of all Australians now hold a bachelor's-level degree or higher (Organisation for Economic Co-operation and Development, 2021).

However, the pathways through tertiary education to employment are becoming increasingly competitive and complex. Due to rising numbers of applications, the university offer rate is currently the lowest it has been since 2011 (Australian Government, 2021). Rapid advances in technology mean that the technical skills young people learn in higher education are becoming outdated faster, requiring them to continuously update their skills to keep pace with new job structures. The increased cost of living has also led to an increase in the number of university students who are working while completing their degree part time, which in turn leads to an increase in the rate of student dropout (Norton & Cherastidtham, 2018).

## Social isolation

Loneliness is an important risk factor for depression. Although young adults are often well connected to strong social structures, critical transitions, such as moving away from home, can upend these structures, putting them at risk for loneliness. Results of the Young Australian Loneliness Survey (Lim et al., 2019) found that almost 1 in 3 young adults aged 18–25 living in Victoria in 2019 reported problematic feelings of loneliness. Rates of loneliness among young adults were higher than rates of loneliness reported by adolescents (with 1 in 6 reporting loneliness), and were higher among young women than young men. Lonelier young adults also reported significantly greater levels of depression compared to those who were not lonely. Furthermore, there is evidence that loneliness has increased over time in young adults, with one meta-analysis demonstrating a steady increase from 1976 to 2019 (Buecker et al., 2021).

## Perspective from the Australian Council of Social Service (ACOSS)


Young people have been through the wringer these past few years. They were most likely to lose their jobs during the pandemic lockdowns because they worked in sectors like hospitality and tourism. School, university and vocational training were disrupted. And perhaps the most difficult thing was the loss of face-to-face engagement with one another.

It's no surprise to us at ACOSS that levels of depression among young people have increased. Young people bore the brunt of the pandemic. But while we do not have a huge amount of control over pandemics, we can improve how we support young people, particularly young people on the lowest incomes.

One of the best ways to do this would be for the federal government to increase income support payments, including Youth Allowance, to $70 a day.

Youth Allowance, the unemployment and student payment for young people, is $38 a day, or $266 per week. This equates to just 33% of the minimum wage. To put this into perspective, median rent for a unit in Australia is almost twice this at $460 a week. A tank of fuel right now averages $80. You can quickly see how Youth Allowance is completely inadequate to support a young person and cover basic costs.

Its inadequacy undermines people's health and wellbeing. Being under constant financial stress, worrying about paying the week's rent or the next energy bill is debilitating.

As Sophie,* a student on Youth Allowance, recently told us:

> "I feel like I'm seconds away from drowning at all times. Every time I step into a grocery store or look at my bank account, I lose a bit of myself. I saw the price of petrol the other day, and I just had to sit down and process it all. I'm thinking about money so often, I find it difficult to think about or do anything else. I'm a student, and it's affecting my grades, but I'm not sure how to explain to my professors that I may fail my class because I have to think about the price of my monthly grocery shop for hours every day. I'm exhausted."

The good news is that, if income support was increased, the flow-on benefits would be huge. The Melbourne Institute found as much in its analysis of the mental health effect of the Coronavirus Supplement, which doubled income support payments like Youth Allowance for six months in 2020: people's mental health was protected. We know that when payments were higher, people could afford fruit and vegetables and they could buy the medications they needed.

Having enough money to meet basic needs is critical to supporting good mental health. Not only does this help with the cost of care, it removes one of the biggest stressors for people: financial stress.

There aren't many silver bullets in public policy but lifting income support like Youth Allowance to $70 a day would go a long way to improving the health and wellbeing of young people doing it tough.

* Not her real name.

# Changes in the population demographics of young adults

Changes in the demographic makeup of a population can also affect the prevalence of depression. Australia's young adults are more diverse than they were in earlier generations. Increased diversity in a population has a host of social and economic benefits, creating a thriving, forward-thinking economy. However, individuals from cultural minority backgrounds often experience higher rates of marginalisation, socioeconomic disadvantage, and discrimination, increasing their risk for depression.

## International students

Australia now has the highest ratio of international students per capita of any country, having risen by more than 80% between 2010 and 2019 (UNESCO Institute for Statistics, n.d.). In 2022 there were 469,248 international students in Australia (Australian Government, 2022), with almost 1 in 4 students coming from abroad.

Living abroad leads to unique linguistic, social, legal and financial challenges that may compound issues already faced by young adults. For example, international students are at increased risk of exploitation at work. A recent report found that more than 75% of international young adults had been paid below the minimum casual hourly wage ($21.38 per hour), with 20% being paid less than $12 an hour (Farbenblum & Berg, 2020). Cultural factors can also lead international students to underutilise mental health services. An analysis of coronial reports found that international students who died by suicide were 2-3 times less likely to have sought help compared to local students (Coroner's Court of Victoria, 2019). This may be due to increased mental health stigma among international students (Maeshima & Parent, 2020), as mental health problems are often regarded as a sign of personal fault or moral failing in many cultures outside Australia (e.g., the term 'mental health' in Bahasa Indonesia directly translates to 'a sickness of the soul').

## Culturally and linguistically diverse populations

Culturally and linguistically diverse populations (CALD) make up approximately 30% of the Australian population (Australian Institute of Health and Welfare, 2022b). These are people who were born overseas, or who have a parent born overseas, or who speak a language other than English at home. There is evidence to suggest that CALD populations may have been disproportionately impacted by the COVID-19 pandemic, with increased reports of ethnic discrimination, observed primarily towards individuals of Asian descent (Liu et al., 2020). In the United States, the predicted probability of COVID-19 stigmatisation was 2.54 times higher for foreign-born Asians (11.6%) and 2.4 times higher for US-born Asians (10.9%) than for non-Hispanic Whites (4.5%), according to a nationally representative survey of adults (n = 6,707) (Pan et al., 2021).

CALD populations are also more likely to be exposed to COVID-19 due to high representation in essential work settings (e.g., healthcare facilities, grocery stores and public transport) where there is a high chance of close contact with the public (Lassale et al., 2020), and to encounter greater financial constraints due to the exacerbation of high levels of insecure employment pre-pandemic (Soiné et al., 2021). In a study of 419 first-year US university students, the prevalence of moderate to severe depression was found to increase from 21.5% to 31.7% over the course of the pandemic, and non-Hispanic Black, female university students were at the highest risk of increases in the symptoms of depression (Fruehwirth et al., 2021).

# Depression prevalence in young adults

## Latest estimates of depression prevalence in Australia's young adults

The prevalence of depression has increased in Australia's young adults, having more than doubled in those aged under 25 in the past 14 years. This is indicated by data from the 2007 and 2020–21 National Survey of Mental Health and Wellbeing, which reports on the 12-month prevalence of affective disorders (encompassing major depressive disorder, dysthymia, and bipolar disorder). Data show that from 2007 to 2020–21, the 12-month prevalence of affective disorders increased from 6.3% to 13.6% for young adults aged 16–24, and increased from 7.9% to 11.0% for young adults aged 25–34.

Rates of depression among young women are particularly worrisome (see Figure 1). In the 2020–21 survey, 19% of women aged 16–24, and 12.8% of women aged 25–34, had had an affective disorder in the preceding 12 months; this was substantially higher than the prevalence observed in men of the same age (men aged 16–24: 8.8%; men aged 25–34: 9.6%).

The gender gap in depression prevalence has also widened in the past 14 years. From 2007 to 2020–21, the gender gap in affective disorder prevalence between men and women widened by 11% for those aged 16–24, and by 7% for those aged 25–34. The widening gender gap has been driven by a more rapid increase in affective disorder prevalence from 2007 to 2020–21 in young women (ages 16–24: 126% increase; ages 25–34: 47% increase) compared to young men (ages 16–24: 105% increase; ages 25–34: 37% increase).

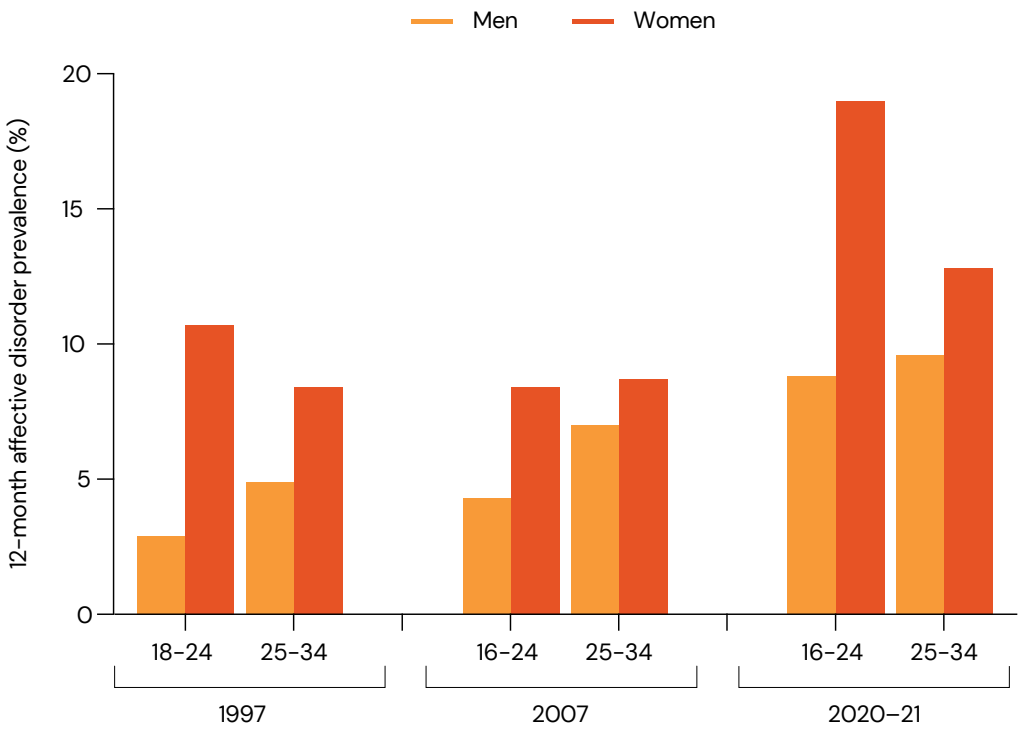


***Figure 1.*** *Age-specific prevalence of depression (or 'affective disorders') among the Australian population for men and women in 1997, 2007, and 2020-2021.*
***Note:*** *Individuals aged 16-17 were not included in the 1997 survey.*
***Data sources:*** *Australian Bureau of Statistics National Survey of Mental Health and Wellbeing (1997, 2007, 2020-2021).*

## Increases in the severe consequences of depression

It is difficult to determine whether this national survey data reflects a true increase in depression prevalence among young adults, as opposed to differences in the way young adults are reporting their symptoms now. However, looking at trends in behaviours that often represent the severe consequences of depression, such as intentional self-harm, can provide insight.

Data from the Australian Institute of Health and Welfare reports rates of hospitalisation due to intentional self-harm from 2008–09 through to 2020–21. Figure 2 shows the rates of hospitalisation for young adults according to gender and is grouped in 5-year age increments among those aged 20–34. The data shows a notable elevation in hospitalisations for self-harm among women aged 20–24, which has increased from 295.1 to 363.1 per 100,000 across the period. This data provides converging evidence that the severe consequences of depression may be rising in a similar manner to that of overall affective disorder prevalence among young adults, especially women. It indicates that increases in the proportion of young adults reporting depression and other affective disorders may illustrate real increases in mental illness rather than differences in how symptoms are being reported.

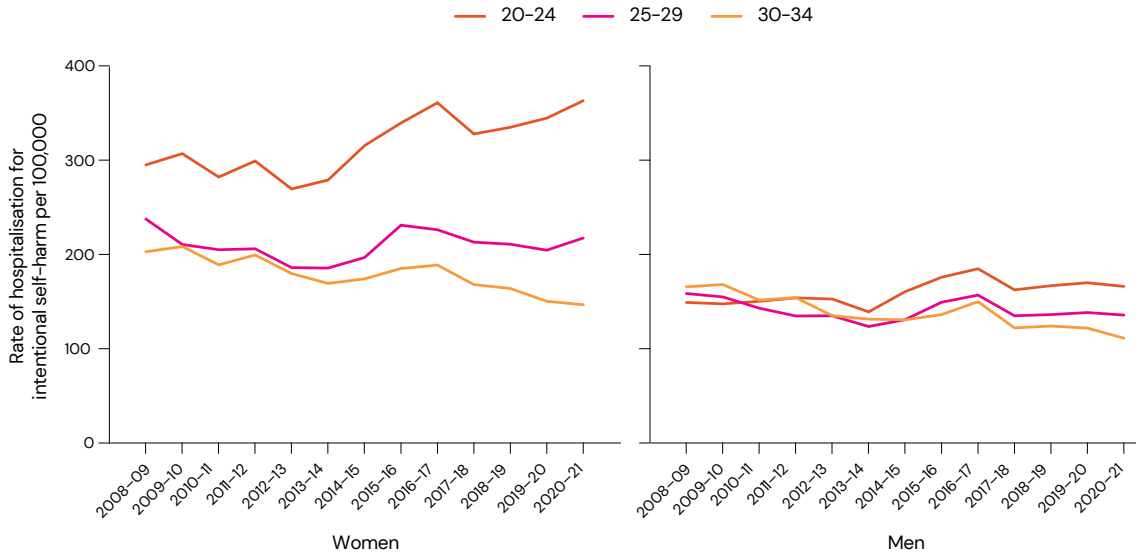


***Figure 2.*** *Age-specific rates of hospitalisation for intentional self-harm among Australian young women (left) and men (right) (2008–2021).*
***Data sources:*** *Australian Institute of Health and Welfare National Hospital Morbidity Database–Intentional self-harm hospitalisations.*

# Which young adults are seeking help for depression?

Cost is a significant barrier for young adults seeking traditional fee-for-service mental health services, particularly for those who are engaged in higher education and those who do not work full time. Although patient data from these services is often used to infer mental health treatment needs of young adults, doing so likely fails to capture the needs of those who seek services but who are unable to afford them.

To get a better sense about which young adults are seeking help for depression and other common mental health conditions, we present new data on the characteristics of young people seeking help from two low- or no-cost services: (1) a free digital mental health intervention, and (2) a bulk billing/low-cost Australian university health service. Both services targeted students enrolled in higher education.

## Vibe Up: characteristics of young adults seeking help via a new digital mental health intervention

As part of a landmark study to optimise mental health treatment using artificial intelligence (AI), researchers at the Black Dog Institute launched Vibe Up, a new application that uses AI to deliver tailored digital mental health interventions to tertiary students through their smartphones. Vibe Up targets students who are seeking strategies to cope with common mental health problems, such as symptoms of depression, anxiety and stress. Since it was launched in 2021, more than 800 tertiary students have signed up to the first trial of Vibe Up. Below, we look closely at the demographic, social and economic characteristics of students who expressed interest in using Vibe Up to manage their mental health.

### Demographics

Most students seeking mental health support through the Vibe Up application were either enrolled in an undergraduate university degree or at TAFE (78.8%) and were under the age of 35 (97.5%). More than three-quarters (78.6%) were women. A substantial proportion (38.8%) identified as sexuality diverse (e.g., bisexual), and a small proportion identified as gender diverse (6.7%). The proportion of sexuality diverse students was significantly larger than what would be expected relative to the general population, indicating that university students who identify as sexuality diverse may have significant needs for mental health support that are going unmet.

Despite international students making up approximately a quarter of the tertiary student population in Australia, only 5.5% of Vibe Up users were international students, and only 6.4% spoke a language other than English at home. Given that international students incur more risk factors for depression, this is substantially lower than expected. It suggests that international students may be experiencing barriers in seeking out support for their mental health.

## Mental health

More than half (55.2%) of the Vibe Up users had received a mental health diagnosis by a doctor at some point in their lives, with major depression being the second most common diagnosis behind generalised anxiety disorder. This is consistent with data from the 2021 Census, showing that major depression was the second most common disorder in young adults (Census, 2021). Furthermore, 16.2% had made a suicide attempt at some point in their lives, which is higher than the average proportion of the Australian general population aged 16–34 who had attempted suicide (5.5%), according to data from the 2020–21 National Survey of Mental Health and Wellbeing. The rate of prior suicide attempt was even higher among students who identified as sexuality– (26.3%) or gender diverse (32.8%).

Despite experiencing mental health problems, over half (59%) had not seen a health professional about it in the past 12 weeks. Men were over–represented in this group. For students who had sought professional help, a general practitioner was the health professional most commonly seen (73.9%).

## Social and economic factors

Although most (77.8%) students reported that they had at least one person they felt they could turn to if they needed support, loneliness was still common: 40.3% reported that they felt lonely often or all of the time. Those who reported feeling lonely more regularly also had more severe levels of depression.

Many students worked for pay alongside their studies. Of the sample, 76.9% had a paying job and 39.0% worked 20 or more hours per week (i.e., above the amount recommended by most universities for full-time students). Perceptions of financial security were closely tied to the severity of depressive symptoms, such that students who perceived themselves to be less 'well off' financially reported more severe levels of depression.

Tertiary students seeking digital mental health support for elevated symptoms of depression and other common mental health concerns were more likely to be young women, and a substantial proportion identified as sexuality diverse. More than half had not had recent contact with a health professional despite experiencing significant mental health symptoms. For those who had had recent contact with a health professional, a general practitioner was the most commonly consulted. A substantial proportion felt lonely most or all of the time, and there was a clear association between perceptions of financial insecurity and more severe levels of depression.

## Characteristics of young adults seeking help through an Australian university health service

Young people rely most heavily on general practitioners as their primary source of mental health support. Yet compared to older adults, young people access general practice services less frequently when needed (Australian Bureau of Statistics, 2021). Potential barriers to the use of general practice services are well known and include concerns about cost; limited/inconvenient opening hours; fear of negative judgement or embarrassment; and a lack of knowledge about services. These factors could be mitigated, with improved rates of presentation, through the provision of youth-centric services to students through higher education institutions (Staunton Smith, 2018).

### The University of New South Wales Health Service

To examine patterns of mental health service use in university students, we examined data from the University of New South Wales Health Service. This service is based on campus and available to all students of the university. It is a bulk billing service for local students (with a Medicare card), and there are no fees for enrolled international students with overseas health cover (with insurance providers billed directly for services provided) – as such, the service minimises cost-related barriers to health care for the university student population. The health service is staffed predominantly by general practitioners, with one student mental health nurse and two part-time psychiatrists. Psychology services are provided on campus through a separate service and are not included here.

### Methodology

All health service encounters from calendar year 2019 (1 January to 31 December) were extracted from the practice software (Best Practice) using the Pencat clinical audit tool. This period was selected to capture health service use before the disruptive effects of the COVID-19 pandemic. In total, 14,773 students accessed the service during this period. We examined patterns of service use, focusing on the potential impact of specific social determinants.

### Findings

**Our analyses revealed the following key points:**

1. Mental health conditions represented a significant proportion of ongoing health conditions, accounting for 46% of total ongoing health conditions in students, with asthma (13%) the next most common. This also represented 11.35% of total students presenting to the service, which aligns closely with the national estimates of rates of chronic mental health conditions.

2. Depression was the second most common mental health condition (640 total patients), after anxiety (955 total patients).

3. The importance of general practitioners in providing front-line mental health care was readily apparent – there were 1,674* (see note below) patients who had a mental health consultation with a general practitioner, representing 11% of the total student population using the health service. This compares with 99 initial psychiatrist consultations (0.07% of the total student population using the service), emphasising the crucial role of general practitioners in student mental health care in this setting.

4. The gender differences in mental health conditions evident in national data were similarly present in the university student cohort. Women comprised 65.2% of those seeing a general practitioner for a mental health–specific MBS item number.

5. Although the proportion of international students using the health service overall was large relative to the domestic student population (63.2% of total patients as compared to 36.8%), international students only accounted for 32.5% of students seeing a general practitioner for a mental health consultation. This suggests that the uptake of mental health services is substantially lower for international students (and much lower relative to the total proportion of students presenting to the service – 6% of total international students using the service relative to 21% of local students).

*This number is almost certainly an under-representation of the total burden of mental health care provided in this setting. This is because only specific mental health item numbers were considered in quantifying the number of mental health consults performed by general practitioners during the period of data collection. There are recognised limitations to this. Specifically, local survey data suggest that a majority of general practitioners opt to use a generic item number for a mental health–related consultation or for a consultation combining both physical and mental health care, which could lead to an underestimate of the burden of mental health care in general practice (Thornley & Harris, 2021).

Ongoing mental health conditions represent one of the most common reasons university students used a university health service, with depression being the second most common diagnosis. Women had more mental health consultations than men, mirroring the increased prevalence of depression in women shown in epidemiological data. Although international students used the service more frequently than domestic students, they used mental health–related consultations less frequently. Given the higher rates of mental health issues faced by international students, we expect that there is a large proportion of international students with unmet mental health treatment needs. From a health service perspective, general practitioners performed the majority of mental health–related work, suggesting that encouraging and incentivising mental health specialisation among them, while also enhancing access to specialist care, may help to improve access to treatment for university students.

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# 4 Young First Nations wellbeing

# Young First Nations voices in social and emotional wellbeing must be heard

Aboriginal and Torres Strait Islander peoples collectively make up just 3.5% of the Australian population. However, 3 times as many First Nations people aged under 18 die by suicide as compared to other young Australians, while for those aged under 15, the suicide rate is 12 times higher (Gibson et al., 2021). The COVID-19 pandemic has further exacerbated experiences of marginalisation and barriers to service provision for young Aboriginal and Torres Strait Islander people (Thurber et al., 2021). Yet young First Nations voices in this space are being ignored.

Government attempts to ease the burden of disease experienced by First Nations people have historically failed, and continue to fail (Bond & Singh, 2020). Two major contributors to the failures of system responses to social and emotional wellbeing disturbance are: firstly, the misunderstanding of notions of 'health' from First Nations perspectives, leading secondly to the misalignment of funding to First Nations peoples' identified needs (Skerrett et al., 2018). Depression diagnosis and intervention are two areas where these misalignments are overly pronounced.

Given the historical and ongoing trauma experienced by First Nations peoples – the persistent experiences of discrimination, poverty, exclusion, high morbidity and mortality, and societal and cultural degradation – it is unlikely that 'depression' as it is understood, measured, diagnosed, and treated is suited to First Nations populations (Balaratnasingam & Janca, 2019). Indeed, the concept of depression often does not resonate well with First Nations peoples, as is evident in this account by a First Nations person with a lived experience of disrupted social and emotional wellbeing:

> Walking through fog you wonder why, why do you feel this pain so intensely. It doesn't matter how many people you speak to who 'specialise' in people like you, they don't get it. You're missing parts of yourself while dealing with trauma most people couldn't comprehend, some you lived, some has been inherited, all of it impacting the person you are today. You feel crazy for the feelings you have not been able to explain, this emptiness and sadness that comes from being away from home, this deep sadness that comes from being off Country and disconnected from mob. You're navigating two worlds: the blakfulla world and the whitefulla world, feeling like you don't really fit properly into either and it's so immensely lonely. In a moment you make a choice that the pain is all too overwhelming, but just when you are about to give up you are shocked back into this world, slowly you're guided by your ancestors, you start listening to those feelings that used to overwhelm you, that connection isn't insanity, it's your people guiding you. The fuzziness fades and slowly you find yourself, Elders guide you and protect you while you navigate healing your mind, body and spirit. It's a long road to break what they call the transgenerational cycle but you know it has to be you, the oldest was born to walk this path, and as the oldest, I will.
>
> **Trawlwoolway woman, Karla**

To understand the nature of the symptoms of depression and their connection to disturbed social and emotional wellbeing for First Nations peoples, we must grasp the extent to which the pervasive role of colonisation has played, and continues to play, on their lived experience. Colonisation dictates all of what is accepted and therefore known in western countries, particularly within the sciences (Datta, 2018). Research, legislation, policy, law, diagnoses, and health are all influenced by colonial thinking. This factor continues to have an indelible impact on the lives of First Nations peoples, particularly regarding health service provision (Narasimhan & Chandanabhumma, 2021).

The determination of what depression is, what influences people's experiences of depression, and to what extent it is experienced by certain population groups, are colonial questions that lack First Nations perspective. For example, there is no evidence to suggest that prolonged episodes of 'low mood' among First Nation's peoples are equivalent to a symptom of clinical depression – or disturbed social and emotional wellbeing, for that matter (Brown et al., 2012). What is perceived as low mood through a western lens may be explainable as a cultural state of contentment, while an apparent lack of overt 'happy' physical characteristics may be a display of deep humility. The information or data that is collected around these questions is therefore inherently flawed as well.

In this section, we offer insights into some of these concerns, and opportunities for improvement for government and service providers.

# Depression and social and emotional wellbeing

'Social and emotional wellbeing' is a term that has been used by First Nations peoples for some time. It describes a holistic notion of health and wellbeing that encapsulates connection to people, place, spirit, community, and culture. Theories about social and emotional wellbeing suggest that wellness is mediated by experiences of connection and disconnection to elements of importance to an individual, family, community or society; and that social, political, historical and cultural determinants are the main drivers of these experiences (Figure 1; Gee et al., 2014).


***Figure 1.*** *Schematic wheel portraying social and emotional wellbeing from a First Nations peoples' perspective.*
***Note:*** *Figure first published in Gee et al. (2014).*

Furthermore, experiences of 'principles of lore' – the principles that are foundational to First Nations peoples' worldview and ways of knowing, being and doing – are argued to heavily influence the social and emotional wellbeing of individuals, families and communities (Schultz, 2020). One such principle is that of respect. From this framing, ongoing experiences of discrimination can be viewed as a form of disrespect. Ongoing experiences of discrimination at both personal and systemic levels are strongly implicated in impaired social and emotional wellbeing (Gupta et al., 2020; Zubrick et al., 2010).

Depression, as a diagnosis, is a multifaceted and complex state of being that has been positioned as 'abnormal' by western psychological understandings (Riggs, 2004). However, from a First Nations perspective, depression is merely one indicator of a broader disturbance in social and emotional wellbeing. The different ways depressive states are conceptualised in First Nations and western cultures become problematic when western diagnostic tools are used to simplify a diagnosis of depression into a single condition. Despite the importance of cultural perspectives on an individual's and society's understandings of health, culture (and the influence culture has on how we view normal or abnormal health states) is often ignored (Gatwiri et al., 2021). Accordingly, we have not seen positive improvements in First Nations peoples' social and emotional wellbeing. Indeed, there is some evidence to indicate that it may be worsening, especially in adolescent First Nations girls, as indicated by the climbing rates of self-harm hospitalisations seen between 2008 and 2021 (Figure 2).

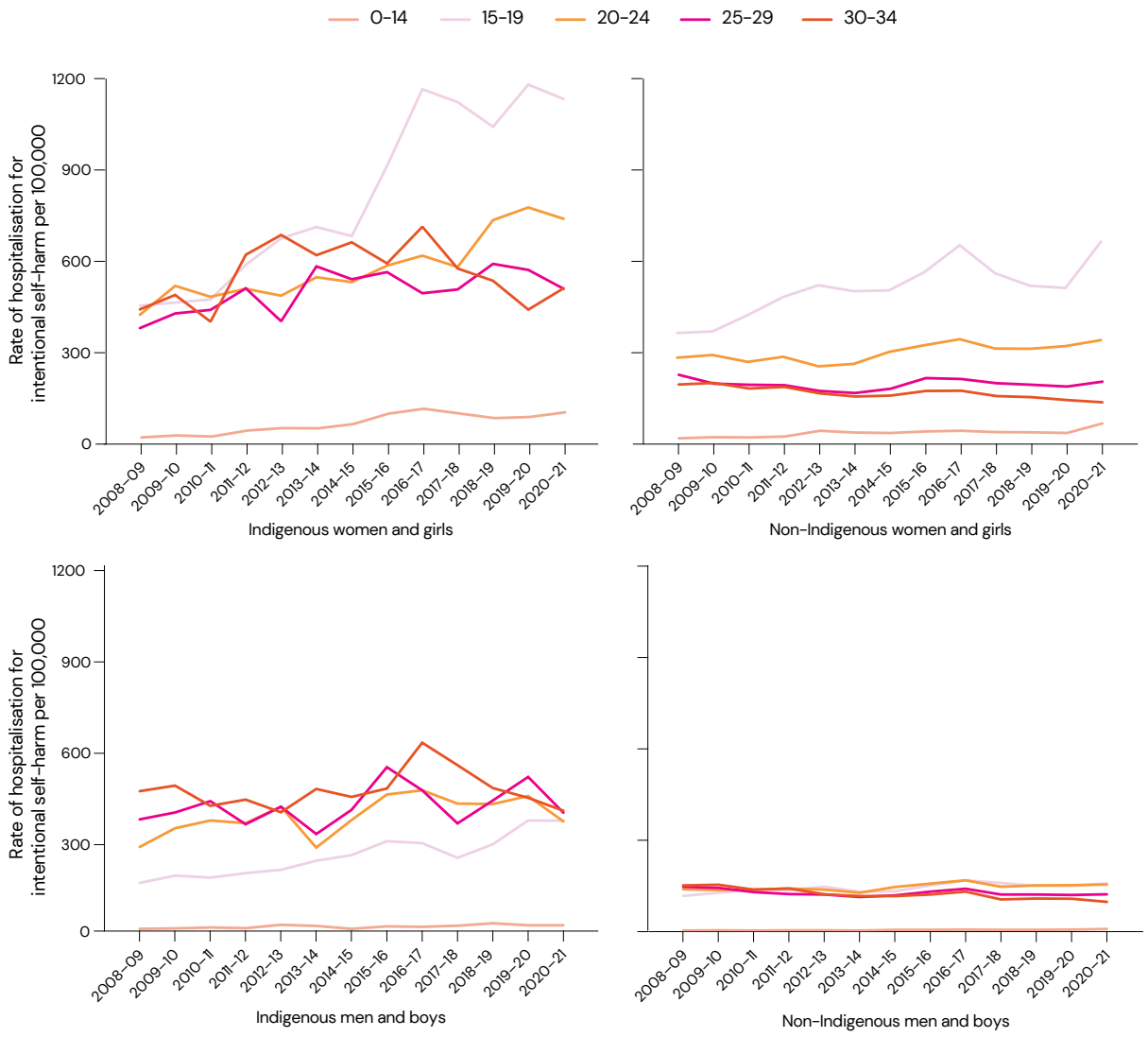


***Figure 2.*** *Age-specific rates of hospitalisation for intentional self-harm among Indigenous and non-Indigenous women and girls (top) and men and boys (bottom) (2008-2021).*
***Data source:*** *Australian Institute for Health and Welfare National Hospital Morbidity Database.*

# What are the indicators of depression among First Nations peoples?

Research suggests that the indicators of depression for First Nations peoples are often quite different to those for other Australians (Balaratnasingam & Janca, 2019). Some of the unique indicators of depression include experience of homesickness, weakening of spirit, and cultural disconnection (Brown et. al., 2012). For example, homesickness, which is driven by the experience of disconnection to Country (Gee et. al, 2014), can be an overwhelming experience for First Nations peoples as connection to Country is considered such an integral part of being. Disconnection from Country is often described as leading to 'a weakening of spirit' (Gee et. al., 2014) and this impacts the energy or life force that many First Nations peoples believe is paramount to living and thriving (Schultz, 2020).

How depression is conceptualised also differs in important ways. For example, extended periods of low mood are not necessarily an indicator of sustained social and emotional wellbeing disturbance or synonymous with clinical depression for First Nations peoples (Brown et al., 2012). Instead, a more reliable indicator of overall social and emotional wellbeing appears to be the strength of connections which, as previously mentioned, are largely impacted by social, cultural, historical and political determinants (Gee et al., 2014). These different conceptualisations of depression highlight why previous efforts focused on understanding the social determinants of First Nations peoples' social and emotional wellbeing have fallen short.

Much resource and focus goes into the study of common determinants, such as housing, education, employment, food security and financial stability (Schultz, 2020). Data is readily available on these determinants and how they affect First Nations peoples as compared to other Australians (Zubrick et al., 2010). This information is useful but in isolation does not explain the alarmingly disproportionate burden of social and emotional wellbeing disturbance for First Nations peoples. Far fewer, if any, focus or resource have been applied to the determinants that are unique to the lived experience of First Nations peoples in the context of Australian society. These determinants include:

- being removed as a child or having a family member removed across the lifespan
- being incarcerated or having a family member incarcerated
- having the opportunity to learn, speak and share your original language
- being able to visit your homelands freely
- lacking the opportunity to learn and practise your lore and culture.

These determinants are arguably present for most, if not all, First Nations peoples at differing levels. They are socio-political and cultural factors that most Australians never have to consider. Each determinant has structured targets enshrined in the National Agreement on Closing the Gap (Lowitja Institute, 2022). Alarmingly, we have strong data on each of these experiences for First Nations peoples, but this data is often not used in policy considerations of First Nations social and emotional wellbeing and equitable intervention. Rather, investment labelled as 'social and emotional wellbeing' is, more often than not, simply for First Nations mental health initiatives. This issue could be called 'data ignorance'.

> When I was in my teenage years, I suffered from depression, anxiety, and suicidality. Parts of my mental ill-health were linked to Aboriginal social and emotional wellbeing as I grew up with my white parent in an abusive household and experienced a severe loss of cultural connection to my Indigenous heritage. The western lens of depression tends to focus on a person individually, whereas the social and emotional wellbeing lens focuses on the individual as part of a community. What protects my emotional wellbeing will be different from that of a non-Indigenous person. I feel strength through being connected with my family and community, connecting to Country, engaging in my culture, being proud of my ancestry and Aboriginality, and feeling like I belong. Mental health practitioners in Australia need to understand these differences in order to make a difference in Aboriginal and Torres Strait Islander mental health and wellbeing.

**Kardu Diminin/Murrinh-Patha woman, Michelle**

# Data ignorance and social and emotional wellbeing

Data assists in our understanding of situational contexts, mediating relationships, and societal priorities. Data also determines interventions, resourcing, and policy (Jennings et al., 2018). However, data acquisition, analysis and explanation are inherently biased, and often ignore sociocultural differences in how key concepts are understood (Datta, 2018).

In cross-cultural research and policy spaces, data ignorance may be defined as the purposeful or non-purposeful exclusion of, or ignorance about, data that can help to explain the lived experiences of particular social, cultural or ethnic groups existing within majority societies. It results in the silencing of views that differ from those held by the majority. In Australia, data ignorance equates to the exclusion of, or ignorance towards, specific sources of information, for the purposes of maintaining colonial perspectives and control over First Nations affairs.

Knowing that screening and diagnostic tools are not culturally validated or 'normed' to First Nations populations (Harnett & Featherstone, 2020) while insisting on their continued use exemplifies data ignorance. This leads to misinformed data being used to determine policy and practice about First Nations peoples, which can have serious implications on their overall wellbeing. For instance, several large mental health organisations continue to use screening tools, such as the K10 (see below), with First Nations peoples despite knowing this is not recommended, as such tools have not been validated for use with First Nations peoples. This leads to invalid data being gathered and used in First Nations mental health services.

# Measuring social and emotional wellbeing

Presently, there is no standardised tool that can claim to fully encompass the notion of social and emotional wellbeing and would therefore be capable of capturing data about the lived experiences of First Nations peoples. Several tools, however, have been developed to help with the screening of these experiences; and the use of combinations of these tools may assist with gathering significant data that is culturally responsive.

The next section describes some of these tools in more detail.

## 1. Adapted Patient Health Questionnaire–9

The 9-item Adapted Patient Health Questionnaire (aPHQ9) is used extensively as a screening tool for depression, but without cultural validation. After a yearlong review, the 'Getting it Right' project adapted questionnaire items to 'Aboriginal English' to obtain cultural face validity. However, after the measure was compared to the 'gold standard' Mini-International Neuropsychiatric Interview, the appropriateness of the validation methodology was challenged, and it incurred criticism for perpetuating western frameworks and using criteria for depression that may not apply to First Nations peoples.

## 2. Stronger Souls

Stronger Souls was originally developed as a self-reported social and emotional wellbeing indicative measure for the Aboriginal Birth Cohort study. It targets adolescents and examines behavioural markers of social and emotional wellbeing determinants, including sleep patterns, anxiety, and other mood states, as well as potential suicide risk. The measure is currently recommended only as a screening tool and not for clinical purposes. However, not all items adequately reflect the unique presentations of depression and anxiety within First Nations populations.

## 3. Westerman Aboriginal Symptom Checklist – Youth

The Westerman Aboriginal Symptom Checklist (WASC–A) has been developed for First Nations youth who are aged 13–17 years. This clinical screening tool examines symptomology related to depression, suicidality, impulsivity, anxiety, and drug and alcohol use. This measure has undergone psychometric validation as a culturally appropriate tool for First Nations youth.

## 4. Kessler Psychological Distress Scales (K5)

Derived from the 10-item Kessler Psychological Distress Scales (K10), the shortened 5-item scale (K5) is a screening tool for non–specific psychological distress that maintains face validity for cultural appropriateness. However, despite the widespread use of this tool, its appropriateness for use among First Nations peoples has not been investigated.

While the existence of these four culturally sensitive measures is a clear step in the right direction, the apparent lack of an optimal standardised measure limits our ability to accurately compare the state of First Nations wellbeing across the nation. This presents a significant challenge when government policy and intervention are largely implemented from a helicopter viewpoint of health, which ignores the marked differences that occur between different First Nations communities across Australia.

# iBobbly youth self-help app

Poor access to health services also remains a critical issue for First Nations people. The difficulty of physical access to healthcare services, along with the perceived lack of cultural appropriateness of healthcare provisions, continue to act as barriers to help-seeking for First Nations youth – whether this be for social and emotional wellbeing issues or for suicidality. In an effort to improve access, iBobbly – the world's first suicide prevention app – was developed. It is targeted towards First Nations youth aged 15 years and over, and stems from the successful Kimberley suicide prevention group Alive & Kicking Goals.

Together with the Black Dog Institute, the project group designed the iBobbly app, then trialled it with 61 First Nations youth located in the Kimberley region. While focused on suicide prevention, the app also considers broader aspects of social and emotional wellbeing, such as personal strength and resilience, and aligning one's behaviours to values. The app uses culturally relevant metaphors throughout to deliver wellbeing strategies. While it is by no means a comprehensive support, research underpinning iBobbly demonstrates positive impacts from its use amongst First Nations youth, and suggests that digitally delivered interventions may be one pathway to wellbeing support for First Nations youth, particularly those in remote regions (Tighe et al., 2017).

# Closing the Gap targets

All 17 targets set out in the National Closing the Gap Agreement should be viewed collectively as targets to achieve improved social and emotional wellbeing of First Nations peoples. Unfortunately, the misrepresentation of social and emotional wellbeing is present in the way the agreement is formulated. Target 15 is 'Aboriginal and Torres Strait Islander peoples to enjoy high levels of social and emotional wellbeing'. This is segregated as a standalone target as opposed to a broader overarching goal. The single KPI offered under Target 15 is to see a sustained reduction in suicide among First Nations peoples. This is an alarming oversight. There is no evidence that sustained reduction in suicide for First Nations peoples equates to significantly higher levels of wellbeing. Rates of suicide may be reduced through policies that restrict people's access to means for completing suicide, however this does not mean that their social and emotional wellbeing has improved.

## Child and youth targets

Similarly, the child and youth targets within the Closing the Gap initiative focus on distinct social determinants, rather than on a holistic, integrated framework of social and emotional wellbeing. Standalone measures such as reduced over-representation within the child protection system – while undeniably important – fail to address the intergenerational complexities required to achieve such a goal. The child and youth targets are also flawed in their individualistic approaches. They largely fail to consider targets relevant to a collectivist framework. Such a framework is crucial to First Nations peoples' ways of knowing, being and doing, and would integrate family and community wellbeing with individual wellbeing. These considerations also apply to measures relating to engagement with the education system, and to diversion from incarceration in youth detention. Again, a siloed focus on targets that fail to integrate First Nations perspectives guarantees a lack of positive progress in these areas.

Improvements in all 17 targets are necessary for movement in a positive direction of overall social and emotional wellbeing for First Nations peoples. The latest report on the National Agreement indicates that little positive improvement has occurred across the 17 targets. It would therefore be difficult to argue that social and emotional wellbeing is improving for First Nations peoples.

> First Nations peoples in Australia experience a significantly higher burden of disturbance to their social and emotional wellbeing, including serious depression and suicidality, than other Australians. These effects are particularly concerning for First Nations youth and young adults. It would seem, therefore, that the concept of social and emotional wellbeing that is used by many non-Indigenous institutions, including government departments and agencies, is either misrepresented or misunderstood. If we are to make any positive progress in this area, First Nations voices must be heard.

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# 5 Conclusions and recommendations

In this report we have described some of the ways that childhood, adolescence, and young adulthood have changed over the last two decades, and outlined how some of these changes may be affecting young people's risk for depression. We have also described the problems inherent in applying a one-size-fits-all approach to the measurement and management of depression in young people from First Nations and non-Indigenous backgrounds. In this final section, we draw these different findings together and offer some conclusions about depression in Australia's young people.

We also present 10 recommendations, which, if implemented, could make a significant step towards reducing rising rates of depression in youth. These recommendations require the efforts of many, including schools, parents, mental health service providers, employers, and all levels of government. However, to be successful in effecting meaningful change, they cannot be adopted through a piecemeal approach; they must be implemented in a coordinated manner and funded to be delivered at scale.

# Has depression become more common in young Australians?

The findings in this report show that depression has become more common in Australian adolescents and young adults over the past 10 years. This is attributable in large part to an increase in depression prevalence among adolescent girls and young women. The rate at which depression is climbing may be greater among First Nations youth, as indicated by data on hospitalisations for self-harm; adolescent girls and young women, again, are at particularly high risk.

Knowledge of a gender gap in depression prevalence has existed for almost half a century (Weissman & Klerman, 1977). Our report indicates that this longstanding knowledge has not translated into improvements in mental health for girls and women – instead, the gender gap appears to be widening.

In contrast to the findings in adolescents and young adults, our report found no evidence of an increase in the rates of diagnosed depression over time among children, or evidence of a gender gap in depression prevalence in children. However, data showing an alarming spike in depressive symptoms during the COVID-19 pandemic indicate that children may be at increased risk in the future.

# Which aspects of modern life might be increasing young people's risk for depression?

A central question we sought to address was whether changes in the prevalence of depression in young people are related to changes to the way young people live, as well as to the social and economic factors that affect them. Although no single factor can explain the rise in the prevalence of depression among young people, several important findings emerged:

- For children, decreased physical activity, poor sleep and greater family stress may have contributed to increased depressive symptoms during the pandemic.
- For adolescents, poor sleep, loneliness, and a lack of supportive social networks were identified as possible contributing factors to increasing depression prevalence. An especially strong relationship between screen time and depression was also evident in girls; however, none of the likely mechanisms (negative social evaluation, disturbed sleep, cyberbullying) explained this link. We consider that the direction of this relationship may be reversed – rather than screen time causing depression in girls, depressed girls may seek out support online when they are struggling with their mental health.
- For young adults, financial strain and loneliness were highlighted as important factors linked to increasing depression, with women, international students and LGBTQIA+ young adults being particularly vulnerable.
- For First Nations youth, the continued use of culturally inappropriate measures of depression and a failure to consider the unique social determinants of depression in First Nations peoples may be undermining progress in their social and emotional wellbeing.

# Policy context

Rising rates of depression and other mental illnesses in young Australians have provided impetus for government and policy makers to act to improve population mental health. Recent major strategic reviews, including the Productivity Commission Inquiry into Mental Health (Productivity Commission, 2020a) and the Victorian Royal Commission report (State of Victoria, 2021), have emphasised the importance of addressing mental health issues early in life — this supports young people to successfully make the transition from education to employment and to thrive into adulthood. It also reduces the burden of mental illness. Both reports called for radical changes to Australia's 'broken' mental health system. Recommendations included new funding for dedicated child mental health services, increased investment in youth services, and a greater focus on wellbeing within all education settings.

Following these reviews, we have seen landmark Commonwealth government investment in mental health of almost $3 billion across the 2021–22 and the 2022–23 budgets and the signing of a new National Agreement on Mental Health and Suicide Prevention, signalling a clear intent for reform. Major investments targeted at young people include new Head to Health Kids treatment centres and the expansion of headspace treatment centres for youth. The National Children's Mental Health and Wellbeing Strategy was released in October 2021, the first national strategy in any country to focus on mental health and wellbeing of children under 12 (Australian Government, 2021). As part of a 2022 election commitment, the new Commonwealth government announced a $200 million Student Wellbeing Boost package, as well as funding to develop a voluntary student wellbeing check tool and to upgrade school facilities.

This year, we have also seen an increased focus on wellbeing across Commonwealth government portfolios. In June 2022, the new government announced that it would adopt a wellbeing model for the October Budget (Bartos, 2022). Specific to youth mental health, the interim report on the Review of the National School Agreement, released in September 2022, has suggested a new focus on student wellbeing in addition to the previous focus on purely educational outcomes (Productivity Commission, 2022).

Despite these promising first steps, further action is needed. The COVID-19 pandemic had an adverse impact on population mental health, with young people, especially young women, being most affected. Young people will also continue to be disproportionately impacted by the challenging post-pandemic economic conditions, with slow wage growth and rising cost of living as stressors for the foreseeable future. Sustained and coordinated whole-of-government efforts will be needed to address the rising rates of depression in young Australians. A holistic approach would involve improving child and youth population data, an increased focus on prevention and early intervention, and enhancing the quality of new and existing mental health services and treatments for young people.

# Recommendations

## Expand data on depression determinants and prevalence in young Australians

### 1 Commit to regular nationally representative surveys of mental health and wellbeing, including for under 16-year-olds

Given the rising rates of depression in adolescents and young adults, more frequent and high-quality data on the mental health of this population is critical. Currently in Australia, nationally representative data on population mental health is collected on an infrequent and irregular basis. Data from the 2020–21 National Study of Mental Health and Wellbeing Survey released earlier this year (Australian Bureau of Statistics, 2022) provided the first update on population mental health since 2007, and included a new self-report measure of self-harm for the first time. However, this survey did not include young people under 16. To date, we only have nationally representative data on the mental health and wellbeing of Australians under the age of 16 from 1998 and 2013–14 (Australian Data Archive, 2018). We need current data, particularly for those under 16, given the evidence that the prevalence of depression has increased since the 2013–14 survey.

We urge the government to commit to regular, nationally representative, population mental health surveys every 5 years that include children and adolescents, in addition to adults. These surveys should allow for consistent comparisons over time to monitor trends in depression and its determinants, as well as other mental illnesses such as anxiety disorders, which often precede and predict future depression in children and adolescents (Cohen et al., 2018). In addition, surveys should adequately sample (or, if needed, oversample) priority groups including young people, First Nations peoples, LGBTQIA+ communities and culturally and linguistically diverse groups. These surveys should include culturally appropriate measures where relevant. More frequent population mental health surveys will improve understanding of how the rapidly changing nature of young Australians' lives is affecting their mental health.

## 2 Fund research to investigate the disproportionate increase in depression and self-harm among girls and young women, including First Nations girls and women

We found evidence of a disproportionate increase in depression and self-harm for adolescent girls and young women over the last decade. The picture is similar for First Nations adolescent girls, with evidence of increasing hospitalisations due to self-harm. We also examined several possible explanations for the stronger relationship between screen time and depression observed for adolescent girls compared to adolescent boys. Although our analyses highlight several possible factors, there is little causal evidence to explain why rates of depression and self-harm for girls and young women are increasing more rapidly than for boys and young men. This lack of causal evidence hinders our ability to improve mental health outcomes for girls and women.

We recommend that government should invest in research to better understand the gender disparity in risk of depression and self-harm. This could occur through the establishment of a new targeted scheme or Centre of Research Excellence, or the addition of depression and self-harm in young women as a specific priority area of research investment under existing grant schemes. A recent Liptember Foundation report has highlighted the need for new mental health research with a gendered lens given that several biological and sociocultural gender-related factors impact upon wellbeing, and has similarly recommended greater investment in gender-specific mental health research (Liptember Foundation, 2022). This research is urgently needed to design tailored interventions that can change the current rising trajectory of mental illness for girls and women. While there are many mental health initiatives available in Australia targeted at boys and men, there are few services for girls and women.

## 3 Cease use of inappropriate measures of social and emotional wellbeing among First Nations communities, and invest in development of more culturally responsive measures

Despite significant government investments over the past decade in initiatives such as the National Agreement on Closing the Gap, First Nations social and emotional wellbeing has not improved. In fact, evidence suggests disturbances in social and emotional wellbeing are becoming more prevalent, particularly among youth, girls, and young women. This report argues that the lack of improvement in First Nations social and emotional wellbeing can in part be attributed to the gap that exists between how First Nations peoples understand and experience social and emotional wellbeing as a holistic concept, and how government and service providers commonly interpret social and emotional wellbeing as a mental health/illness concept. This gap can lead to a misallocation of resources and research that does not attend to the unique drivers of social and emotional wellbeing disturbance for First Nations peoples in culturally responsive ways. First Nations perspectives of social and emotional wellbeing must be used to determine funding allocation, with priority given to projects led by First Nations peoples, communities, and organisations to further build the knowledge space of social and emotional wellbeing understandings and experiences. Furthermore, First Nations peoples, including youth, should be at the forefront of the development of any initiatives or interventions that are intended for them. This is especially important for initiatives targeted towards youth to ensure that cultural responsiveness and collective self-determination are central to policy design, implementation and evaluation.

There remain significant gaps in methods to measure social and emotional wellbeing, and services often use measures that are not validated with First Nations peoples, including youth. Use of these inappropriate measures can contribute to systemic bias and at times discriminatory decisions that may further disturb social and emotional wellbeing for First Nations youth. Governments must facilitate a move towards only using measures and metrics of social and emotional wellbeing that have been validated with First Nations peoples. Ongoing funding and support for organisations and programs involved in promoting First Nations social and emotional wellbeing must be dependent on commitments to use appropriate measures. Investment is urgently needed to progress development and implementation of culturally responsive measures led by First Nations communities.

## Enhance efforts in prevention and early intervention

### 4 Develop national guidelines for evidence-based mental health and wellbeing programs in schools

Schools have an important role to play in prevention and early intervention for depression and other mental illnesses. A range of school-based initiatives have been developed to teach students the skills needed to support their social and emotional health. Although many of these school-based programs are effective, not all have a strong evidence base (Fenwick-Smith et al., 2018; Werner-Seidler et al., 2017; Werner-Seidler et al., 2021). The need for school-based programs to be robustly evaluated is emphasised by recent trials that have shown the potential for well-intentioned programs to lead to harm. A large-scale United Kingdom trial found that school-based mindfulness training did not improve wellbeing, and had adverse outcomes for adolescents with pre-existing or emerging mental health issues (Montero-Marin et al., 2022). Further, the plethora of available programs places undue burden on school staff and principals to determine which are most appropriate for their students. One recommendation from the 2021 Victorian Royal Commission (State of Victoria, 2021), was the need for a digital platform to house evidence-informed school-based initiatives that have been validated against a set of criteria. In response to this recommendation, the Victorian Government announced the development of the Schools Mental Health Menu (Education Victoria, 2022), which will help Victorian schools make informed choices to improve wellbeing outcomes for students and staff. Similarly, the NSW government has already developed a list of evidence-based programs for schools to choose from (NSW Government, 2021). However, there is currently no national framework, meaning that there is a lack of consistency in guidelines across states and territories. Further, there are currently no requirements for Australian schools to implement evidence-based programs over other alternatives. Schools across Australia must be better supported to select and deliver only those programs that have evidence supporting their use.

The Commonwealth government announced funding for national guidelines for the accreditation of mental health and wellbeing programs as part of a $9.7 million package to improve mental health and wellbeing in schools in the 2022–23 Budget. We support this initiative and urge the government to commence development of these guidelines as a priority. The guidelines for accreditation should focus first and foremost on evidence for program efficacy and allow for programs to be easily compared using a standardised rating system. Without national guidelines to ensure that only programs that improve mental health and wellbeing outcomes are delivered, return on investment is likely to be limited.

Aside from programs aimed at enhancing student wellbeing and preventing mental health problems from occurring, there is a separate question around the role that schools could play in identifying students with emerging mental health symptoms. Given the rising prevalence of symptoms among young people and the barriers many experience in seeking help, there is a strong theoretical argument for schools to play a role in facilitating early identification and intervention of mental health problems. However, developing mental health identification programs that are safe, confidential, effective, appropriately resourced, and integrated with evidence-based interventions is a complex task.

## 5 Include student wellbeing as an outcome measure in the next Intergovernmental Schools Agreement

Schools represent a near-universal setting for the monitoring of mental health and wellbeing of Australian children and adolescents. However, student mental health and wellbeing is not yet systematically assessed in school settings, despite evidence that mental health and wellbeing is associated with educational outcomes such as engagement and achievement (Cárdenas et al., 2022; Goodsell et al., 2017). In Chapter 2, we presented new data from the Future Proofing Study, the largest cohort study of adolescent school student mental health in Australia. This data showed that 15.1% of adolescents reported symptoms consistent with depression, and that there were high rates of self-harm and suicidal ideation among this group. Better monitoring of student mental health and wellbeing is clearly needed.

Both the 2020 Productivity Commission Inquiry into Mental Health and the 2021 National Children's Mental Health and Wellbeing Strategy included recommendations to collect minimum data on student wellbeing (Australian Government, 2021; Productivity Commission, 2020a). In response, the Commonwealth government announced funding to develop a nationally consistent measure of student wellbeing in the 2022–23 Budget. It is not yet clear how this measure will be developed, or whether it will use the wellbeing measure recently developed through the Student Wellbeing Data Project (Australian Institute for Teaching and School Leadership Limited, 2022), led by ACT Education and endorsed by Australian education ministers in 2020.

The National School Reform Agreement interim report, released in September 2022 has also called for the next intergovernmental agreement on schools to include student wellbeing as an outcome of the Agreement (Productivity Commission, 2022). We strongly support this recommendation, and urge government to commit to including an evidence-based student wellbeing measure as an outcome in the next Agreement. Consistency in data collection will allow for informed funding decisions to improve student mental health and wellbeing in areas of greatest need. This should be balanced with some flexibility in data gathering to ensure cultural responsiveness of measures used with First Nations students and other students from culturally and linguistically diverse backgrounds.

## 6 Increase economic support payments for at risk young people

In Chapter 3, we discuss how current socioeconomic factors such as slow income growth, increased employment precarity, rising cost of living, and housing unaffordability are disproportionately affecting young Australians. Financial stress and times of economic recession are associated with poorer mental health outcomes and greater risk of suicide (Coope et al., 2015; Webb & Kapur, 2015). The rising cost of living means that the proportion of young adults relying on financial support from their parents has increased (Productivity Commission, 2020b). Although this support may buffer some young adults against financial pressures, those who live away from family or whose family lacks the means to provide financial support are likely to be disproportionately affected by these rising costs. This places them at greater risk of depression, making it increasingly harder for intergenerational cycles of depression to be broken. Addressing these social determinants of mental illness is critical to reduce the risk of depression in young people.

We urge governments to establish a minimum amount for all forms of income support applicable to young people, including Youth Allowance, JobSeeker, Austudy, and ABSTUDY. Income support payments should be raised to a minimum of $70 per day, in line with the pension. They should also be indexed to wages.

## 7 Facilitate community-led initiatives and infrastructure to strengthen young people's social connections and involvement with their community

Young people were disproportionately affected by the adverse economic and mental health consequences of the COVID-19 pandemic, and experienced major disruptions to their education, work, developmental milestones, and ability to stay connected to friends. This is concerning because we know that adolescence represents a sensitive period where belonging and social connectedness are particularly important (Orben et al., 2020). Even before the pandemic, however, there was evidence to suggest that loneliness was common among young people (Goodfellow et al., 2022). As discussed in chapters 2 and 3, loneliness is associated with increased risk of depression in young people (Lim et al., 2019). Other evidence indicates that loneliness is also relevant when considering depression in children (Dunn & Sicouri, 2022). To combat rising rates of loneliness, young people must be offered opportunities to engage with their community in ways that are meaningful.

We encourage government to support evidence-based community-led initiatives to engage young people. 'Social prescribing' initiatives such as Linking Leeds have proved effective in improving social connectedness among young people (Brettell et al., 2022). Governments should prioritise initiatives aimed at engaging high-risk groups, including international students and culturally and linguistically diverse populations. We also need community-led initiatives for First Nations youth that are culturally appropriate. Improved access to community spaces and infrastructure such as parks and libraries (Ending Loneliness Together, 2020) as well as enhanced access to further education and employment opportunities are also likely to facilitate social connectedness.

## Improve youth mental health treatment and service delivery

### 8 Ensure that all new and existing youth mental health services are rigorously evaluated, with ongoing funding contingent on efficacy

Over the last 20 years, Australia has seen significant growth in mental health services, including major investment in, and expansion of, youth services. Despite this increased expenditure, the data presented in this report shows that the prevalence of depression has been increasing for adolescents and young adults. One significant finding from the Productivity Commission Inquiry into Mental Health was that, in Australia, mental health system data is rarely used to inform decisions about service delivery (Productivity Commission, 2020a). All mental health services should be evidence-based, and be regularly evaluated, refined, and improved based on data to ensure cost-effectiveness and improved patient mental health. New mental health services should be pilot tested and evaluated for efficacy before being rolled out at scale. This has not happened in Australia over recent years. Services should also be evaluated for integrity and fidelity to ensure that treatment can be delivered as intended in real-world settings.

We urge the government to ensure that all new and existing youth mental health services are rigorously evaluated. Funding decisions on mental health services should be contingent on evidence of efficacy. We need high-quality evaluations that include data on patient outcomes. Although usage rate data is useful in demonstrating demand for a service, service evaluations should be required to report on meaningful patient outcomes to determine whether the service leads to improvements in patient symptoms and functioning. Evaluations should also include randomised controlled trials whenever it is feasible and ethical to do so. In addition to outcome data, we encourage the collection of data on patient experiences of services to ensure that services are inclusive, culturally attuned, and patient centred.

## 9 Expand access to evidence-based new models of care such as digital, blended and collaborative care to meet demand, especially in tertiary education settings

Major reports have identified critical shortages in most mental health professions (ACIL Allen, 2021; Productivity Commission, 2020a), which have been further exacerbated by the pandemic. The rising prevalence of depression in adolescents and young adults poses a significant challenge for Australia's already strained mental health system. Investment in evidence-based new models of care such as digital, blended, and collaborative care are critical to expand the capacity of the existing healthcare workforce to provide treatment. These models also have the potential to broaden consumer choice, offer more immediate forms of support, and improve access to treatment in rural and remote regions. In Chapter 3, we discuss how we could partly address financial and other barriers to mental health service use by providing youth-specific services in higher education institutions such as TAFEs and universities (Staunton Smith, 2018). We also identified that, despite a higher prevalence of mental health issues, international students had lower rates of mental health consultations with a tertiary health service, suggesting that a high proportion may have unmet mental health treatment needs. We also know that for most tertiary institutions, the demand for mental health services exceeds supply (Productivity Commission, 2020). Therefore, improving access to treatment in these settings through more efficient, new, evidence-based models of care may be particularly useful.

We urge the government to support tertiary education institutions to increase access to evidence-based mental health services for students. This should include services delivered through new digital and blended models of care and collaborative care models involving existing student primary healthcare settings. We should continuously evaluate and improve upon the effectiveness of these services through the collection of outcome data. Some tertiary institutions have already begun to take a lead on student mental health. For example, the University of New South Wales has embedded a program of clinical research focused on mental health within its student health service and is piloting collaborative models of care.

Furthermore, services should include programs that are tailored to the unique needs of international students and students who are from culturally and linguistically diverse backgrounds. Specific services are likely to be beneficial given that these populations face unique barriers to mental health treatment, including language barriers and cultural differences in the stigmatisation of mental illness (Brown et al., 2016).

## 10 Invest in the development, delivery and evaluation of tailored mental health services for gender and sexuality diverse young people

The data in this report reinforces the significantly higher risk and prevalence rates of depression and suicidality in young people who identify as diverse by sexuality or gender. In the Future Proofing Study sample, 43.5% of adolescents who identified as sexuality diverse and 58.9% of adolescents who identified as gender diverse had clinically significant symptoms of depression. These rates were much higher than rates seen for their cisgender heterosexual peers (7.6% and 19.1% for boys and girls respectively). In addition to having more risk factors for mental ill-health, LGBTQIA+ young people experience additional barriers to seeking mental health treatment related to belonging to a minority group, including fear of discrimination or harassment and fear of being misunderstood (Brown et al., 2016). Traditional mental health services may not be meeting the needs of these young people, and there are few specialised support services for this group in Australia.

We strongly recommend that government invest in the development, delivery and evaluation of tailored mental health services for gender and sexuality diverse young people. This should include both face-to-face and online options. Our data from university students using the Vibe Up mental health app suggests that enhancing access to evidence-based digital mental health interventions for gender and sexuality diverse young people is critical, as it provides an alternative pathway through which young people can access support. In order to best meet the needs of this group, all service development should be codesigned with young LGBTQIA+ people with a lived experience of mental illness.

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