IMPROVING AUSTRALIA'S MENTAL AND PHYSICAL HEALTH

A CONNECTED APPROACH

Ben Harris, Tyler Nichols

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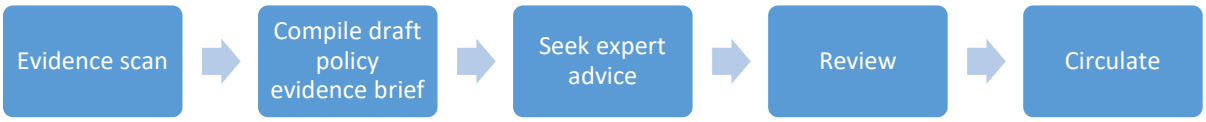


Acknowledgements

This project has been partially funded by the Australian Government Department of Health.

The Mitchell Institute acknowledges Professor Jennifer Bowman and Professor Alex Parker for their contribution to this paper and acknowledges the contribution of Associate Professor Maria Duggan, Associate Professor Phillip Batterham, Dr Kate Bartlem, Dr Tara Clinton McHarg, Professor James Dunbar, Caitlin Fehily, Associate Professor David Lawrence, Associate Professor Mark Morgan and Dr Simon Rosenbaum to *Australia's Mental and Physical Tracker* which helped inform this work.

Suggested citation

Harris B, Nichols T, 2019. Improving Australia's Mental and Physical Health – a connected approach. Mitchell Institute, Victoria University. Melbourne.

ISBN: 978-0-6486656-4-9

Executive Summary

Physical and mental health are fundamentally linked in the body, but disconnected in Australia's health system.

Looking after our physical health is important. For people living with mental illness, maintaining physical health can be more challenging.

Similarly, looking after your mental health when you have a chronic physical condition can be difficult.

Latest Australian data show 2.4 million Australians live with both a mental health condition and chronic physical disease. This population is at much greater risk of dying early – people with severe mental health illness have a gap in life expectancy of 10-15 years. More than three quarters of the excess death comes from chronic physical health conditions. Many of these deaths are preventable.

Australians living with multiple chronic diseases are not only dying earlier but also have poorer health outcomes. This cohort are much more likely than the general population to have another chronic disease, experience a lower quality of life and are higher cost users of health care.

We need to improve prevention and early intervention. We know people living with a mental health condition are at increased risk of developing a chronic physical condition, and also that people with a physical health condition are more likely to develop a mental health condition. Despite these interactions, we do not have systematic approaches to identifying people at risk and intervening early.

We propose the following policy and practice recommendations for a connected approach to physical and mental health:

- Promote Absolute Cardiovascular Risk Assessments for people living with mental health conditions.
- Implement routine mental health checks for people with chronic physical disease.
- Invest in a shared risk factor approach for people living with mental health conditions.

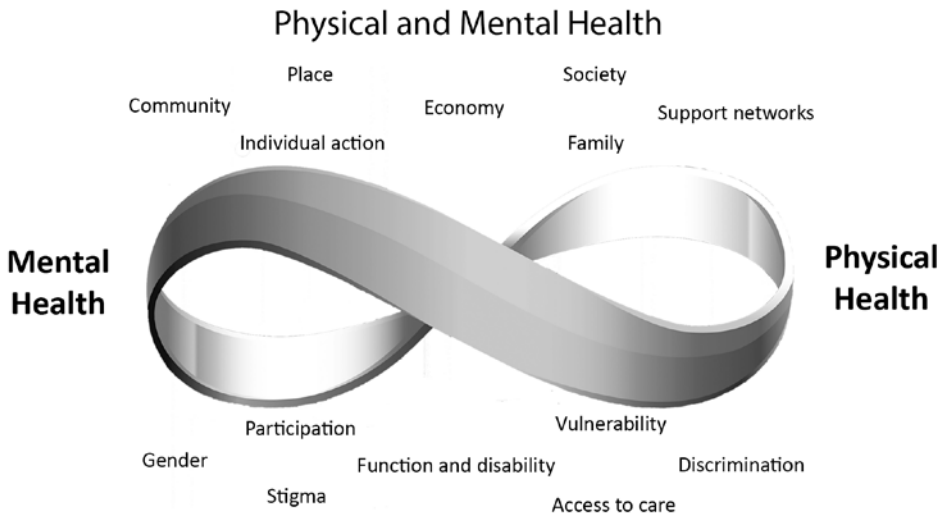
What is the problem?

People living with mental health conditions die earlier than the average Australian, and those with severe mental illness die 10–15 years earlier[1]. More than three quarters of the excess mortality comes from chronic physical health conditions, with cardiovascular disease the biggest contributor[1]. Many of these early deaths are preventable.

Australia's Mental and Physical Health Tracker, produced by the Australian Health Policy Collaboration, highlights the strong link between chronic physical and mental health conditions[2].

Mental and physical ill health interact, with each influencing the other. Evidence suggests that a combination of biological, psychosocial, environmental and behavioural factors are involved (see Figure 1).

Figure 1: Physical and mental health influencing factors



Australia's Mental and Physical Health Tracker demonstrates that people living with mental health conditions are more likely to smoke, drink at risky levels, have low rates of physical activity and to be obese than the population as a whole[2].

This contributes to, but does not fully explain, much higher rates of chronic physical disease among people living with mental health conditions.

The effects are significant. Multiple chronic diseases are associated with decreased quality of life, functional decline, and increased health care utilisation, including emergency admissions [3-10]. Co-morbid physical and mental health conditions substantially increase estimates of disease burden [11] and impairment [12]. The costs of health care for people with multiple chronic diseases are generally higher [9, 13], particularly for co-existing mental and physical conditions [14]. There are also negative impacts on family functioning, standard of living, child development and educational attainment [15].

Higher rates of disease

Around 2.4 million Australians live with both a mental health condition and a chronic physical health condition[16]. People living with mental health conditions are much more likely than the general population to have another chronic health condition. An estimated 29.3% of this cohort are living with another chronic disease, and 30.5% are living with two or more additional chronic diseases[16].

The relationship is bi-directional, with chronic physical conditions increasing the chance of developing a mental health condition, and mental health conditions increasing the risk of each of the major physical diseases[13].

There is strong evidence about the negative impact of mental health conditions for people who already have chronic physical conditions, and there is equally strong evidence that a mental health condition (including depression or anxiety disorders) increases the risk of onset of a range of physical illnesses[17]. Furthermore, people who have both a mental and physical health condition report poorer general health and poorer quality of life than those who have a physical or mental health condition alone[18].

Mental health conditions and cardiovascular diseases are Australia's two most burdensome disease groups[19]. Mental health conditions are the biggest contributor to morbidity and CVD is the biggest contributor to mortality[20]. Both contribute significantly to overall health care expenditure.

The National Health Survey reports on circulatory system diseases which include cardiovascular diseases and shows that people reporting mental health conditions (most commonly, anxiety and depression) were 47% more likely to have circulatory system diseases than the general population[16]. Circulatory conditions such as heart disease and stroke are Australia's biggest killers [21]. An estimated 1.075 million Australians live with both mental health conditions and circulatory diseases[16].

Beyond the links between mental health conditions and circulatory diseases, there is a particularly strong association between severe mental illness and cardiovascular disease (CVD). People with clinical depression, who are socially isolated or who have a lack of quality social support are at much higher risk[2]. The risk of CVD is 2–3 times higher for people with minor depression and 3–5 times higher for those with major depression[22].

The evidence

Absolute CVD Risk Assessment for people living with a mental health condition

There is good evidence that the overall burden of disability and premature death caused by CVD in the general population can be reduced through a dual approach to tackling cardiovascular risks, involving prevention and improved treatment and management[23].

An Absolute Cardiovascular Risk Assessment (ACVR) involves the proactive identification and management of people with modifiable vascular risk factors. It is an online question and answer form for routine use in general practice with relevant patients to generate an overall risk score that guides subsequent management of risk. Maintaining a healthy weight, being physically active and not smoking improve health overall and reduce the risk of CVD as well as related chronic health diseases. The potential to reduce CVD events is closely related to a person's absolute risk—the probability that they will have a cardiovascular event such as a heart attack or stroke within a predictable period of time.

There is strong evidence for the effectiveness and efficiency of ACVR[24]. The National Vascular Disease Prevention Alliance (NVDPA) has developed clinical guidelines and a risk calculator, which have been endorsed by the Royal Australian College of General Practice (RACGP) and the National Health and Medical Research Council.

ACVR is not routine in general practice across Australia. However, the Australian Government has recently announced ACVR will be funded through the Medicare Benefits Schedule from April 2019. The Australian Health Policy Collaboration paper *Heart Health* (2017) provides an implementation guide regarding the infrastructure required to support and monitor the use of ACVR in general practice[21].

People living with mental health conditions are less likely to be offered standard physical health checks and diagnostic tests, despite increased incidence of preventable physical health conditions[17]. The full benefits of the Australian Government's recent announcement of ACVR will not be realised if priority populations are not targeted.

The economic case for targeting people living with a mental health condition is strong. Implementing ACVR for Australians aged 45-70 years with a mental health condition would cost the Australian Government approximately $27.6 million per annum. Over a five year budget timeframe, this investment breaks even for the health budget if only about one percent of circulatory disease cases are delayed by five years, and five percent of cases are delayed by two years.

Put another way, this program would pay for itself if administration of an ACVR assessment for people with a mental health condition delayed onset of predictable chronic circulatory diseases by an average 18 days.

If a benchmark of five percent delay of circulatory disease by five years and a fifteen percent delay of circulatory disease by two years was attained, nett savings to government would grow to approximately $69 million per annum.

The modelling does not include a range of factors likely to increase savings, including reduction or delay in kidney disease or diabetes likely to result from ACVR. Further, costs of circulatory diseases for people with mental health conditions are found to be consistently higher, a factor not taken into account in the modelling.

The key assumptions and workings for the modelling are available in Appendix 1.

We need an explicit, national policy commitment to promote the use of ACVR for people living with mental health conditions.

Mental health screening for people living with chronic physical conditions

Screening of a population group for a risk factor or disease is worthwhile when the risk factor or disease has a reasonably high prevalence, there is a robust screening test, and effective and cost-effective treatments are readily available[25].

People living with one or more chronic physical conditions are at increased risk of also having or developing a mental health condition. As there are various validated and cost-effective mental health assessment tools, mental health screening for people living with chronic physical conditions should be considered an effective method to decrease the disease burden attributable to co-morbid mental health conditions [26].

The prevalence of mental health conditions vary for people with other chronic diseases by condition, gender and age. The table below shows the proportion of people by gender and age group living with a mental health condition and a primary chronic physical condition. The colours of text represent the level of increased risk associated with each gender/ age/ disease group subpopulation. For example, across the population females aged between 45 and 64 have an average risk of 23% for developing a mental health condition. Green denotes low increased risk above the baseline (a number within 25% of the overall prevalence rate for that gender/ age population group), orange denotes moderate increased risk (25-75% above the overall prevalence rate), and red denotes high increased risk (more than 75% above the prevalence rate).

Table 1: Mental health risk indicator tool

	Proportion of females with a mental health condition			***Proportion of males with a mental health condition***		
Primary condition	Age 0-44	Age 45-64	Age 65+	Age 0-44	Age 45-64	Age 65+
Arthritis	45.5%	30.4%	22.3%	High*	28.4%	22.1%
Asthma	29.5%	42.3%	23.6%	20.9%	30.6%	High*
Back problems	34.0%	33.9%	26.0%	27.5%	29.2%	23.1%
Cancer	Low*	Average*	Average*	n/a	High*	High*
COPD	High*	High*	26.3%	High*	High*	High*
Diabetes	Average*	38.9%	20.3%	High*	29.1%	23.3%
Circulatory diseases	35.7%	31.4%	19.2%	30.2%	27.5%	20.4%
All Australians' prevalence rate/ average risk	**17.7%**	**23%**	**18.6%**	**14.5%**	**18.6%**	**17.1%**

*The number is not reported due to low numbers and a high standard deviation. Results should be treated with caution.
Data derived from Australian Bureau of Statistics 2015, *National Health Survey 2014-15*.

These data could be used to inform and promote mental health screening practices for at risk populations. For example, younger people (aged 0-44) seem particularly at risk of mental health conditions if they have a chronic physical condition.

Promoting mental health screening among at-risk groups will promote earlier intervention and reduce harms from co-morbid physical and mental health conditions.

Information and data about the higher risks of mental health conditions for people living with a chronic physical condition should be promulgated among people and organisations responsible for chronic disease management, including people living with chronic health conditions, people working in primary care settings and Primary Health Networks. In particular, Primary Health Networks should consider using these data in their health pathways to provide guidance to practices on when to consider screening for mental health issues.

Addressing shared risk factors for people living with chronic physical or mental health conditions

The importance of addressing risk factors such as smoking [27], physical activity [28, 29] and diet [30] for people living with mental health conditions is well recognised. Addressing these health behaviours can assist management of biomedical markers such as overweight and obesity, blood pressure and cholesterol and subsequently reduce a significant proportion of overall chronic disease burden.

Addressing risk factors for people with mental health conditions is recommended internationally, nationally and at state level, but people living with mental health issues are less likely to be offered standard physical health checks and diagnostic tests [31]. Efforts need to focus on understanding how to effectively implement existing, effective models of care into mental health services to ensure they are routinely provided to all patients [32].

Australian research indicates that most mental health patients with risk factors such as smoking, physical inactivity and inadequate fruit and vegetable consumption are considering making improvements [33-35]. Therefore, investing in promoting and supporting self-care and self-management may improve their risk behaviours, mental health and physical health.

Existing services that are effective in the general population to address chronic disease risk factors and support health behaviour change may need to be tailored to be as effective in people living with a mental health condition [36-40]. Targeted, evidence-based interventions aimed at improving chronic disease prevalence and risk factors in people living with mental health conditions have been shown to be effective [41-44].

Building the capacity of informal carers of people with a mental health condition to support healthy behaviour change should also be considered. Informal carers have been reported to play a key role in promoting positive health behaviours among those they support [45]. Carers may require additional information, support and guidance from health and mental health services [46]. Enhancing peer support networks, where people with similar health conditions can provide advice and support, may also be beneficial [47].

Policy options

1. The Australian Government should promote the use of Absolute Cardiovascular Risk Assessments for people living with mental health conditions by:
    - Implementing national awareness-raising activities and health professional training; and
    - Measuring progress of ACVR implementation for people living with mental health conditions.
2. The Australian Government should promote the use of a mental health risk indicator tool for people living with a chronic physical condition through encouraging PHNs to include the tool in their Health Pathways online manual for use by primary clinicians.
3. Increase investment in supported, tailored and targeted interventions addressing chronic disease risk factors for people living with mental health conditions.

Conclusion

People living with mental health conditions are:

- more likely to have risk factors for chronic physical diseases,
- much more likely to have comorbid chronic physical diseases, and
- more likely to have poorer outcomes from chronic physical diseases, including early death.

This is a triple-'whammy' – with people with a mental health condition having worse results at each step on from the previous stage compared to the rest of the population.

The converse is also true – poor physical health often leads to mental health conditions, and thus poorer outcomes. The bidirectional interactions between mental health and physical health mean that assisting one is likely to assist the other.

The data are compelling, not just for severe mental illness and physical health, but also for more common mental health conditions such as anxiety and depression.

The moral case for early intervention is clear – there is too much morbidity and early mortality caused by comorbid physical and mental health conditions. The economic case is also clear – acting early improves quality of life, decreases costs, and increases participation in work, study and the community.

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Appendix 1 - Modelling for ACVR costs and benefits

The modelling takes a very broad, population-based approach, with conservative assumptions.

Data

There are approximately 1.19 million Australians aged 45-64 years living with a mental health condition (ABS 2015 - NHS).

40.8% of people living with a mental health condition aged 45-64 years are also living with a circulatory condition.

The cost of an ACVR assessment was modelled at $145, equivalent to the benefit for MBS item 721, preparation of a general practice management plan (Department of Health 2018 – MBS Online). The cost of having a plan was modelled at $265, equivalent to the benefit for five allied health services under the MBS group M3.

The average annual cost of having a circulatory condition was estimated at $4524. This figure was reached through assessing circulatory diseases as costing 12% (Australian Health Policy Collaboration, Heart Health, 2017) of the total cost of health care in Australia, $160 billion per annum (from AIHW health expenditure series), divided by the approximately 4.2 million people living with a circulatory condition (ABS 2015 - NHS).

Key assumptions

Costs

It is assumed that 50% of people with a mental health condition would receive an ACVR assessment over a five year period, evenly distributed over the five years. 119,280 people each year would have an assessment, costing $17.295m per annum.

It is assumed that 40.8% of people with a mental health condition would be found to have a circulatory condition, consistent with the National Health Survey 2014-15 data (n = 48,666 per annum).

It is assumed that 80% of people found to have both a circulatory and mental health condition would be referred for a care plan (n = 38,933 per annum), and that all would fully participate in five allied health sessions, costing $10.317m per annum.

Total cost for 119,280 assessments plus 5 x 38,933 allied health consultations would be $27.612 million per annum.

Benefits

Two estimates of benefits have been made; at approximately the ‘break even’ point, and a reasonable expectation of benefit.

All benefits are calculated over a five year period, with no discounting or indexation applied.

Two measures of benefit are calculated; a delay in the onset of cardiovascular disease for five or more years; and a delay in the onset of cardiovascular disease for two years. The five year delay benefit was chosen in line with the Framingham Risk Equation for CVD events and a two year delay was also included as it falls within an election cycle. Any delay for more than five years is treated as a five year delay as modelling does not extend beyond five years.

All savings are calculated at the average cost of cardiovascular disease, $4564 per annum. Thus a two year delay is calculated as a $9132 saving, and a five or more year delay is calculated as a $22,820 saving. (Individual events, particularly those that require hospitalisation, are much more expensive than these averages.)

Effects are calculated as a proportion of the people estimated to have a care plan (n = 38,933 per annum), not on the larger number of people assessed for ACVR.

If one percent of people receiving a care plan have a delay of onset of cardiovascular disease for five or more years (n = 389 per annum) and five percent of people receiving a care plan have a delay of onset of cardiovascular disease for two years (n = 1947 per annum) then the projected savings are $26.42 million per annum.

According to the Australian Institute of Health and Welfare, up to a third of chronic disease is preventable (AIHW Burden of Disease Study, 2010). Taking a more conservative approach, if five percent of people receiving a care plan have a delay of onset of cardiovascular disease for five or more years (n = 1947 per annum) and fifteen percent of people receiving a care plan have a delay of onset of cardiovascular disease for two years (n = 1947 per annum) then the projected savings are $96.873 million per annum.

Limitations

The modelling does not take into account a range of factors known to affect cardiovascular risk; it takes a very broad, population-based approach.

The modelling does not include reduction or delay in kidney disease or diabetes likely to result from ACVR due to shared risk factors being identified.

Costs of circulatory diseases for people with mental health conditions are found to be consistently higher, a factor not taken into account in the modelling.

There are no effects modelled for any partial effects. For example, if a person marginally improves their health following a program of care, the model will not take this into account. The model assumes that there is zero effect or impact for 94 percent or 80 percent of people receiving care – there is likely to be some positive effect in most instances.

Mitchell Institute at Victoria University
300 Queen Street, Melbourne, Victoria 3000
+61 3 9919 1820
info@mitchellinstitute.org.au
mitchellinstitute.org.au