

Dietary approaches to support mental health

Policy Evidence Brief

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Sarah Dash, Tetyana Rocks,
Nina Van Dyke, Rosemary Calder



AUSTRALIAN
HEALTH POLICY
COLLABORATION



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About us

The Australian Health Policy Collaboration (AHPC), led by the Health Policy Team in the Institute of Health and Sport (IHES) at Victoria University, is a national collaboration of Australia's leading population health and chronic disease experts. Established in 2014, it brings together a broad range of organisations and topic-specific experts, including academics, health professionals and consumers, to translate contemporary evidence and practice into consensus-based policy recommendations aimed at preventing and reducing the impact of chronic diseases on the population.

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Executive summary

Depression and anxiety disorders, typically referred to as Common Mental Disorders (CMDs), are a leading contributor to global disease burden, with significant social and financial costs associated with their treatment and management. In Australia, depression and anxiety are the most prevalent mental health disorders. Based on data from the 2020-2022 National Survey of Mental Health and Wellbeing, the Australian Institute of Health and Welfare has estimated that 4.3 million Australians aged 16-85, or 22% of the population, experienced a mental health condition in the 12 months prior to the survey (1). Antidepressant use in Australia is among the highest in OECD countries (2). Despite advances in mental health treatments, the prevalence of CMDs has not decreased and there remains unmet treatment need. Accessing preventive and ongoing mental health care in Australia is complex, difficult to navigate, incurs long wait times, and is financially inaccessible for many. Additional strategies for the prevention and treatment of CMDs in Australia are urgently needed.

Concurrently, poor diet quality is one of the leading risk factors associated with early death and preventable disease (3). Australians report poor-quality diets that fail to meet national guidelines (4). The impact of poor diet is also recognised internationally, for example, in the UK, poor diet accounts for 13% of all deaths (5). Dietary factors that affect diet quality are complex, and are a result of various interacting systemic, social, geographical, accessibility and education-related barriers to healthy diet. Those experiencing socioeconomic disadvantage have especially high dietary risk factors.

Despite known links between dietary risk factors and poor mental health outcomes, and recognition that poor quality diets are an important modifiable risk factor for depression (6), diet is under-utilised as a preventative/management/treatment strategy. Current evidence supports the role of diet in reducing the risk of depression (7). For example, diets higher in wholefoods, such as fruits, vegetables, whole grains and fish are associated with a lower risk of depression; conversely, poorer quality diets higher in discretionary foods are associated with increased risk of mental health concerns. These relationships have been shown across the lifespan, from early life to old age. In the last 5 years, evidence from randomised controlled trials has shown that dietary change can be effective in reducing the severity of depressive symptoms and clinical depression (8–10); however, further work is needed as the evidence base is relatively small. Nevertheless, given the potential mental health benefits of diet plus its beneficial impact on physical health, the available evidence has influenced the treatment guidelines for mood disorders in Australia, with diet and other lifestyle factors considered foundational.

Dietary strategies to improve and treat mental health may be implemented by a range of health professionals, including general practitioners (GPs), other medical professionals and some allied health professionals. However, there is evidence that knowledge about the relationship between diet and mental health is low among health professionals (11). Furthermore, recent research suggests that certified practitioners such as Accredited Practising Dietitians (APDs) are best placed to deliver diet-related interventions, especially considering the high overlap between CMDs and other health conditions such as eating disorders, cardiovascular disease, diabetes and digestive disorders (12,13).

There are various patient entry points through which individuals can access mental health support and dietary support in Australia. Through the Better Access Initiative, patients can

access up to 10 individual and 10 group subsidised appointments per calendar year with a GP, other medical practitioners and one or more allied health professionals for patients with mental disorders who seek care through their GP. APDs are not eligible to provide allied health services under this initiative. Chronic Disease GP Management Plans support the treatment and management of chronic conditions requiring multi-disciplinary care and provide access to Medicare-subsidised allied health support for eligible patients. Importantly, these are limited to 5 sessions per year and are shared across all eligible allied health professionals, which is contrary to best clinical practice guidelines for the management of chronic conditions, and the Medicare subsidy typically does not cover the full amount. Both diet and mental health support can also be accessed via community health services, but the accessibility and availability of these services varies widely across the country. Finally, individuals who have private health insurance and who are able to pay out of pocket fees can access mental health and dietary support directly.

Models of self-care and social prescribing have also been put forward as potential mental health and dietary support strategies to embed within existing care and/or referral pathways. For example, social prescribing may include referrals to community-based dietitians or social workers. Although self-care implies individual actions and behaviours, behaviours are driven or supported by environmental, economic and social determinants that affect an individual's circumstances and health. These factors, such as a person's socio-economic status and access to material resources, are often beyond an individual's control to modify. Therefore, public policy has a significant role to play in addressing disparities in health within and between communities across Australia.

This report considers identified needs and relevant evidence supporting effective interventions and makes four policy recommendations:

1. Access to dietetic services for people with a common mental disorder requiring multidisciplinary treatment services should be provided through inclusion of Accredited Practising Dietitians as eligible allied health professional providers under the Better Access Initiative.
2. National Information and resources on the role of diet and nutrition in mental health should be commissioned, in addition to the suite of education and resources funded by the Australian Government Department of Health and Aged Care (the department) for organisations and professionals to help them support people with mental ill-health (14). These should then be implemented by relevant medical, allied health and mental health education and training organisations.
3. Social prescription within primary health care practice should include referral to community organisations and services providing individual support with nutrition for individuals with common mental disorders.
4. National, state and territory mental health policies and programs should raise public awareness of the role of nutrition and diet in mental health.

These policy options are intended to inform and promote recognition and implementation of dietary support for mental health care through primary care and the Medicare Benefits Schedule (MBS) as a preventive health and treatment approach to improve population mental health. They also address access barriers and social inequities within the mental health system and health care system more broadly that limit access to evidence-based treatment and care for many.

Scope and purpose

This policy evidence brief presents evidence on the extensive burden of common mental disorders and poor diet quality in Australia and the role of dietary factors in the prevention and treatment of mental disorders. This brief also reviews existing access to dietary support as a mental health prevention and treatment approach and identifies policy options for this to be improved. Finally, this brief presents policy considerations and recommendations. The brief focuses on CMDs only; Serious Mental Illnesses (SMIs)¹, eating disorders and substance abuse are beyond the scope of this report. Health care needs of people living with serious mental illnesses and appropriate models of care and treatment options, including the role of dietary support, have been considered in detail in the Australian Health Policy Collaboration's [Being Equally Well Roadmap](#) and related [publications](#).

The term mental disorders is used to describe significant disturbances in an individual's thinking, emotional regulation, or behaviour (15). Although terminology such as mental health concerns and mental illness are often used interchangeably to represent the same construct, the term mental disorder is used throughout this report. This term aligns with the language used by the Australian Bureau of Statistics and national prevalence data.

Additionally, CMDs are identified by the World Health Organisation as depressive and anxiety disorders (16). Although depression and anxiety are symptomatically and pathophysiologically distinct, they do co-occur at high rates and are often examined and measured together (17). The term Common Mental Disorder is used throughout this report, but where relevant to only one disorder, the terms depression or anxiety are used individually. Importantly, mental health conditions often co-occur with physical illnesses, which can also be addressed through the provision of dietetic health care(18).

Lastly, contemporary evidence supports dietary approaches as an adjunct treatment alongside other strategies such as medication and/or cognitive behavioural therapy. This is aligned with evidence and clinical guidelines that support a multi-method approach, including recent guidelines from the Royal Australian and New Zealand College of Psychiatrists (RANZCP) (19,20). Examining diet as a replacement for existing therapies is outside of the scope of this report. The evidence and recommendations included in this report are proposed as adjunct and not as an independent or replacement therapeutic approach.

¹ Serious mental illness (SMI) commonly refers to a diagnosis of psychotic disorders, bipolar disorder, and either major depression with psychotic symptoms or treatment-resistant depression; SMI can also include anxiety disorders, eating disorders, and personality disorders, if the degree of functional impairment is severe (<https://www.nimh.nih.gov/health/statistics/mental-illness>).

What is the problem?

The burden of common mental disorders is high

Depression and anxiety, typically referred to as common mental disorders (CMDs), are among the top 10 causes of global disease burden (21). In Australia, CMDs are the most prevalent mental health conditions, with anxiety the most common among symptomatic disorders reported in a national mental health and wellbeing survey as having been experienced by respondents in the last 12 months (22). Data from the National Study of Mental Health and Wellbeing 2020-2022 showed that nearly 43% of Australians aged 16-85 had experienced any mental disorder at some stage in their life (22). Globally, CMDs have significant societal and economic costs associated with treatment and loss of productivity (23). Every year, CMDs are estimated to cost the global economy approximately \$1 trillion USD in lost productivity (24).

Mental disorders are shaped by social, physical, environmental, economic and individual circumstances (25). Despite advances in mental health treatments, the prevalence of CMDs has not decreased, there remains a significant 'treatment gap', in which treatment is inaccessible or inadequate (26) and CMDs have high rates of relapse (27). Additionally, conventional treatments such as medication and psychotherapy may not be suitable or accessible for all individuals, and medication also has side effects that can impact wellbeing, such as physical symptoms (e.g., nausea) or sleep disturbances (2,28,29). Accessing mental health care in Australia is often burdened by complex pathways difficult for patients to navigate, long wait times and high gap fee payments. Additional strategies for the prevention and treatment of CMDs in Australia are urgently needed.

Diet quality in Australia is poor

Poor quality diet is a well-known risk factor for a range of chronic conditions (e.g., heart disease, diabetes), which are among the leading causes of death and disability in Australia (30,31). In 2018, dietary risk factors (e.g., low consumption of whole grains, fruits, and vegetables) accounted for 5.4% of the country's total disease burden (32). In 2017, approximately 11 million deaths globally and 255 million disability adjusted life years (DALYs) were attributable to poor quality diet (33). Diet quality among Australians does not align with the Australian Dietary Guidelines (ADGs), with many Australians across all age groups consuming diets that are nutritionally inadequate (34). The guidelines provide evidence-based recommendations and general information and advice to support healthy dietary intakes and reduce dietary risk factors and the prevalence of diet-related disease across the population (35). However, fewer than 7% of adults and 9% of children meet the Australian Dietary Guidelines (36). Additionally, discretionary foods account for approximately 35% of Australians' energy intake, which exceeds the recommendations (37).

Diet quality is affected by various interacting influences, including social, geographical, accessibility and education-related factors (38,39). Australia's food environment and related dietary patterns have changed considerably in recent decades, with increasing reliance on ultra-processed foods and convenience items, which are often readily available, well-advertised and perceived to be less expensive than more healthful foods (40). These types of food generally have lower nutritional quality and are often classified as discretionary. There are significant differences in diet quality across social strata, with those experiencing socioeconomic disadvantage and Aboriginal and Torres Strait Islander populations having especially high dietary risk factors (41–43). Additionally, geographic location can impact diet

quality, as regions with higher density of local food outlets are associated with better diet quality (44). Conversely, the ‘healthy migrant effect’, whereby new immigrants to developed countries have health advantages compared to native-born populations (45) may be in part a result of migrant groups adhering to more traditional dietary patterns (46). All strategies to enhance diet quality must account for these inequities and the structural factors that influence it.

The costs to individuals and the healthcare system associated with poor diet are not known, as most studies examine only dietary components as indicators of diet quality (47). Furthermore, poor diet often co-occurs with other risk-related health behaviours, for example sedentary behaviour and smoking (48). However, a health and economic analysis published by VicHealth in 2009 estimated that inadequate fruit and vegetable consumption was associated with \$206 million of healthcare costs nationally that could be significantly reduced with even modest increases in nutritional intake (49). An analysis by Deloitte in 2016 modelled the impact of increased vegetable intake on reducing government health expenditure. It estimated that a 10% increase in vegetable consumption would have led to a \$99.9 million reduction in government health expenditure in 2015-2016 (50). An economic evaluation of a dietary intervention for the treatment of depression, the ‘Supporting the Modification of lifestyle In Lowered Emotional States’ (SMILES) trial – a dietary intervention for people with current major depression - identified that average health care costs for the intervention group were \$856 lower and societal costs were \$2,591 lower, compared to the control group (51). Similarly, a cost analysis of the ‘Healthy eating for life with a Mediterranean-style diet’ (HELFIMED) study identified a best estimate differential cost/quality adjusted life year of the diet group vs control group was \$2,775 (52). Although there is no modelling for cost reduction associated with mental health, even modest improvements to diet quality may also reduce disease burden and associated mental health costs.

Dietary support is difficult to access and knowledge is poor

Despite the known links between dietary risk factors and both physical and mental illness, and recognition that poor diets are considered more modifiable than other disease risk factors (6), diet is under-utilised as a preventive health intervention or as part of chronic disease treatment and management (53,54).

Primary care plays a key role in chronic disease prevention and management in Australia and GPs are critical to providing nutrition information and support directly or via referral. However, there are various patient and clinician barriers to application of nutrition support for the prevention and treatment of chronic disease. Specifically, nutrition counselling in primary care, if provided, is typically very brief. An observational study of American family doctors (the equivalent of GPs in Australia) identified that nutrition counselling took place in just 25% of observed patient encounters, with each instance lasting on average less than one minute (55). In Australia, GPs cite lack of time as the biggest barrier to discussing nutrition with patients (56). Other barriers include limitations in their nutrition content knowledge and clinical application. In a survey of Australian and New Zealand medical students, participants had variable nutrition knowledge and many students expressed lack of confidence in applying this knowledge clinically (57). In another survey of nearly 200 Australian mental health practitioners, barriers such as insufficient skills, knowledge, and qualifications and a belief that providing nutrition information was outside their scope of practice, were most highly reported (58). Yet, a cross-sectional study exploring the rate of referrals to nutrition specialists (dietitians or nutritionists) by Australian GP registrars found that only 0.26% of all consultations included in the study resulted in referrals to nutrition support. Of these, over 60% were for established

patients with chronic disease and complex care needs, with under 40% related to a Chronic Disease Management plan (53).

Through Chronic Disease GP Management Plans, patients have access to 5 MBS-subsidised allied health services per calendar year, including dietetic services. These 5 services often include more than one different allied health professional and typically still require payment of a gap fee for each appointment. Eligible chronic medical conditions must have been present or are likely to be present for six months and include, but are not limited to; asthma, cancer, cardiovascular disease, diabetes, kidney disease, musculoskeletal conditions and stroke (59). The Australian Institute of Health and Welfare has reported that the main conditions for which MBS-subsidised allied health services were accessed in 2016, were diabetes, effects of a stroke and Alzheimer's disease or dementia (60). The percentage of patients who used at least one Medicare-subsidised allied health service for mental health conditions was 24% (60). Among MBS-subsidised allied health services, dietetics were the least-frequently used service among patients who reported having at least one long-term health condition (including but not limited to mental health conditions), accounting for just 2.1% of the proportion of services accessed (60).

In addition to patient and referral related barriers to access, health practitioners report low self-efficacy in counselling patients on diet (61) or feel that lifestyle-related counselling is beyond the scope of their practice (62). There is no published evidence evaluating clinician knowledge on nutrition for mental health specifically, outside of eating disorders (63). Given the previously reported challenges related to dietary advice for other chronic diseases, it is likely that clinician knowledge and confidence in providing dietary advice specific to CMDs is low.

Low nutrition knowledge in health practitioners is compounded by low nutrition literacy in the wider population. A small study in 2008 of approximately two hundred Australian adults identified that there was a lack of awareness of public health nutrition guidelines and significant confusion around the details of the dietary guidelines. Importantly, nutrition literacy was poorer among low socio-economic groups and those with lower levels of education (64). Although more recent Australian data on population nutrition literacy is lacking, low nutrition knowledge and skills as barriers to healthy eating are well documented in the evidence (65). There is no current research that has surveyed population knowledge or understanding of the importance of diet to mental health. However, given the low self-reported knowledge among health practitioners and low adherence to dietary guidelines within the population, this may indicate that general awareness of the diet-mental health relationship is low.

The evidence: What is known about the role of diet in common mental disorders

Diet as a risk and protective factor for mental health

In recent research and practice, diet has been noted as a risk factor for mental disorders including depression and, to a lesser degree, anxiety (66). Evidence for diet as a mental health prevention and treatment approach has grown in the past decade (67). Data from observational studies have consistently shown that poor diet is associated with the risk of developing depression. These observational studies have been summarised by two systematic reviews and meta-analyses which show that higher diet quality scores on dietary indices (tools used to quantify diet quality by assigning scores to foods or nutrients), that are typically characterised by high fruit, vegetable, whole grain and fish intake, are associated with a lower risk of depression and, conversely, that lower scores indicating poorer quality diet are associated with mental health risk (68,69). A meta-analysis of lifestyle factors in the prevention and treatment of mental disorders found that healthy dietary patterns were associated with a significantly reduced risk of depression (70). This relationship has been demonstrated across the lifespan, in children, adolescents, young adults, adults and older adults (68,71–73). Evidence also supports a relationship between diet and anxiety; however, this has largely focused on specific subgroups. For example, a recent systematic review identified a moderate link between diet quality and anxiety in emerging adults (72). This relationship has also been demonstrated in observational studies among women in Australia (74) and internationally (75,76) and during COVID-19 (77). The evidence supporting diet as a protective or risk factor for anxiety is less robust than for depression. Overall, research has shown that a higher quality diet, such as a Mediterranean-style diet, can decrease the risk of developing depression by approximately 30% (78–80).

Diet in the treatment of common mental disorders

More recently, trials have investigated the role of diet as a treatment strategy specifically for depression. In 2017, the SMILES trial in Victoria demonstrated that participants who completed a 12-week dietary intervention had a significant reduction in depression symptoms compared to those in the control group condition (8). These findings were corroborated by a three-month Mediterranean-style dietary intervention supplemented with fish oil, in which participants randomised to the dietary group had significantly greater reductions in depression symptoms and improvement in quality of life compared to the control group (10). Additionally, a study run by Macquarie University comprised a three-week diet intervention among young adults based on a combination of recommendations from the Australian Dietary Guidelines, principles of a Mediterranean-style diet and neuroprotective diet components (e.g., omega-3 fatty acids, turmeric). The study demonstrated a significant reduction in depression symptoms among intervention participants compared to the control group (9). Most recently, a 12-week randomised controlled trial in young men (18-25 years) being treated for moderate to severe depression showed that, compared to the control group, those following a Mediterranean diet intervention had significant decreases in depression scores (81). In 2019, a meta-analysis of randomised controlled trials on the effects of dietary improvements on symptoms of depression and anxiety demonstrated that dietary interventions significantly reduced depressive symptoms; however, no effect was shown for anxiety (82). These findings have had an impact on clinical treatment recommendations for mood disorders. Clinical guidelines published in

2023 for the use of lifestyle-based approaches in Major Depressive Disorder emphasise diet as an important component (83). Additionally, clinical practice guidelines from the RANZCP underscore the importance of diet and other lifestyle factors as ‘non-negotiable’ elements in treatment of mood disorders (20).

As with the observational evidence, the evidence for diet as a treatment strategy for anxiety is less robust as the investigation of diet on anxiety has not been as well examined in clinical trials (84). A systematic review of whole diet interventions on depression and anxiety identified 10 studies that examined anxiety or total mood disturbance, of which just two had significant improvements in their intervention group compared to their control group (85).

There are several proposed mechanisms through which diet impacts mental health, including via the gut-brain axis, systemic inflammation, oxidative stress and epigenetics among others (86), though these mechanisms are not completely understood and additional intervention research with biomarker data is required.

Effectiveness of dietary advice from health professionals

Despite known issues and barriers identified earlier in this Brief, health practitioners, including GPs, are well-placed to consistently include dietary advice in early intervention and treatment for mental health conditions. The effectiveness of lifestyle interventions (e.g., physical activity, diet change, smoking cessation) delivered in primary care and community health have been demonstrated (87,88). There is clear potential for interventions delivered by primary health professionals to impact dietary behaviour, and nutrition advice delivered in this setting has been associated with dietary improvement (89). A systematic review investigating the effectiveness of nutrition care delivered by GPs demonstrated that GP-led intervention resulted in improved behaviours, such as reduced energy intake or increase in vegetable or fish consumption, and reduced risk factors (e.g., serum lipid levels; blood pressure) (90). Lifestyle interventions in primary care have also been shown to improve quality of life and to be cost-effective (91).

APDs are university qualified practitioners with knowledge in clinical nutrition and disease management. Appointments with APDs are eligible for a Medicare rebate under a Chronic Disease GP Management Plan (92). Dietary advice from accredited professionals, such as APDs, has been shown to have a greater effect on outcomes (e.g., total cholesterol) than when that same advice has been provided by doctors (93). This has also been shown in mental health settings with interventions delivered for people with SMI found to be more effective when delivered by dietitians (12). Dietitian-delivered support is recommended in protecting the physical health of those with mental illness (13). Additionally, a systematic review of dietary interventions for depression and anxiety showed that 85% of successful interventions had been provided by a dietitian or professional trained in nutrition science (85). Dietitians are considered an integral part of the management of individuals with mental illness, as reflected in the mental health role statement developed by Dietitians Australia (94). Additionally, allied health professionals (e.g., psychologists, social workers, APDs) have skills and experience in motivational interviewing, goal setting and problem solving, all of which are important behaviour change techniques (95,96).

The policy landscape: Accessing dietary support for mental health

National policy initiatives to support Australians living with chronic disease deliver significant benefits to individuals and community health and are cost effective (97–99). However, despite the growing burden of mental health conditions and the evidence supporting modifiable lifestyle factors in their prevention and treatment, nutrition and diet are not recognised as modifiable risk factors for inclusion in prevention, early intervention and treatment strategies and programs.

There are various patient entry points through which individuals can access mental health support in Australia. State and territory health systems provide publicly funded mental health and dietetic services through public hospitals, inpatient and community mental health care, with regional variation in the pathways available to access mental health care (100) and dietitians (note that Figures 1 and 2 present examples of support pathways in the Victorian health system).

GPs serve as the primary entry point for patients seeking mental health care and provide the majority of mental health care in Australia (101). Currently, there are several schemes through which GPs can work collaboratively with other specialist and allied health care providers to provide mental health care for Australians. These schemes provide co-ordinated and subsidised care for chronic medical conditions. Chronic medical conditions are defined as illnesses that have been (or are likely to be) present for six months or longer, and although common mental disorders often meet these criteria, they are not regularly included in this categorisation (102).

Mental health treatment plans (MHTP) through the Better Access Initiative

Mental Health Treatment Plans (MHTPs) are available to individuals who are diagnosed with a mental disorder. A GP can prepare a MHTP for a patient with a mental health diagnosis every 12 months. Through the MHTP, an individual may be referred to a psychiatrist or paediatrician for assessment and diagnosis. Patients can receive services under MHTPs from eligible GPs and other medical practitioners, psychologists, social workers, and occupational therapists. Currently, individuals with a MHTP can access up to 10 individual and 10 group sessions with a mental health professional each calendar year through an initial GP referral (103).

The national Better Access Initiative was initially established in 2006 to improve treatment and management of diagnosable mental health conditions through integrating allied health and GP services (104). The Better Access Initiative aims to support mental health by providing individual and group mental health support and the scheme includes Mental Health Treatment Plans (MHTPs) (previously known as Mental Health Care Plans) (105), which aims to encourage help-seeking among people experiencing a mental health concern and to improve outcomes (101).

In 2022, a comprehensive evaluation of the Better Access Initiative reported that the scheme has improved treatment rates for people with a mental disorder and that most patients (91%) reported improved self-rated mental health. Health care providers reported positive aspects of the initiative. The evaluation also found that, while outcomes of treatment were positive for

almost all who utilised Better Access services, rates of uptake and utilisation of Better Access services varied by age, sex and socioeconomic status. People aged 65 and over, males, and people living in major cities in lower socioeconomic status areas and in regional areas showed low or sometimes negative rates of growth in uptake of the program's services. Although current individual and group services available through a MHTP are Medicare-subsidised, practitioners set their own fees. Patients are responsible for any gap payments (between the subsidy payment and the practitioner fee). Additionally, access to services often incur long wait times of between an average of 17-22 days to receive initial treatment (106). Patients must revisit their referring health practitioner annually for a MHTP. As well, patients who require care that exceeds the subsidised sessions per calendar year have either to go without or access care privately.

Apart from eating disorders, there is no Medicare-funded scheme through which patients can access services provided by additional allied health professionals that have been linked with mental health benefits (such as APDs and exercise physiologists) beyond those eligible to provide Better Access Initiative subsidised services. Better Access is a logical host for dietary support for mental health, given its existing infrastructure for collaboration between allied health professionals and the growing evidence base for the role of diet in mental health. In 2021, Dietitians Australia called for inclusion of 10 or more dietetic services under the Better Access Initiative (107).

Policy considerations:

Referral to individual and group diet support through APDs should be included in MHTPs.

The number of allied health sessions subsidised through these Plans should be increased (to 10 or more, as per recommendations from Dietitians Australia) to accommodate two or more allied health practitioners as participating team care providers.

Chronic Disease Management Plan

Patients experiencing mental disorders may also access care through chronic disease management schemes. These enable GPs to co-ordinate and plan health care for patients who have chronic or terminal medical conditions (108). This is designed to support patients who need or would benefit from team-based, multidisciplinary care from a GP and at least two other health or care providers (108). Although not explicitly listed, mental health conditions such as depression or generalised anxiety disorder may meet these criteria, determined by GP clinical judgement.

Approaches to chronic disease management

GPs currently prepare three types of plans to manage chronic disease (Table 1): a GP Management Plan, Team Care Arrangements or Mental Health Case Conferences (108), each of which can be prepared once every 12 months. A patient with a chronic medical condition may be eligible for services under any or all three of these plans. The criteria for a chronic medical condition may include asthma, cancer, cardiovascular disease, diabetes, etc. (108). Care plans can help both GPs and patients co-ordinate and streamline their care. Proposed changes of these plans to a single GP Chronic Condition Management Plan have been announced by the Department of Health and Aged Care. These changes are to take effect from 1 November 2024 (109) and are intended to streamline and modernize the existing plans and arrangements. Importantly, the upcoming Chronic Condition Management Plan will

formalize referral processes for allied health services. Existing recipients of health care under these plans are to continue to access their care.

Currently, each option for chronic disease management may address slightly different needs. For example, a GP Management Plan provides for a GP to write a plan that describes a patient's needs, health concerns, management goals and required treatment from the treatment team (108). Team Care Arrangements provide for patient consultations with at least two other collaborating health or care providers and includes a description of the care team, treatment goals and plans for review. Additionally, Team Care Arrangements can be used for patients needing mental health treatment (108). Lastly, patients are eligible for Mental Health Case Conferences if they are managed under a MHTP or an Eating Disorder Treatment and Management Plan (108). This is similar to Team Care Arrangements and also involves consultation with a multidisciplinary team.

Chronic Disease Management Plans are primarily about the co-ordination of care between the referring GP and other health professionals. However, those receiving care under any of the current three types of Chronic Disease Management Plans are provided with limited access to 5 individual allied health services annually (e.g., Aboriginal and Torres Strait Islander health services, exercise physiology dietetics, psychology) with additional provisions for those with Type II Diabetes (110). Additional details of access to allied health services are outlined in the following section.

Policy consideration: There is greater opportunity to leverage Chronic Disease Management Plans for mental health in combination with Mental Health Treatment Plans, given that CDMP are not typically used for mental health despite the chronic nature of these conditions. Additionally, the limited provision of allied health services is inadequate to support sustainable therapeutic benefit and behaviour (e.g., dietary) change. Access to 10 or more allied health therapy services, determined on clinical indications, have been proposed (107).

Table 1: Summary of Chronic Disease Management options (108)

Plan	Conditions eligible	Purpose	Who participates?	Access to allied care
GP Management Plan	<p>Chronic medical conditions are those that have been, or are likely to be, present for at least 6 months. For example:</p> <ul style="list-style-type: none"> • asthma • cancer • cardiovascular disease • diabetes • kidney disease • musculoskeletal conditions • stroke 	Describes a patient's needs, health concerns, management goals and required treatment	A GP prepares a plan for the patient	<p>5 individual allied health services each calendar year.</p> <p>Patients with type 2 diabetes can also access additional group services for:</p> <ul style="list-style-type: none"> • diabetes education • exercise physiology • dietetics
Team Care Arrangements	<ul style="list-style-type: none"> • chronic disease • mental health • eating disorder 	Involves consultation with at least two other collaborating health or care providers and includes a description of the care team, treatment goals and plans for review	A patient's usual medical practitioner and at least 2 other health or care practitioners (one of whom may be another medical practitioner)	
Mental Health Case Conferences	<p>Eligible if being managed under:</p> <ul style="list-style-type: none"> • a mental health treatment plan • an eating disorder treatment and management plan 	If they are managed under a mental health treatment plan or an eating disorder treatment or management plan. This is similar to Team Care Arrangements and also involves consultation with a multidisciplinary team	GP/non-GP medical practitioner/psychiatrist or pediatrician/ allied health professional. Allied health professionals include those who meet qualification requirements in a psychological therapy health service, focussed psychological health service or dietetics health service	

Allied health care as part of chronic disease management

As part of Chronic Disease Management, patients can access up to 5 sessions with allied health providers. Eligible allied health providers under the GP Management Plans and Team Care Arrangements include (108,110):

- Aboriginal health workers or Aboriginal and Torres Strait Islander health practitioners
- audiologists
- chiropractors
- diabetes educators
- dietitians
- exercise physiologists
- mental health workers
- occupational therapists
- osteopaths
- physiotherapists
- podiatrists
- psychologists
- speech pathologists

Under these arrangements, GPs determine eligibility for multidisciplinary care and services must be directly related to the patient's chronic condition. Individuals with mental health concerns that meet criteria (e.g., chronic medical condition that have been/likely to be present for 6 months) are eligible for both GP Management Plans and Team Care Arrangements. However, lack of recognition of the role of diet in mental health is likely to be a barrier to GP awareness of the potential to provide patients with this support through these arrangements.

GPs who provide Chronic Disease Management Plans under any of the three options are able to refer to allied health professionals where they believe a patient would benefit from treatment. Although referral to dietetic care is an option, in most cases, dietetic referral has not been common in mental health care outside of eating disorders (111). Patients with common mental disorders may receive a referral for a co-occurring condition, such as diabetes. In fact, patients with type II diabetes can access additional group services including diabetes education, exercise physiology and dietetics (108). Importantly, patients can request which services they would like to access, and therefore raising awareness of the diet-mental health relationship among both patients and clinicians is relevant.

Policy consideration: Current arrangements provide that access to dietetic support for an individual with a mental disorder may only be considered because of a co-morbid condition (e.g., Type II diabetes). It is evident that current arrangements (a GP Management Plan, Team Care Arrangement or Mental Health Case Conference) have been inadequate pathways to dietary support for mental health. The future GP Chronic Conditions Plan arrangements should address the complex arrangements that require GPs to consider multiple schemes (e.g., Better Access Initiative; Medicare; headspace; Access to Allied Psychological Services) when planning appropriate care for an individual. These schemes are fragmented, often work in isolation and may offer limited support due to a narrow focus of illness or population (112).

Private health insurance

Australia's two-tiered health system permits individuals to access health care – both in and out of hospital – through subsidised public health services or through private sector hospital and

specialist services. Private health insurance 'extras cover' also helps reduce the cost of out-of-hospital services (e.g., allied health) that Medicare does not cover (113).

Individuals with a common mental disorder who have private health insurance or who pay 'out of pocket' can seek care directly via private psychiatrists, psychologists, or allied health specialists without a GP referral (114,115). Individuals may also access dietary support from dietitians or nutritionists, although training, registration, and qualifications differ between these practitioners. While Medicare does not offer rebates for nutritionist support, many private health insurers offer rebates for both dietetic and nutritionist care. In general, dietetic qualification and accreditation allows for regulated and illness-specific and chronic disease clinical treatment and management (medical nutrition therapy) and nutritionists play a role in offering more generalised health promotion support (general healthy eating).

The two-tiered model of care (e.g., public and private) in which some can access care without a referral but others must get a referral from their GP has been criticized for creating socio-demographic differences in access to care (116). Private health insurance general treatment (ancillary or 'extras' cover) policies allow for subsidised access to allied health, including dietetic support. Recent data (2023) shows that approximately 55% of Australians aged 18 and over had extras cover private insurance, with 45% having both hospital and extras cover (117). The number of people with private health insurance increased during the COVID-19 pandemic, from 2019, with more people purchasing extras cover for ancillary health services (118),

Proportions of people who purchase private health-insurance differ by social strata, with rates more than three times higher for those living in areas of greater advantage as compared with those in areas of greater disadvantage (119).

Policy consideration: The ability to purchase health insurance determines access for people with a common mental disorder to allied health care (e.g. psychologists, dietitians). This creates both inequity in access and the potential for poorer health outcomes for those who cannot afford health insurance.

Community health services

Community health services provide primary health care, are predominantly state-funded (120), and vary across Australia. Examples of services provided by community health services include allied health services, chronic disease management and community mental health services (e.g., specialised mental health care or day clinics). Community health access generally is targeted towards those with the greatest social or economic needs, who are typically at the greatest risk of poor health (120).

Access to mental health care through community services may include seeing a psychologist at a community centre, or going to a specific mental health service such as Victoria's Mental Health and Wellbeing Locals, which provide services free of charge (121) or headspace, mental health treatment centres for young people (122).

Some community health services offer diet/nutrition support (123). In general, a dietitian working in community care may provide guidance on social determinants of nutrition quality (e.g., access to healthy foods, food affordability) and individual or group advice, or facilitate training or education [86]. Many community health centres prioritise equity and service access and aim to address barriers to accessing care (124). As such, fees are often determined based on government funded programs and income (125,126).

Services offered by community health services may vary from service to service depending on resources and the specific needs of the community. Given that these services are primarily state/territory or private/community funded, there is no universal national pathway or process through which to access community health services (127). Community health services may determine fee schedules based on individual centre resources and to support access for members of the community. For example, fees may be waived (or reduced) for people in financial hardship. Additionally, Community health services may use funding from other programs (e.g., a diabetic program) to make dietetic services available more broadly.

Policy consideration: Access to dietetic services via community health pathways may still incur long wait times, and there is no systematic process for accessing dietetics for mental health. Additionally, there is no model of referral (e.g., from a GP; from another community health practitioner), and thus it may be up to individuals to seek this service. There is substantial regional variation in access and provision to community health care, and therefore navigation and reliable access is not equitable.

Box 1: Case Study - Victorian community health services

Case study – Victorian community health services

CoHealth is an example of a community health service with several locations in metropolitan Melbourne in Victoria. Dietitians are available for everyone in the community (including, e.g., those experiencing homelessness; children) (128). Individuals can book appointments if they are under 65, or under 50 if Aboriginal or Torres Strait Islander, via online or phone. Homeless clients can drop in at specific clinics, and cost is determined on a sliding scale depending on income – which may result in little or no cost. Fees may be determined by funding received from government programs, like Commonwealth Home Support Programme (CHSP), in which fees/co-payments are based on Centrelink standards for low, medium and high incomes (discussed with clients when appointments are booked). Fees range from \$10 per consultation for low-income individuals, may be free for children and are low cost (\$5-\$8) for group or virtual sessions. High income groups may pay approximately \$100 for a first appointment and \$75-\$125 for subsequent appointments. Group sessions, either on-line or face to face, are significantly less costly, (\$5-\$20 per person) (128), although group sessions may not be sufficient or appropriate for individuals experiencing mental health concerns.

StarHealth, another Melbourne-based community health service, offers a similar funding scheme. Dietetic services for low income groups (<\$75,000 p/a) cost \$10 per session, are free for children; higher income earners pay \$90 for the initial session and \$65 for a review (129). The wait times to see a dietitian may range from two weeks to four months (130).

Inadequate access for vulnerable groups

The barriers to mental health care in Australia and elsewhere have been well documented (131–133). Stigma, affordability, long-wait times are examples of barriers to mental health care (134,135). In Australia, vulnerable populations experience disproportionate barriers to accessing mental health care and allied health care. For example, evidence indicates that use of mental health services is more concentrated among higher income groups (136). Data from

the 2016 Commonwealth Fund International Health Policy Survey identified that Australians with a mental health condition were more likely to experience barriers to care, and the largest barrier was affordability (137). Similarly, the 2022 evaluation of Better Access Initiative also demonstrated that people on the lowest incomes are least likely to access services (106). Regional and remote Australians experience barriers to care through greater distances to services or lack of culturally sensitive practice (131), and migrants to Australia experience challenges in navigating complex mental health systems and lack of health literacy, on top of cultural barriers to accessing care (138). Additionally, a subset of individuals experiencing mental health concerns will not want to seek help from a professional (135). As well as barriers to mental health care, out of pocket costs for dietetic support may be a barrier for those who are not eligible for Medicare schemes and/or do not have private health insurance (139). Access to allied health care is also unequally distributed, with rural and remote Australians experiencing significant accessibility barriers with an unequal and lower distribution of allied health professionals, among other health professionals, in rural, regional and remote areas (140,141).

Policy consideration: Barriers to access for vulnerable populations are systemic and complex and indicate the need for multiple, multi-level strategies to equitably address mental health in Australia. Importantly, lack of affordability as a barrier to care indicates that subsidisation of access to dietetic support through the MBS should be considered.

Alternative models for support with nutrition and diet for mental health

Various alternative or adjunct models of care have emerged to address existing gaps in mental health treatment. For example, promoting awareness of self-care capacity for better health(142) and social prescribing for people who would benefit from community supports and activities to improve their health and wellbeing (143) are emerging as complementary models of care that may address some of the access and/or individual barriers to mental health support.

Self-care

Self-care is a complex concept that describes various activities, behaviours, and contextual and environmental factors that enable an individual to be informed about and able to act to manage or improve their health and wellbeing (144).

Self-care supports individuals to be active agents in their own health care (145,146) and to address unmet need. The World Health Organization (WHO) defines self-care as “the ability of individuals, families and communities to promote health, prevent disease and maintain health and to cope with illness and disability with or without the support of a health-care provider.” (145). Principles of choice, agency, and shared decision making are foundational to self-care strategies (147). The benefits of informed self-care by individuals include reduced morbidity and mortality and greater wellbeing (142).

However, while self-care implies individual actions and behaviours, behaviours are driven or supported by environmental, economic and social determinants that affect an individual's circumstances and health. These factors, such as a person's socio-economic status and access to material resources, are often beyond individual agency to redress or improve. Public policy has a significant role to play in addressing disparities in health within and between communities across Australia.

The concept of self-care is complementary to the concept of prevention in health. It is particularly relevant in communities across Australia, including rural, indigenous and socioeconomically disadvantaged communities, that have poorer health status and health outcomes than those in advantaged and well-resourced communities. The integration of support for self-care through all health interactions and services would contribute to reduced health inequities and improved health outcomes in these communities (148). There is a sound economic case for integrating self-care within health care (149–151), though this should be combined with systemic change for greatest impact.

Policy options to promote and support self-care for health have been outlined in a national policy blueprint (144), and include: improving health literacy for all, building self-care into health care practice, enabling individuals to practice self-care, improving access to and quality of digital health information, among others.

Self-care strategies in mental health include physical exercise, healthy living, structured routine and establishing and maintaining positive relationships (42). Diet or nutrition-related models of self-care have primarily been examined in the context of type 2 diabetes (152) or hypertension (153) but in the context of the growing nutrition-mental health literature also have merit in the mental health context.

Policy consideration: Self-care as an embedded concept in health care would support individuals to understand and engage in their health care and health improvement. It offers a preventive health measure within current health care models and practices. Provision of information regarding dietary and mental health information, with understanding and engagement as a component of self-care in mental health care should be considered, and supported by systems that enable people to undertake self-care activities.

Social prescribing

Social prescribing is a model of care in which health professionals are able to link patients with non-medical services, such as social or community services, to address non-clinical factors affecting their health and wellbeing (154). Social prescribing takes a holistic approach to health care and aims to address the social determinants of health, which are non-medical factors that underpin both physical and mental health (155). There are three primary models of social prescribing described in the literature. The first model involves direct referrals to community services from health professionals. The second and third models involve a link worker to whom GPs refer patients and who provides assistance to referred patients to access the community activities or services that are appropriate for their needs. In one of these models, the link worker is fully embedded within the general practice and receives referrals from GPs or nurses within the practice, or through self-referral in some cases. The other model involves referral of the patient to a link worker role or professional within an external service.

Social prescribing has developed internationally in recent years in recognition that healthcare professionals such as GPs have limited capacity to help patients with the range of non-medical needs that affect their health (156). To address this deficiency/limitation, link worker positions have typically been established to provide a referral pathway for patients referred by GPs to community support. Link workers have responsibility for linking individuals to appropriate community services or supports that are relevant to the person's circumstances and needs (156). Link workers, by definition, are the link between clinical care and social support and provide structure and clarity through referrals, working with referred individuals to identify the most appropriate community supports for their needs and circumstances and to connect the

individual to those supports (157). To enable these connections, link workers establish connections with locally available community activities and supports and need to have access to up-to-date information on availability and accessibility of community services for referred individuals.

As an emerging component in health services, there is little consistency of definitions or models of social prescribing (158). This inconsistency has posed challenges in reviewing current evidence on social prescribing. However, a recent systematic review indicated that social prescribing demonstrates effectiveness in improving some mental health and wellbeing outcomes, reducing mental health symptoms and loneliness and improving self-efficacy (159). Robust infrastructure and the use of a link worker have been found to be important to effectiveness of social prescribing (159). Additionally, a pilot study of social prescribing for individuals with mental illness in the Australian community indicated that social prescriptions were associated with improvements in quality of life and health status (143). Social prescribing has been introduced systematically into primary health care in the UK and is developing in parts of Europe and the USA. There are social prescribing programs emerging in Australia in recent years, such as the Local Connections initiative in Victoria (160) and a planned trial of social prescribing to address loneliness in Queensland (161).

Policy consideration: Social prescribing may offer a pathway through which those with common mental disorders could access dietary and or mental health support through community links (162), potentially reducing cost and/or wait time barriers.

Medicare reform

Some of the current barriers to mental health and dietary support within the existing health system can be addressed through investments to strengthening Medicare (163). The Strengthening Medicare Taskforce Report (2022) recommended significant changes to how primary care is funded and delivered to enable high, quality, integrated and person-centred care for all Australians by increasing access to primary care; encouraging multidisciplinary team-based care, modernising primary care and supporting change management and cultural change (163). Strengthening Medicare emphasis on enabling and encouraging multidisciplinary team-based care provides the policy opportunity to include dietetic health care within prevention and treatment for mental health conditions.

Significant Medicare reforms announced to date include funding to the 31 Primary Health Networks across Australia that have been established to improve primary health care (164), to commission multi-disciplinary care from allied health professionals to improve access to care and the management of mental health and chronic conditions (165)

Policy consideration: Current policy developments are intended to improve the collaborative nature of health care and provide some of the key structural changes required to support adequate access to allied health care. Accredited practicing dietitians should be specifically included in multidisciplinary care for people with a common mental disorder.

Overview of public and privately funded access pathways for mental health support in Victoria Figure 1 provides a representation of the components of the service and funding arrangements that provide mental health treatment and care in Victoria. Whilst this is one jurisdiction’s service system, it is indicative of the core components of mental health care and the intersections and gaps between funding for primary health care and for inpatient and public mental health care.

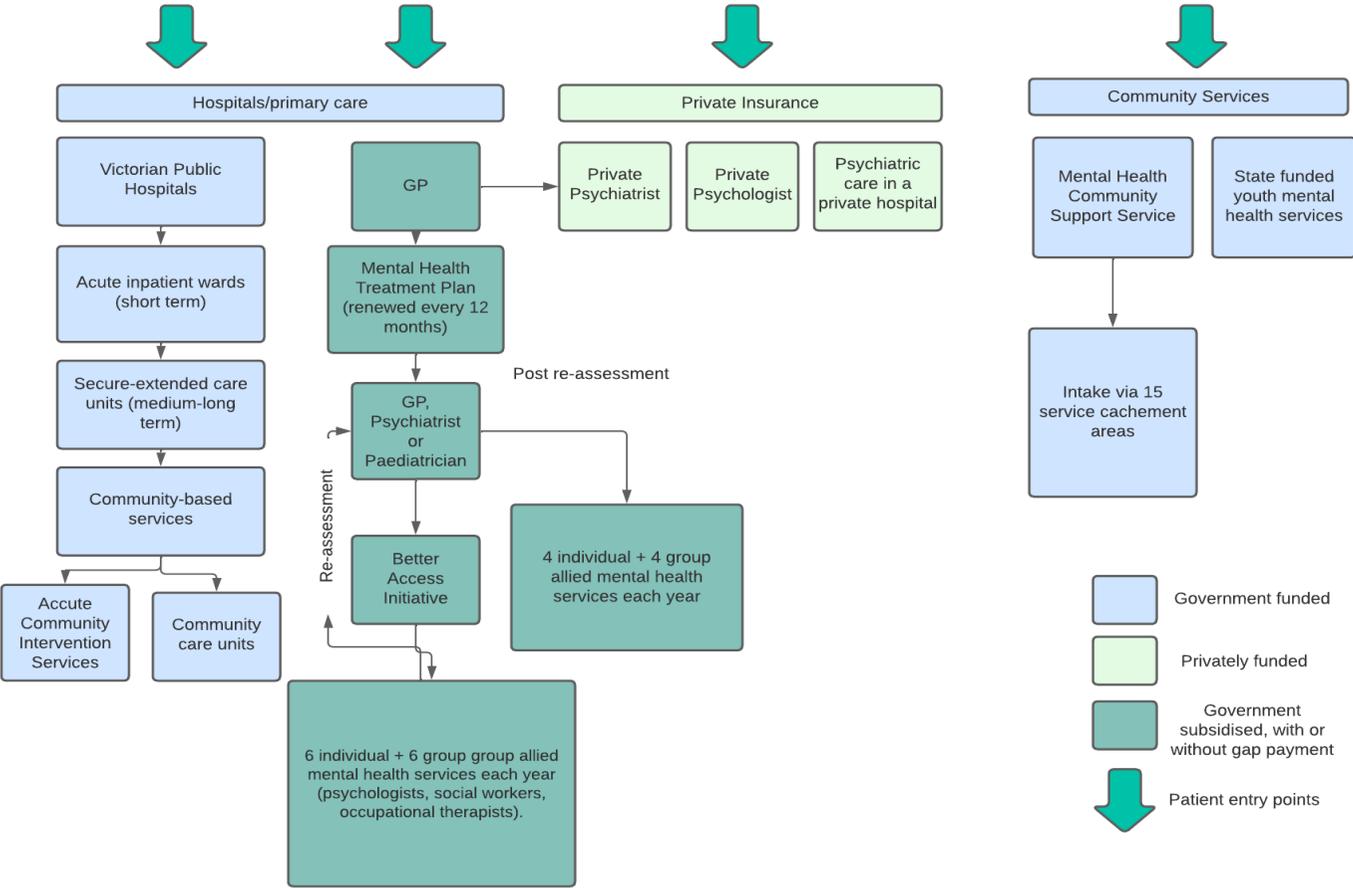


Figure 1: Overview of public and privately funded access pathways for mental health support in Victoria

Overview of public and privately funded access pathways for dietetic support in Victoria Figure 2 provides a representation of the components of the service and funding arrangements that provide dietetic support by an Accredited Practicing Dietitian care in Victoria.

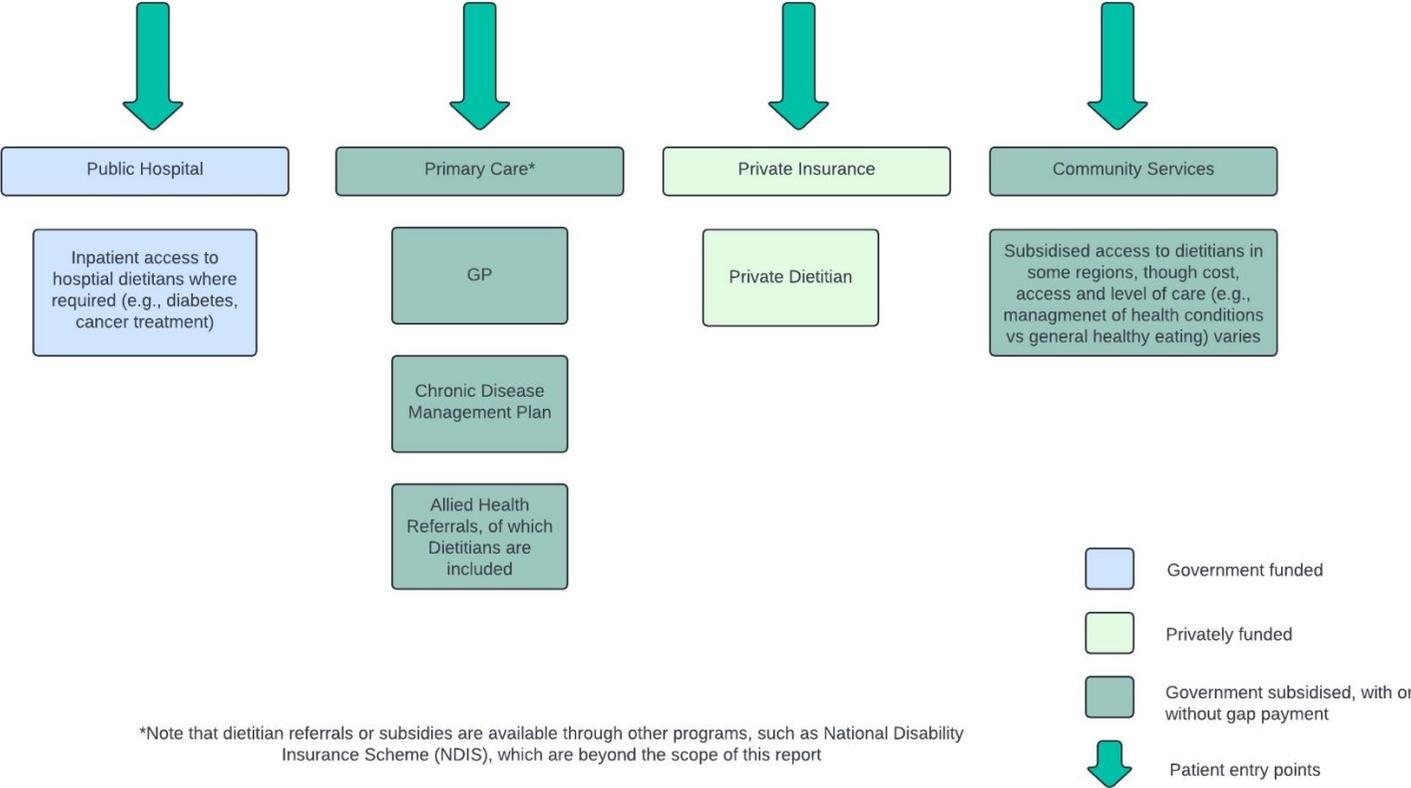


Figure 2: Overview of public and privately funded access pathways for dietetic support in Victoria

Policy options

The evidence presented in this brief demonstrates that current health services and funding arrangements do not support best practice related to dietary support for mental health. Dietary support for mental health has benefits for both mental health and co-morbid physical health concerns. To adequately integrate dietetic support into mental health care, several system improvements are required. The policy options proposed address these and align with the structured, team-based and multi-disciplinary care principles of Strengthening Medicare policy improvements and current and proposed Medicare GP chronic conditions management arrangements.

1. Provide access to dietitian services for people with a common mental disorder requiring multidisciplinary treatment services through inclusion of Accredited Practising Dietitians as eligible allied health professional providers under the Better Access Initiative.

Current access to Accredited Practising Dietitians through the MBS is inadequate to support behaviour change and meaningful health and treatment outcomes (166). Under current Chronic Disease Management Plans and Team Care Arrangements, dietitians can be accessed for up to 5 sessions per year; however, these allied health sessions may include several allied health practitioners within the care arrangements, reducing access to any one of these to less than 5 sessions. Dietitians Australia (166) and findings from diet and mental health research (8) have indicated these sessions are inadequate to address symptom improvement. There is compelling evidence that access to dietary support contributes to improved mental health. For meaningful health improvement to be facilitated and encouraged, and to support and sustain behaviour change, this requires an expansion of allied health services covered under existing and proposed Medicare arrangements. Dietitians Australia calls for Accredited Practising Dietitians to be included in the Better Access Initiative and for patients to have access 10 or more face to face or telehealth dietetic services under the scheme (107). To reduce access barriers and inequity, the gap payment to seek dietetics support should be minimised or eliminated. These sessions should be embedded and expanded within the existing Better Access Initiative and proposed GP Chronic Condition Management Plans and other Chronic Disease Management arrangements (e.g., as with eating disorders where both psychiatric and dietetic support are provided (167)).

Medicare subsidy schemes for mental health treatment should include funding for nutrition support through APDs via both individual and group sessions. Additional sessions should be provided for those who require dietetic treatment and support in addition to other allied health treatment.

2. National Information and resources on the role of diet and nutrition in mental health should be commissioned, in addition to the suite of education and resources funded by the department for organisations and professionals to help them support people with mental ill-health (14). These should then be implemented by relevant medical, allied health and mental health education and training organisations including Primary Health Networks.

Lack of confidence in providing nutrition advice and feeling that diet-related advice is outside their scope of practice are barriers to GPs providing dietary support for mental health. Although

some programs, such as Healthy Habits (168), have been established to support GPs with information and resources to discuss healthy behaviours with patients, these do not explicitly link to mental health and related behaviours. Additionally, education and training on the diet-mental health relationship specifically would improve clinician skills, knowledge and confidence in providing dietary advice for mental health.

Primary Care and Allied Health professionals should be provided with education and training on the relationship between diet and mental health, to improve health professional confidence in communicating diet-related messages and providing dietary care within primary care. Education should be provided as professional development and additional credentials in the short term, and as part of medical school curricula in the medium-to-long term. This includes the development of necessary screening tools and knowledge of how to refer to a dietitian. Primary Health Networks may be well positioned to coordinate this work.

3. Social prescription within primary health care practice should include referral to community organisations and services providing individual support with nutrition for individuals with common mental disorders.

There is growing evidence that referral to community support can reduce frequency of presentations to primary health care and to emergency services. There is also emerging evidence that social prescribing can improve appropriate and effective use of health care and contribute to improved health status (169,170). A social prescription model is also proposed to address inequities in accessing support, as it recognises that people's health is largely determined by socioeconomic factors (171). Social prescription is likely to be particularly beneficial for those who do not have personal agency to engage with community services, or the capacity to pay to do so.

Social prescribing as an adjunct to primary health care provides GPs with the opportunity to refer patients to community activities that include encouragement with healthy eating, food and nutrition, such as community vegetable gardens. The success of social prescribing relies on support for GP engagement in social prescribing and adequate community sector support and capacity to accept referrals, with supported referral and access pathways.

Social prescribing as an adjunct to primary health care would also facilitate support for self-care for health by individuals and among population groups needing support to improve health and wellbeing. Self-care plays an important role in managing modifiable risk factors for disease prevention, in health improvement and in self-management of established health conditions. Importantly, the potential to provide self-care is relevant for all, independently of socioeconomic status. While it is important to note that various environmental, social, and economic factors underlie an individual's ability to undertake self-care, self-care information, knowledge and application can be empowering at an individual level and can be supported through a broad range of health care interactions and settings (172,173).

Self-care strategies are appropriate and can be tailored for a range of communities, including rural, socio-economically disadvantaged, and Indigenous. Self-care should be a component of all health care interactions and be supported by health care providers (144). Importantly, self-care approaches do not require restructuring of existing Medicare pathways. Nutrition and good quality diet is an evidence-based self-care strategy associated with positive health outcomes (152,174). Integration of diet-related self-care information and support in primary health care could improve nutrition literacy and eating behaviours for people with risk factors for mental illness.

4. National, state and territory mental health policies and programs should raise public awareness of the role of nutrition and diet in mental health.

Quality evidence for the diet-mental health relationship has emerged in the last decade. Given that there is often a delay between research findings and public awareness and implementation into practice (175), there is a need to improve public awareness and education about this relationship.

Dietary information is often subject to misinformation, particularly via social media. Mass media campaigns can be used to share evidence-based information quickly and in a unified way and have been successful in improving public awareness around other health behaviours, such as alcohol consumption (176) and smoking cessation (177).

Mass media campaigns should include information educating the public that diet can impact mental health, focusing on the benefits, as well as actionable information to guide behaviour (e.g., including oily fish two times per week has the potential to improve your mental health). To ensure that target populations/at risk populations are reached, information and public health messages should be co-developed with a broad range of stakeholders.

Conclusion

The prevalence of both poor mental health and poor-quality diet in Australia is high. Both mental health and dietary risk factors contribute to significant social and economic burden. Despite various Medicare-subsidised schemes for mental health and dietary support, these are currently offered separately and there are numerous systemic barriers to access and notable social inequities in the existing systems. The policy proposals in this Brief have been drawn from the evidence and developed in consultation with experts. They aim to address unmet need in mental health care in Australia and integrate current best evidence on the integration of dietary strategies for the prevention and treatment of common mental disorders. The proposals also aim to address existing access barriers and social inequities that exist within the mental health system, and health care system more broadly.

Policy change can help to reduce the burden of common mental disorders in Australia, simplify the process of mental health care, and address unmet treatment needs. Implementation of these policy proposals should include integrated evaluations including cost-benefit analysis to demonstrate impact and inform future practice.

References

1. Australian Institute of Health and Welfare. Australian Institute of Health and Welfare. 2022 [cited 2023 Jan 16]. Prevalence and impact of mental illness - Mental health. Available from: <https://www.aihw.gov.au/mental-health/overview/mental-illness#prevalence>
2. Australian Journal of General Practice [Internet]. [cited 2024 Aug 2]. Antidepressant prescribing in general practice. Available from: <https://www1.racgp.org.au/ajgp/2021/december/antidepressant-prescribing-in-general-practice>
3. Afshin A, Sur PJ, Fay KA, Cornaby L, Ferrara G, Salama JS, et al. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2019 May 11;393(10184):1958–72.
4. Dietary behaviour, 2020-21 financial year | Australian Bureau of Statistics [Internet]. 2022 [cited 2022 Jul 3]. Available from: <https://www.abs.gov.au/statistics/health/health-conditions-and-risks/dietary-behaviour/latest-release>
5. Brauer M, Roth GA, Aravkin AY, Zheng P, Abate KH, Abate YH, et al. Global burden and strength of evidence for 88 risk factors in 204 countries and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. *The Lancet*. 2024 May 18;403(10440):2162–203.
6. Martinon P, Fraticelli L, Giboreau A, Dussart C, Bourgeois D, Carrouel F. Nutrition as a Key Modifiable Factor for Periodontitis and Main Chronic Diseases. *J Clin Med*. 2021 Jan;10(2):197.
7. Agostini A, Lushington K, Kohler M, Dorrian J. Associations between self-reported sleep measures and dietary behaviours in a large sample of Australian school students (n = 28,010). *J Sleep Res*. 2018 Oct;27(5):e12682.
8. Jacka FN, O’Neil A, Opie R, Itsiopoulos C, Cotton S, Mohebbi M, et al. A randomised controlled trial of dietary improvement for adults with major depression (the ‘SMILES’ trial). *BMC Med*. 2017 Jan 30;15(1):23.
9. Francis HM, Stevenson RJ, Chambers JR, Gupta D, Newey B, Lim CK. A brief diet intervention can reduce symptoms of depression in young adults - A randomised controlled trial. *PloS One*. 2019;14(10):e0222768.
10. Parletta N, Zarnowiecki D, Cho J, Wilson A, Bogomolova S, Villani A, et al. A Mediterranean-style dietary intervention supplemented with fish oil improves diet quality and mental health in people with depression: A randomized controlled trial (HELFIMED). *Nutr Neurosci*. 2019 Jul;22(7):474–87.
11. Mörkl S, Stell L, Buhai DV, Schweinzer M, Wagner-Skacel J, Vajda C, et al. ‘An Apple a Day’?: Psychiatrists, Psychologists and Psychotherapists Report Poor Literacy for Nutritional Medicine: International Survey Spanning 52 Countries. *Nutrients*. 2021 Mar;13(3):822.
12. Rocks T, Teasdale SB, Fehily C, Young C, Howland G, Kelly B, et al. Effectiveness of nutrition and dietary interventions for people with serious mental illness: systematic review and meta-analysis. *Med J Aust*. 2022 Oct;217(Suppl 7):S7–21.
13. Firth J, Siddiqi N, Koyanagi A, Siskind D, Rosenbaum S, Galletly C, et al. The Lancet Psychiatry Commission: a blueprint for protecting physical health in people with mental illness. *Lancet Psychiatry*. 2019 Aug;6(8):675–712.
14. Care AGD of H and A. What we’re doing about mental health [Internet]. Australian Government Department of Health and Aged Care; 2024 [cited 2024 Aug 23]. Available from: <https://www.health.gov.au/topics/mental-health-and-suicide-prevention/what-were-doing-about-mental-health>
15. Mental disorders [Internet]. [cited 2023 Oct 19]. Available from: <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>
16. Depression and Other Common Mental Disorders [Internet]. [cited 2023 Oct 19]. Available from: <https://www.who.int/publications-detail-redirect/depression-global-health-estimates>
17. Kircanski K, LeMoult J, Ordaz S, Gotlib IH. Investigating the nature of co-occurring depression and anxiety: Comparing diagnostic and dimensional research approaches. *J Affect Disord*. 2017 Jul;216:123–35.
18. Teasdale SB, Samaras K, Wade T, Jarman R, Ward PB. A review of the nutritional challenges experienced by people living with severe mental illness: a role for dietitians in addressing physical health gaps. *J Hum Nutr Diet Off J Br Diet Assoc*. 2017 Oct;30(5):545–53.

19. Royal Australian and New Zealand College of Psychiatrists clinical practice guidelines for the treatment of panic disorder, social anxiety disorder and generalised anxiety disorder - Gavin Andrews, Caroline Bell, Philip Boyce, Christopher Gale, Lisa Lampe, Omar Marwat, Ronald Rapee, Gregory Wilkins, 2018 [Internet]. [cited 2023 Oct 29]. Available from: <https://journals.sagepub.com/doi/10.1177/0004867418799453>
20. Malhi GS, Bell E, Bassett D, Boyce P, Bryant R, Hazell P, et al. The 2020 Royal Australian and New Zealand College of Psychiatrists clinical practice guidelines for mood disorders. *Aust N Z J Psychiatry*. 2021 Jan;55(1):7–117.
21. Vigo D, Thornicroft G, Atun R. Estimating the true global burden of mental illness. *Lancet Psychiatry*. 2016 Feb;3(2):171–8.
22. National Study of Mental Health and Wellbeing, 2020-2022 | Australian Bureau of Statistics [Internet]. 2023 [cited 2023 Oct 29]. Available from: <https://www.abs.gov.au/statistics/health/mental-health/national-study-mental-health-and-wellbeing/latest-release>
23. GBD 2016 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet Lond Engl*. 2017 Sep 16;390(10100):1211–59.
24. Mental health in the workplace: Going global [Internet]. [cited 2023 Oct 29]. Available from: <https://www.who.int/news-room/commentaries/mental-health-in-the-workplace>
25. Burcusa SL, Iacono WG. Risk for Recurrence in Depression. *Clin Psychol Rev*. 2007 Dec;27(8):959–85.
26. Black CN, Bot M, Scheffer PG, Cuijpers P, Penninx BWJH. Is depression associated with increased oxidative stress? A systematic review and meta-analysis. *Psychoneuroendocrinology*. 2015 Jan;51:164–75.
27. Jorm AF, Patten SB, Brugha TS, Mojtabai R. Has increased provision of treatment reduced the prevalence of common mental disorders? Review of the evidence from four countries. *World Psychiatry Off J World Psychiatr Assoc WPA*. 2017 Feb;16(1):90–9.
28. Ramic E, Prasko S, Gavran L, Spahic E. Assessment of the Antidepressant Side Effects Occurrence in Patients Treated in Primary Care. *Mater Socio-Medica*. 2020 Jun;32(2):131–4.
29. Wichniak A, Wierzbicka A, Wałęcka M, Jernajczyk W. Effects of Antidepressants on Sleep. *Curr Psychiatry Rep*. 2017 Aug 9;19(9):63.
30. Australian Institute of Health and Welfare [Internet]. 2019 [cited 2023 Oct 30]. Poor diet, Poor diet in adults. Available from: <https://www.aihw.gov.au/reports/food-nutrition/poor-diet/contents/poor-diet-in-adults>
31. Australian Institute of Health and Welfare [Internet]. 2023 [cited 2023 Oct 30]. Health conditions, disability & deaths. Available from: <https://www.aihw.gov.au/reports-data/health-conditions-disability-deaths>
32. Australian Institute of Health and Welfare [Internet]. 2021 [cited 2023 Oct 30]. Australian Burden of Disease Study 2018: Interactive data on risk factor burden, Dietary risk factors. Available from: <https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/contents/dietary-risk-factors>
33. Afshin A, Sur PJ, Fay KA, Cornaby L, Ferrara G, Salama JS, et al. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2019 May 11;393(10184):1958–72.
34. Australian Dietary Guidelines | NHMRC [Internet]. [cited 2024 Oct 29]. Available from: <https://www.nhmrc.gov.au/adg>
35. Council NH and MR. About the Australian dietary guidelines [Internet]. 2021 [cited 2023 Oct 30]. Available from: <https://www.eatforhealth.gov.au/guidelines/about-australian-dietary-guidelines>
36. Dietary behaviour, 2020-21 financial year | Australian Bureau of Statistics [Internet]. 2022 [cited 2023 Oct 30]. Available from: <https://www.abs.gov.au/statistics/health/health-conditions-and-risks/dietary-behaviour/latest-release>
37. Australian Health Survey: Nutrition First Results - Foods and Nutrients, 2011-12 financial year | Australian Bureau of Statistics [Internet]. 2014 [cited 2023 Oct 30]. Available from:

<https://www.abs.gov.au/statistics/health/health-conditions-and-risks/australian-health-survey-nutrition-first-results-foods-and-nutrients/latest-release>

38. Slawson DL, Fitzgerald N, Morgan KT. Position of the Academy of Nutrition and Dietetics: the role of nutrition in health promotion and chronic disease prevention. *J Acad Nutr Diet*. 2013 Jul;113(7):972–9.
39. Mozaffarian D, Angell SY, Lang T, Rivera JA. Role of government policy in nutrition—barriers to and opportunities for healthier eating. *BMJ*. 2018 Jun 13;361:k2426.
40. Machado PP, Steele EM, Levy RB, Sui Z, Rangan A, Woods J, et al. Ultra-processed foods and recommended intake levels of nutrients linked to non-communicable diseases in Australia: evidence from a nationally representative cross-sectional study. *BMJ Open*. 2019 Aug 28;9(8):e029544.
41. Livingstone KM, Olstad DL, Leech RM, Ball K, Meertens B, Potter J, et al. Socioeconomic Inequities in Diet Quality and Nutrient Intakes among Australian Adults: Findings from a Nationally Representative Cross-Sectional Study. *Nutrients*. 2017 Oct 4;9(10):1092.
42. Backholer K, Spencer E, Gearon E, Magliano DJ, McNaughton SA, Shaw JE, et al. The association between socio-economic position and diet quality in Australian adults. *Public Health Nutr*. 2016 Feb;19(3):477–85.
43. Browne J, Hayes R, Gleeson D. Aboriginal health policy: is nutrition the “gap” in “Closing the Gap”? *Aust N Z J Public Health*. 2014 Aug;38(4):362–9.
44. McInerney M, Csizmadi I, Friedenreich CM, Uribe FA, Nettel-Aguirre A, McLaren L, et al. Associations between the neighbourhood food environment, neighbourhood socioeconomic status, and diet quality: An observational study. *BMC Public Health*. 2016 Sep 15;16(1):984.
45. Kennedy S, Kidd MP, McDonald JT, Biddle N. The Healthy Immigrant Effect: Patterns and Evidence from Four Countries. *J Int Migr Integr*. 2015 May 1;16(2):317–32.
46. Vang Z, Sigouin J, Flenon A, Gagnon A. The Healthy Immigrant Effect in Canada: A Systematic Review. *Popul Change Lifecourse Strateg Knowl Clust Discuss Pap Ser Un Réseau Strat Connaiss Chang Popul Parcours Vie Doc Trav* [Internet]. 2015 Feb 27;3(1). Available from: <https://ir.lib.uwo.ca/pclcl/vol3/iss1/4>
47. Crosland P, Ananthapavan J, Davison J, Lambert M, Carter R. The economic cost of preventable disease in Australia: a systematic review of estimates and methods. *Aust N Z J Public Health*. 2019 Oct 1;43(5):484–95.
48. Meader N, King K, Moe-Byrne T, Wright K, Graham H, Petticrew M, et al. A systematic review on the clustering and co-occurrence of multiple risk behaviours. *BMC Public Health*. 2016 Jul 29;16(1):657.
49. DA Cadilhac, A Magnus, T Cumming, L Sheppard, D Pearce, R Carter. The health and economic benefits of reducing disease risk factors Research Report. *Vic Health*; 2009.
50. The impact of increasing vegetable consumption on health expenditure | Deloitte Australia | Deloitte Access Economics, agriculture [Internet]. [cited 2024 May 14]. Available from: <https://www.deloitte.com/au/en/services/economics/analysis/increasing-vegetable-consumption-health-expenditure-impact.html>
51. Chatterton ML, Mihalopoulos C, O’Neil A, Itsiopoulos C, Opie R, Castle D, et al. Economic evaluation of a dietary intervention for adults with major depression (the “SMILES” trial). *BMC Public Health*. 2018 May 22;18(1):599.
52. Segal L, Twizeyemariya A, Zarnowiecki D, Niyonsenga T, Bogomolova S, Wilson A, et al. Cost effectiveness and cost-utility analysis of a group-based diet intervention for treating major depression – the HELFIMED trial. *Nutr Neurosci*. 2020 Oct 2;23(10):770–8.
53. Mulquiney KJ, Tapley A, van Driel ML, Morgan S, Davey AR, Henderson KM, et al. Referrals to dietitians/nutritionists: A cross-sectional analysis of Australian GP registrars’ clinical practice. *Nutr Diet J Dietit Assoc Aust*. 2018 Feb;75(1):98–105.
54. Vidgen HA, Adam M, Gallegos D. Who does nutrition prevention work in Queensland? An investigation of structural and political workforce reforms. *Nutr Diet*. 2017;74(1):88–94.
55. Eaton CB, Goodwin MA, Stange KC. Direct observation of nutrition counseling in community family practice. *Am J Prev Med*. 2002 Oct;23(3):174–9.
56. Crowley J, O’Connell S, Kavka A, Ball L, Nowson CA. Australian general practitioners’ views regarding providing nutrition care: results of a national survey. *Public Health*. 2016 Nov;140:7–13.

57. Lepre B, Crowley J, Mpe D, Bhoopatkar H, Mansfield KJ, Wall C, et al. Australian and New Zealand Medical Students' Attitudes and Confidence towards Providing Nutrition Care in Practice. *Nutrients*. 2020 Feb 25;12(3):598.
58. Baxter D, Lovell GP. Australian mental health practitioners' reported practice, beliefs, and barriers to the prescription of dietary change for mental health conditions. *Aust Psychol*. 2021 May 4;56(3):245–55.
59. Ageing AGD of H and. Chronic Disease Management Patient Information [Internet]. Australian Government Department of Health and Ageing; [cited 2022 Mar 2]. Available from: <https://www1.health.gov.au/internet/main/publishing.nsf/Content/mbsprimarycare-chronicdisease-pdf-infosheet>
60. Use of Medicare chronic disease management items by patients with long-term health conditions, Summary - Australian Institute of Health and Welfare [Internet]. [cited 2024 Feb 23]. Available from: <https://www.aihw.gov.au/reports/chronic-disease/use-of-medicare-chronic-disease-management/summary>
61. Kahan S, Manson JE. Nutrition Counseling in Clinical Practice: How Clinicians Can Do Better. *JAMA*. 2017 Sep 26;318(12):1101–2.
62. Smith S, Seeholzer EL, Gullett H, Jackson B, Antognoli E, Krejci SA, et al. Primary Care Residents' Knowledge, Attitudes, Self-Efficacy, and Perceived Professional Norms Regarding Obesity, Nutrition, and Physical Activity Counseling. *J Grad Med Educ*. 2015 Sep;7(3):388–94.
63. Sarris J, Logan AC, Akbaraly TN, Amminger GP, Balanzá-Martínez V, Freeman MP, et al. Nutritional medicine as mainstream in psychiatry. *Lancet Psychiatry*. 2015 Mar;2(3):271–4.
64. Hendrie GA, Coveney J, Cox D. Exploring nutrition knowledge and the demographic variation in knowledge levels in an Australian community sample. *Public Health Nutr*. 2008 Dec;11(12):1365–71.
65. Zorbas C, Palermo C, Chung A, Iguacel I, Peeters A, Bennett R, et al. Factors perceived to influence healthy eating: a systematic review and meta-ethnographic synthesis of the literature. *Nutr Rev*. 2018 Dec 1;76(12):861–74.
66. Eliby D, Simpson CA, Lawrence AS, Schwartz OS, Haslam N, Simmons JG. Associations between diet quality and anxiety and depressive disorders: A systematic review. *J Affect Disord Rep*. 2023 Dec 1;14:100629.
67. Marx W, Jacka F, O'Neil A. Lifestyle-based mental health care in psychiatry: Translating evidence into practice. *Aust N Z J Psychiatry*. 2021 Jul;55(7):641–3.
68. Lai JS, Hiles S, Bisquera A, Hure AJ, McEvoy M, Attia J. A systematic review and meta-analysis of dietary patterns and depression in community-dwelling adults. *Am J Clin Nutr*. 2014 Jan;99(1):181–97.
69. Psaltopoulou T, Sergentanis TN, Panagiotakos DB, Sergentanis IN, Kostis R, Scarmeas N. Mediterranean diet, stroke, cognitive impairment, and depression: A meta-analysis. *Ann Neurol*. 2013 Oct;74(4):580–91.
70. Firth J, Solmi M, Wootton RE, Vancampfort D, Schuch FB, Hoare E, et al. A meta-review of “lifestyle psychiatry”: the role of exercise, smoking, diet and sleep in the prevention and treatment of mental disorders. *World Psychiatry Off J World Psychiatr Assoc WPA*. 2020 Oct;19(3):360–80.
71. O'Neil A, Quirk SE, Housden S, Brennan SL, Williams LJ, Pasco JA, et al. Relationship between diet and mental health in children and adolescents: a systematic review. *Am J Public Health*. 2014 Oct;104(10):e31-42.
72. Collins S, Dash S, Allender S, Jacka F, Hoare E. Diet and Mental Health During Emerging Adulthood: A Systematic Review. *Emerg Adulthood*. 2022 Jun 1;10(3):645–59.
73. Masana MF, Haro JM, Mariolis A, Piscopo S, Valacchi G, Bountziouka V, et al. Mediterranean diet and depression among older individuals: The multinational MEDIS study. *Exp Gerontol*. 2018 Sep;110:67–72.
74. Jacka FN, Pasco JA, Mykletun A, Williams LJ, Hodge AM, O'Reilly SL, et al. Association of Western and traditional diets with depression and anxiety in women. *Am J Psychiatry*. 2010 Mar;167(3):305–11.

75. Hosseinzadeh M, Vafa M, Esmailzadeh A, Feizi A, Majdzadeh R, Afshar H, et al. Empirically derived dietary patterns in relation to psychological disorders. *Public Health Nutr.* 2016 Feb;19(2):204–17.
76. Yannakoulia M, Panagiotakos DB, Pitsavos C, Tsetsekou E, Fappa E, Papageorgiou C, et al. Eating habits in relations to anxiety symptoms among apparently healthy adults. A pattern analysis from the ATTICA Study. *Appetite.* 2008 Nov;51(3):519–25.
77. Coletro HN, Mendonça R de D, Meireles AL, Machado-Coelho GLL, Menezes MC de. Ultra-processed and fresh food consumption and symptoms of anxiety and depression during the COVID - 19 pandemic: COVID Inconfidentes. *Clin Nutr ESPEN.* 2022 Feb;47:206–14.
78. Lassale C, Batty GD, Baghdadli A, Jacka F, Sánchez-Villegas A, Kivimäki M, et al. Healthy dietary indices and risk of depressive outcomes: a systematic review and meta-analysis of observational studies. *Mol Psychiatry.* 2019 Jul;24(7):965–86.
79. Yin W, Löf M, Chen R, Hultman CM, Fang F, Sandin S. Mediterranean diet and depression: a population-based cohort study. *Int J Behav Nutr Phys Act.* 2021 Nov 27;18(1):153.
80. Sánchez-Villegas A, Martínez-González MA, Estruch R, Salas-Salvadó J, Corella D, Covas MI, et al. Mediterranean dietary pattern and depression: the PREDIMED randomized trial. *BMC Med.* 2013 Sep 20;11(1):208.
81. Bayes J, Schloss J, Sibbritt D. The effect of a Mediterranean diet on the symptoms of depression in young males (the “AMMEND: A Mediterranean Diet in MEN with Depression” study): a randomized controlled trial. *Am J Clin Nutr.* 2022 Aug 4;116(2):572–80.
82. Firth J, Marx W, Dash S, Carney R, Teasdale SB, Solmi M, et al. The Effects of Dietary Improvement on Symptoms of Depression and Anxiety: A Meta-Analysis of Randomized Controlled Trials. *Psychosom Med.* 2019 Apr;81(3):265–80.
83. Marx W, Manger SH, Blencowe M, Murray G, Ho FYY, Lawn S, et al. Clinical Guidelines for the Use of Lifestyle-based Mental Health Care in Major Depressive Disorder: World Federation of Societies for Biological Psychiatry (WFSBP) and Australasian Society of Lifestyle Medicine (ASLM) taskforce. *World J Biol Psychiatry Off J World Fed Soc Biol Psychiatry.* 2023 Jun;24(5):333–86.
84. Kris-Etherton PM, Petersen KS, Hibbeln JR, Hurley D, Kolick V, Peoples S, et al. Nutrition and behavioral health disorders: depression and anxiety. *Nutr Rev.* 2021 Feb 11;79(3):247–60.
85. Opie RS, O’Neil A, Itsiopoulos C, Jacka FN. The impact of whole-of-diet interventions on depression and anxiety: a systematic review of randomised controlled trials. *Public Health Nutr.* 2015 Aug;18(11):2074–93.
86. Marx W, Lane M, Hockey M, Aslam H, Berk M, Walder K, et al. Diet and depression: exploring the biological mechanisms of action. *Mol Psychiatry.* 2021 Jan;26(1):134–50.
87. Caperchione CM, Duncan M, Kolt GS, Vandelanotte C, Rosenkranz RR, Maeder A, et al. Examining an Australian physical activity and nutrition intervention using RE-AIM. *Health Promot Int.* 2016 Jun;31(2):450–8.
88. Jeet G, Thakur JS, Prinja S, Singh M. Community health workers for non-communicable diseases prevention and control in developing countries: Evidence and implications. *PLoS One.* 2017;12(7):e0180640.
89. Ball L, Leveritt M, Cass S, Chaboyer W. Effect of nutrition care provided by primary health professionals on adults’ dietary behaviours: a systematic review. *Fam Pract.* 2015 Dec;32(6):605–17.
90. Ball L, Johnson C, Desbrow B, Leveritt M. General practitioners can offer effective nutrition care to patients with lifestyle-related chronic disease. *J Prim Health Care.* 2013 Mar 1;5(1):59–69.
91. Eriksson MK, Hagberg L, Lindholm L, Malmgren-Olsson EB, Osterlind J, Eliasson M. Quality of life and cost-effectiveness of a 3-year trial of lifestyle intervention in primary health care. *Arch Intern Med.* 2010 Sep 13;170(16):1470–9.
92. What we do | Dietitians Australia [Internet]. [cited 2024 Mar 15]. Available from: <https://dietitiansaustralia.org.au/about-us/what-we-do>
93. Thompson RL, Summerbell CD, Hooper L, Higgins JPT, Little PS, Talbot D, et al. Relative efficacy of differential methods of dietary advice: a systematic review. *Am J Clin Nutr.* 2003 Apr;77(4 Suppl):1052S-1057S.

94. Mental health role statement | Dietitians Australia [Internet]. 2022 [cited 2024 Aug 2]. Available from: <https://dietitiansaustralia.org.au/working-dietetics/standards-and-scope/role-statements/mental-health-role-statement>
95. Morton K, Beauchamp M, Prothero A, Joyce L, Saunders L, Spencer-Bowdage S, et al. The effectiveness of motivational interviewing for health behaviour change in primary care settings: a systematic review. *Health Psychol Rev.* 2015;9(2):205–23.
96. Greaves CJ, Sheppard KE, Abraham C, Hardeman W, Roden M, Evans PH, et al. Systematic review of reviews of intervention components associated with increased effectiveness in dietary and physical activity interventions. *BMC Public Health.* 2011 Feb 18;11:119.
97. Zhao Y, Thomas SL, Guthridge SL, Wakerman J. Better health outcomes at lower costs: the benefits of primary care utilisation for chronic disease management in remote Indigenous communities in Australia's Northern Territory. *BMC Health Serv Res.* 2014 Oct 4;14(1):463.
98. Australian Government Department of Health and Aged Care [Internet]. Australian Government Department of Health and Aged Care; 2019 [cited 2023 Feb 22]. National Strategic Framework for Chronic Conditions. Available from: <https://www.health.gov.au/resources/publications/national-strategic-framework-for-chronic-conditions?language=en>
99. Chew DP, Carter R, Rankin B, Boyden A, Egan H. Cost effectiveness of a general practice chronic disease management plan for coronary heart disease in Australia. *Aust Health Rev Publ Aust Hosp Assoc.* 2010 May;34(2):162–9.
100. Australian Institute for Health and Welfare. How does Australia's health system work? [Internet]. Canberra; 2018 [cited 2024 Mar 1]. (Australia's health series). Report No.: 16. Available from: <https://www.aihw.gov.au/getmedia/63fe0895-b306-4375-95ff-162149ffc34b/aihw-aus-221-chapter-2-1.pdf.aspx>
101. Better Access initiative - supporting mental health care - Services Australia [Internet]. [cited 2024 Mar 15]. Available from: <https://www.servicesaustralia.gov.au/better-access-initiative-supporting-mental-health-care>
102. Requirements for a chronic disease health care plan - Health professionals - Services Australia [Internet]. [cited 2024 Sep 6]. Available from: <https://www.servicesaustralia.gov.au/requirements-for-chronic-disease-health-care-plan?context=20>
103. Mental health care and Medicare - Medicare - Services Australia [Internet]. [cited 2022 Apr 11]. Available from: <https://www.servicesaustralia.gov.au/mental-health-care-and-medicare?context=60092>
104. General Practice Mental Health Standards Collaboration. Better Access initiative [Internet]. [cited 2024 Mar 15]. Available from: <https://gpmhsc.org.au/AboutUs/Detail/97659452-0c7d-4727-aaf4-e76ce53fa138/Better-Access-Initiative>
105. Australia H. Mental health treatment plan [Internet]. Healthdirect Australia; 2024 [cited 2024 Mar 22]. Available from: <https://www.healthdirect.gov.au/mental-health-treatment-plan>
106. Care AGD of H and A. Australian Government Department of Health and Aged Care. Australian Government Department of Health and Aged Care; 2023 [cited 2024 Feb 23]. Main Report – Evaluation of the Better Access initiative. Available from: <https://www.health.gov.au/resources/publications/main-report-evaluation-of-the-better-access-initiative?language=en>
107. Dietitians Australia. Priorities for the 2021-2022 Federal Budget [Internet]. 2021. Available from: https://treasury.gov.au/sites/default/files/2021-05/171663_dietitians_australia_supporting_documents.pdf
108. Chronic disease GP Management Plans and Team Care Arrangements - Services Australia [Internet]. [cited 2024 Mar 8]. Available from: <https://www.servicesaustralia.gov.au/chronic-disease-gp-management-plans-and-team-care-arrangements>
109. Care AGD of H and A. Upcoming changes to MBS Chronic Disease Management Arrangements [Internet]. Australian Government Department of Health and Aged Care; 2024 [cited 2024 Aug 23]. Available from: <https://www.health.gov.au/our-work/upcoming-changes-to-mbs-chronic-disease-management-arrangements>
110. Australian Institute of Health and Welfare. Australian Institute of Health and Welfare. 2022 [cited 2023 Jan 5]. Use of chronic disease management and allied health Medicare services, Use of other Medicare services. Available from: <https://www.aihw.gov.au/reports/chronic-disease/medicare->

chronic-disease-allied-health-items/contents/overview-of-medicare-subsidised-allied-health-services

111. Dietitians Australia. Working in a mental health team [Internet]. [cited 2024 May 16]. Available from: https://member.dietitiansaustralia.org.au/Common/Uploaded%20files/DAA/Resource_Library/MHANDi/MHANDi_3.2_Working_in_a_mental_health_team.pdf
112. RACGP - Submission to the Productivity Commission Inquiry into Mental Health [Internet]. [cited 2024 Mar 22]. Available from: <https://www.racgp.org.au/advocacy/reports-and-submissions/view-all-reports-and-submissions/2019-reports-and-submissions/productivity-commission-inquiry-into-mental-health>
113. Care AGD of H and A. Australian Government Department of Health and Aged Care. Australian Government Department of Health and Aged Care; 2022 [cited 2023 Oct 29]. What private health insurance covers. Available from: <https://www.health.gov.au/topics/private-health-insurance/what-private-health-insurance-covers>
114. Lim J. Factsheet: Mental Health Care from a Private Health Insurance Perspective [Internet]. 2021 [cited 2024 Mar 15]. Available from: <https://www.privatehealthcareaustralia.org.au/factsheet-mental-health-care-from-a-private-health-insurance-perspective/>
115. Leach LS, Butterworth P, Whiteford H. Private health insurance, mental health and service use in Australia. *Aust N Z J Psychiatry*. 2012 May 1;46(5):468–75.
116. Duckett S. Australia's Health Insurance System and Its Two-Level Hospital System—A Result of Muddled and Contested Objectives. In: Palley HA, editor. *The Public/Private Sector Mix in Healthcare Delivery: A Comparative Study* [Internet]. Oxford University Press; 2023 [cited 2024 Mar 22]. p. 0. Available from: <https://doi.org/10.1093/oso/9780197571101.003.0004>
117. Commonwealth of Australia. Report to the Australian Senate: On anti-competitive and other practices by health insurers and providers in relation to private health insurance For the period 1 July 2022 to 30 June 2023 [Internet]. 2023 [cited 2024 May 24]. Available from: <https://www.accc.gov.au/system/files/Private%20Health%20Insurance.pdf>
118. Australian Prudential Regulation Authority. Technical paper: Choice heatmap [Internet]. 2021 [cited 2024 May 8]. Available from: <https://www.apra.gov.au/sites/default/files/2021-12/Final%20Choice%20Heatmap%20-%20Technical%20paper.pdf>
119. Statistics c=AU; o=Commonwealth of A ou=Australian B of. 4364.0.55.002 - Health Service Usage and Health Related Actions, Australia, 2014-15 [Internet]. c=AU; o=Commonwealth of Australia; ou=Australian Bureau of Statistics; 2017 [cited 2024 Mar 22]. Available from: <https://www.abs.gov.au/ausstats/abs@.nsf/mf/4364.0.55.002>
120. Department of Health. Victoria A. Community health services [Internet]. State Government of Victoria, Australia; [cited 2023 Oct 29]. Available from: <https://www.health.vic.gov.au/community-health/community-health-services>
121. Services D of H& H. Mental Health and Wellbeing Locals [Internet]. Department of Health & Human Services; [cited 2024 Mar 15]. Available from: <http://www.betterhealth.vic.gov.au/mhwlocal>
122. Who we are | headspace [Internet]. [cited 2024 May 27]. Available from: <https://headspace.org.au/our-organisation/who-we-are/>
123. Services D of H& H. Dietitians [Internet]. Department of Health & Human Services; [cited 2024 Mar 15]. Available from: <http://www.betterhealth.vic.gov.au/health/servicesandsupport/dietitians>
124. Department of Health. Victoria A. Community Health Program access policy [Internet]. State Government of Victoria, Australia; [cited 2024 Mar 15]. Available from: <https://www.health.vic.gov.au/community-health/community-health-program-access-policy>
125. cohealth [Internet]. [cited 2022 Mar 15]. Fees and costs. Available from: <https://www.cohealth.org.au/our-services/using-our-services/fees-and-costs/>
126. Department of Health. Victoria A. Community health fees schedule and income ranges [Internet]. State Government of Victoria, Australia; [cited 2024 Mar 15]. Available from: <https://www.health.vic.gov.au/community-health/community-health-fees-schedule-and-income-ranges>

127. Australian Institute of Health and Welfare [Internet]. 2024 [cited 2024 May 27]. Australia's mental health system - Mental health. Available from: <https://www.aihw.gov.au/mental-health/overview/australias-mental-health-services>
128. cohealth [Internet]. [cited 2022 Mar 15]. Dietitian. Available from: <https://www.cohealth.org.au/service/dietitian/>
129. Starhealth. Dietitian Melbourne | We Can Come To You [Internet]. Star Health. [cited 2024 Mar 22]. Available from: <https://www.starhealth.org.au/services-2/physical-health/dietetics/>
130. cohealth [Internet]. [cited 2024 Mar 22]. Wait times. Available from: <https://www.cohealth.org.au/our-services/using-our-services/wait-times/>
131. Kavanagh BE, Corney KB, Beks H, Williams LJ, Quirk SE, Versace VL. A scoping review of the barriers and facilitators to accessing and utilising mental health services across regional, rural, and remote Australia. *BMC Health Serv Res*. 2023 Oct 4;23(1):1060.
132. Andrade LH, Alonso J, Mneimneh Z, Wells JE, Al-Hamzawi A, Borges G, et al. Barriers to Mental Health Treatment: Results from the WHO World Mental Health (WMH) Surveys. *Psychol Med*. 2014 Apr;44(6):1303–17.
133. Commonwealth of Australia. Accessibility and quality of mental health services in rural and remote Australia [Internet]. 2018 [cited 2024 Mar 8]. Available from: [https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/MentalHealthServices/~media/Committees/clac_ctte/MentalHealthServices/report.pdf](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/MentalHealthServices/~/media/Committees/clac_ctte/MentalHealthServices/report.pdf)
134. Wohler Y, Dantas JA. Barriers Accessing Mental Health Services Among Culturally and Linguistically Diverse (CALD) Immigrant Women in Australia: Policy Implications. *J Immigr Minor Health*. 2017 Jun;19(3):697–701.
135. Corcadden L, Callander EJ, Topp SM. Who experiences unmet need for mental health services and what other barriers to accessing health care do they face? Findings from Australia and Canada. *Int J Health Plann Manage*. 2019 Apr;34(2):761–72.
136. Bartram M, Stewart JM. Income-based inequities in access to psychotherapy and other mental health services in Canada and Australia. *Health Policy*. 2019 Jan 1;123(1):45–50.
137. Corcadden L, Callander EJ, Topp SM. Disparities in access to health care in Australia for people with mental health conditions. *Aust Health Rev Publ Aust Hosp Assoc*. 2019 Jan;43(6):619–27.
138. Fauk NK, Ziersch A, Gesesew H, Ward P, Green E, Oudih E, et al. Migrants and Service Providers' Perspectives of Barriers to Accessing Mental Health Services in South Australia: A Case of African Migrants with a Refugee Background in South Australia. *Int J Environ Res Public Health*. 2021 Aug 24;18(17):8906.
139. Help with costs | Dietitians Australia [Internet]. [cited 2024 Mar 15]. Available from: <https://dietitiansaustralia.org.au/seeing-dietitian/help-costs>
140. Care AGD of H and A. Australian Government Department of Health and Aged Care. Australian Government Department of Health and Aged Care; 2021 [cited 2024 Mar 22]. Final report – Improvement of access, quality and distribution of allied health services in regional, rural and remote Australia. Available from: <https://www.health.gov.au/resources/publications/final-report-improvement-of-access-quality-and-distribution-of-allied-health-services-in-regional-rural-and-remote-australia?language=en>
141. Phillips J. Health workforce [Internet]. [cited 2024 May 8]. Available from: https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BriefingBook46p/HealthWorkforce
142. Riegel B, Dunbar SB, Fitzsimons D, Freedland KE, Lee CS, Middleton S, et al. Self-care research: Where are we now? Where are we going? *Int J Nurs Stud*. 2021 Apr 1;116:103402.
143. Aggar C, Thomas T, Gordon C, Bloomfield J, Baker J. Social Prescribing for Individuals Living with Mental Illness in an Australian Community Setting: A Pilot Study. *Community Ment Health J*. 2021 Jan;57(1):189–95.
144. Nichols T, Calder RV, Morgan M, Sharon L, Beauchamp A, Trezona A, et al. Self-care for health: a national policy blueprint [Internet]. Melbourne: Mitchell Institute, Victoria University; 2020. Report No.: 2020–01. Available from: <https://www.vu.edu.au/sites/default/files/mitchell-institute-self-care-for-health-a-national-policy-blueprint.pdf>

145. Self-care interventions for health [Internet]. [cited 2024 Mar 22]. Available from: <https://www.who.int/health-topics/self-care>
146. Nichols T, Calder R, Morgan M, Lawn S, Beauchamp A, Trezona A, Byambasuren O, Bowman J, Clinton-McHarg T, Willis K, Kearns R, Harris-Roxas B, Duggan M, Wardle J, Litt J, Menzies D, Dawda P, Benrimoj S, Dineen-Griffin S, Banfield M, Fetherston H, Klepac-Pogrmilovic B. Self-care for health: a national policy blueprint [Internet]. Mitchell Institute, Victoria University; [cited 2024 May 16]. Available from: <https://selfcarealliance.org.au/policy-blueprint>
147. Lucock M, Gillard S, Adams K, Simons L, White R, Edwards C. Self-care in mental health services: a narrative review. *Health Soc Care Community*. 2011 Nov;19(6):602–16.
148. Self-care for health: a national policy blueprint | Victoria University [Internet]. [cited 2024 May 8]. Available from: <https://www.vu.edu.au/mitchell-institute/prevention-risk/self-care-for-health-a-national-policy-blueprint>
149. Duggan M, Chislett W, Calder R. The State of Self Care in Australia [Internet]. Melbourne: Australian Health Policy Collaboration; 2018 [cited 2023 Jan 9]. Report No.: 02/2017. Available from: <https://www.vu.edu.au/sites/default/files/the-state-of-self-care-in-australia.pdf>
150. Ahn S, Smith ML, Altpeter M, Post L, Ory MG. Healthcare Cost Savings Estimator Tool for Chronic Disease Self-Management Program: A New Tool for Program Administrators and Decision Makers. *Front Public Health*. 2015 Apr 27;3:42.
151. Basu R, Ory MG, Towne SD, Smith ML, Hochhalter AK, Ahn S. Cost-Effectiveness of the Chronic Disease Self-Management Program: Implications for Community-Based Organizations. *Front Public Health*. 2015 Apr 27;3:27.
152. D'Souza MS, Karkada SN, Parahoo K, Venkatesaperumal R, Achora S, Cayaban ARR. Self-efficacy and self-care behaviours among adults with type 2 diabetes. *Appl Nurs Res ANR*. 2017 Aug;36:25–32.
153. Zinat Motlagh SF, Chaman R, Sadeghi E, Eslami AA. Self-Care Behaviors and Related Factors in Hypertensive Patients. *Iran Red Crescent Med J*. 2016 May 10;18(6):e35805.
154. Oster C, Skelton C, Leibbrandt R, Hines S, Bonevski B. Models of social prescribing to address non-medical needs in adults: a scoping review. *BMC Health Serv Res*. 2023 Jun 15;23(1):642.
155. Social determinants of mental health [Internet]. [cited 2024 Mar 1]. Available from: <https://www.who.int/publications-detail-redirect/9789241506809>
156. Morse DF, Sandhu S, Mulligan K, Tierney S, Polley M, Chiva Giurca B, et al. Global developments in social prescribing. *BMJ Glob Health*. 2022 May;7(5):e008524.
157. Tierney S, Wong G, Roberts N, Boylan AM, Park S, Abrams R, et al. Supporting social prescribing in primary care by linking people to local assets: a realist review. *BMC Med*. 2020 Mar 13;18(1):49.
158. Zurynski Y, Vedovi A, Smith K Lynn. Social prescribing: a rapid literature review to inform primary care policy in Australia [Internet]. NSW: Consumers' Health Forum of Australia; 2020 [cited 2024 Apr 12]. Available from: <http://purl.org/au-research/grants/nhmrc/9100002>
159. Costa A, Sousa CJ, Seabra PRC, Virgolino A, Santos O, Lopes J, et al. Effectiveness of Social Prescribing Programs in the Primary Health-Care Context: A Systematic Literature Review. *Sustainability*. 2021 Jan;13(5):2731.
160. Department of Health. Victoria A. Local Connections – a social prescribing initiative [Internet]. State Government of Victoria, Australia; [cited 2024 Mar 1]. Available from: <https://www.health.vic.gov.au/mental-health-wellbeing-reform/local-connections-social-prescribing-initiative>
161. Dingle GA, Sharman LS, Hayes S, Haslam C, Cruwys T, Jetten J, et al. A controlled evaluation of social prescribing on loneliness for adults in Queensland: 8-week outcomes [Internet]. In Review; 2023 Jun [cited 2023 Aug 4]. Available from: <https://www.researchsquare.com/article/rs-2853260/v1>
162. The impact of community-based food access strategies in high-income countries: a systematic review of randomised controlled trials - December 2023, Volume 33, Issue 4 | PHRP [Internet]. <https://www.phrp.com.au/>. 2023 [cited 2024 Aug 23]. Available from: <https://www.phrp.com.au/issues/december-2023-volume-33-issue-4/systematic-review-of-community-food-interventions/>

163. Australian Government. Strengthening Medicare Taskforce Report [Internet]. Canberra: Australian Government; 2022 Dec [cited 2023 Mar 27]. Available from: <https://www.health.gov.au/resources/publications/strengthening-medicare-taskforce-report?language=en>
164. Australian Government Department of Health and Aged Care. Australian Government Department of Health and Aged Care. Australian Government Department of Health and Aged Care; 2023 [cited 2024 Mar 6]. Primary Health Networks. Available from: <https://www.health.gov.au/our-work/phn>
165. Australian Government. Building a stronger Medicare [Internet]. [cited 2024 Mar 22]. (Budget 2023-2024). Available from: https://www.health.gov.au/sites/default/files/2023-05/building-a-stronger-medicare-budget-2023-24_0.pdf
166. “Make us more accessible through Medicare,” Dietitians plead | Dietitians Australia [Internet]. 2024 [cited 2024 Mar 1]. Available from: <https://dietitiansaustralia.org.au/about-us/media-centre/make-us-more-accessible-through-medicare-dietitians-plead>
167. Eating disorder treatment and management plans - Services Australia [Internet]. [cited 2024 May 24]. Available from: <https://www.servicesaustralia.gov.au/eating-disorder-treatment-and-management-plans>
168. Royal Australian College of General Practitioners. Healthy Habits [Internet]. 2023 [cited 2023 Mar 26]. Available from: <https://healthyhabits.racgp.org.au/>
169. Tierney S, Wong G, Mahtani KR. Current understanding and implementation of ‘care navigation’ across England: a cross-sectional study of NHS clinical commissioning groups. *Br J Gen Pract.* 2019 Oct;69(687):e675–81.
170. Pescheny JV, Randhawa G, Pappas Y. The impact of social prescribing services on service users: a systematic review of the evidence. *Eur J Public Health.* 2020 Aug 1;30(4):664–73.
171. Islam MM. Social Prescribing—An Effort to Apply a Common Knowledge: Impelling Forces and Challenges. *Front Public Health* [Internet]. 2020 [cited 2022 Mar 24];8. Available from: <https://www.frontiersin.org/article/10.3389/fpubh.2020.515469>
172. Martínez N, Connelly CD, Pérez A, Calero P. Self-care: A concept analysis. *Int J Nurs Sci.* 2021 Sep 5;8(4):418–25.
173. Asia WHORO for SE. Self-care in the context of primary health care. Report of the regional consultation, Bangkok, Thailand, 7-9 January 2009 [Internet]. 2009 [cited 2024 May 27]; Available from: <https://iris.who.int/handle/10665/206352>
174. Clark AP, McDougall G, Riegel B, Joiner-Rogers G, Innerarity S, Meraviglia M, et al. Health Status and Self-care Outcomes After an Education-Support Intervention for People With Chronic Heart Failure. *J Cardiovasc Nurs.* 2015;30(4 Suppl 1):S3-13.
175. Morris ZS, Wooding S, Grant J. The answer is 17 years, what is the question: understanding time lags in translational research. *J R Soc Med.* 2011 Dec;104(12):510–20.
176. Young B, Lewis S, Katikireddi SV, Bauld L, Stead M, Angus K, et al. Effectiveness of Mass Media Campaigns to Reduce Alcohol Consumption and Harm: A Systematic Review. *Alcohol Alcohol.* 2018 May 1;53(3):302–16.
177. Colston DC, Cho B, Thrasher JF, Titus AR, Xie Y, Emery S, et al. Anti-Smoking Media Campaigns and Disparities in Smoking Cessation in the United States, 2001–2015. *Am J Health Promot AJHP.* 2021 Jun;35(5):658–68.



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MELBOURNE AUSTRALIA

Australian Health Policy Collaboration
Victoria University
300 Queen Street, Melbourne, Victoria 3000
ahpc@vu.edu.au
vu.edu.au/institute-for-health-sport-ihes/health-policy