Mental Health Commission of New South Wales

Physical health and mental wellbeing

EVIDENCE GUIDE

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The World Health Organisation dictum "no health without mental health" is familiar to many of us.

What happens when we flip the phrase to read: "No mental health without health"? I think those words still ring true. It is very hard to stay psychologically healthy when our bodies let us down. Poor physical functioning may mean we cannot fully occupy the roles we choose for ourselves, or participate in the activities we would otherwise wish to. Poor physical health may prompt distress and lead to mental illness, directly or indirectly.

While there have been gains made in physical health and life expectancy generally, the physical health of people who experience mental illness has traditionally received relatively little attention. We have bought into a narrative of lesser evils – that the physical side effects of psychiatric medications are the price of symptom control. We have focused on mental illness itself rather than the sum of all the experiences that make up an individual person, and allowed ourselves to miss the huge importance of physical health in the lives of mental health consumers.

Let me say clearly: the chronic physical health problems and premature deaths of many people who experience mental illness are not acceptable. We must act to address this fundamental inequity.

This Evidence Guide offers what I hope will be a valuable and important perspective as we pursue these necessary improvements. It pulls together what we can most confidently say about the links between physical health and mental illness and its treatments, and about what we could do better. It draws on the most robust research and includes examples of successful approaches from NSW, Australia and overseas.

The Guide is short and accessible because we need to ensure the evidence informing decisions about the physical health of people in NSW who experience mental illness is available to the community and to policy-makers, not only in learned journals.

By drawing links between the exceptional research initiatives proceeding in this area, we can create a platform for change. I hope this Guide will make a strong and positive contribution to this critical element of mental health reform.

John Feneley

NSW Mental Health Commissioner

Introduction

Mental illness is very common, with nearly half of all Australians developing a mental illness at some point in their lives. The cost of treating mental illness is significant in Australian society. The reciprocal relationship between more severe and persistent mental illness and poor physical health, including cardiovascular disease and diabetes, is increasingly clear. Consequently, the physical health care of people with severe and persistent mental illness has been identified as a serious public health challenge. The national survey, People living with psychotic illness 2010, found that for one quarter of participants, their physical health was one of the biggest challenges[1].

The life expectancy for people experiencing severe mental illness is reduced by 15 to 20 years – largely due to cardiovascular disease and cancer rather than suicide – and the gap is widening[2]. Despite improvements in physical health and longevity in the general population through better lifestyle and medical advances, people with severe mental illness have not shared in these benefits. They often experience economic and social marginalisation, including from health care professionals and systems, in addition to severe metabolic consequences from antipsychotic medication. While steps have been taken to ensure that we reduce the number of premature deaths, more needs to be done to ensure that people with severe mental illness have the same life expectancy, and equal expectations of life, as those without mental illness.

Significantly improving the physical health of mental health consumers is becoming a priority area for clinicians and policymakers, yet the practical steps needed to achieve this are less clear. The common themes evident in national and state mental health commission reports include:

- integration, the need for a holistic, collaborative and co-ordinated approach
- addressing the side effects of antipsychotic medication
- education
- the need to overcome the physical/mental dualism that is typically experienced by consumers.

Despite ongoing attempts to address the poor physical health of mental health consumers, much remains to be achieved. This document aims to provide a summary of the evidence regarding what measures need to be taken to improve the physical health of people living with mental illness.

The Guide discusses the evidence for comprehensive lifestyle interventions to help improve the physical health of consumers living with severe mental illness. It provides evidence from proven strategies to improve access to physical health services, as well as health promotion, prevention and early intervention for people with coexisting mental and physical health

issues. Although there are significant physical health issues in people with mental health issues, (e.g. anxiety, depression, eating disorders and traumatic stress disorders) this Guide focuses only on the physical health of those with severe mental illness, specifically bipolar affective disorder, schizophrenia and other psychotic illnesses.

Australian and international literature, including clinical trials, systematic reviews and position statements, in addition to grey literature (unpublished academic literature) was reviewed to gather evidence and identify best practice initiatives, frameworks, policies and models. Evidence was collated and assessed to identify not only the currency of evidence but also its applicability, feasibility and potential for practical implementation in NSW.

Definition of terms

'Mental health' is sometimes misunderstood and interpreted as referring to mental illness. This may be because historically 'mental health services' were mainly concerned with the treatment of illness. However, mental health is a desirable quality in its own right and is more than the absence of illness[3].

Mental health

Mental health is a positive concept related to the social and emotional wellbeing of individuals and communities. The concept is influenced by culture but generally relates to the enjoyment of life, ability to cope with stress and sadness, the fulfilment of goals and potential, and a sense of connection to others.

The term 'social and emotional wellbeing' is preferred by some Aboriginal and Torres Strait Islander people as it reflects their more holistic view of health. It is also used by some people from culturally and linguistically diverse backgrounds who may have differing concepts of mental health and mental illness[3].

Mental illness

A mental illness is a disorder diagnosed by a medical professional that significantly interferes with an individual's cognitive, emotional or social abilities. Mental disorders encompass a wide variety of signs, symptoms, experiences and disorders. For example, mental illnesses can include mood disorders (such as depression, anxiety and bipolar disorder), psychotic disorders (such as schizophrenia), eating disorders and personality disorders[3].

Severe and persistent mental illness

The term severe or serious and persistent mental illness generally refers to the most debilitating psychiatric disorders including psychotic disorders e.g. schizophrenia spectrum disorders and bipolar disorder.

Physical health

Physical health relates to the functioning of the physical body. There are many diseases, conditions and disabilities that can impair functioning.

Cardiovascular risk

Risk factors such as high blood pressure, high cholesterol, unhealthy diet, overweight and obesity, tobacco use, physical inactivity, diabetes and family history contribute to the development of cardiovascular disease (CVD) and overall cardiovascular risk.

Metabolic syndrome

The International Diabetes Federation defines metabolic syndrome as central obesity (defined as an increased waist circumference based on ethnicity-specific values or BMI >30 kg/m^2), as well as any two of either raised triglycerides, reduced HDL cholesterol, raised

blood pressure or raised fasting plasma glucose[4]. While this is not a disease per se, it may identify individuals at risk of future disease and research is being carried out to understand its predictive value.

Recovery

From the perspective of the individual with mental illness, recovery means gaining and retaining hope, understanding one's abilities and disabilities, engagement in an active life, personal autonomy, social identity, meaning and purpose in life and a positive sense of self. Recovery is not synonymous with cure. Recovery refers to both internal conditions experienced by those who describe themselves as being in recovery – hope, healing, empowerment and connection – and external conditions that facilitate recovery – implementation of human rights, a positive culture of healing, and recovery-oriented services[5].

Current situation

Prevalence of physical health problems in people with severe mental illness

There is substantial evidence in Australia and internationally that the risk factors for chronic physical disease are higher among people living with severe and persistent mental illness than in the general population. The interrelationship between mental illness and poor physical health is well established[6]. For example, a 2015 review of 25 unique studies internationally found that people with schizophrenia are 2.5 times more likely to have diabetes compared with the general population[7]. Similarly, high rates of, and risk for, metabolic syndrome have been documented in bipolar disorder[8], depression[9] and other mental disorders such as post-traumatic stress disorder[10]. Specific to psychosis, the rate of metabolic syndrome is 32.5 per cent, with rates of up to 60 per cent observed in those with a longer duration of illness and use of antipsychotic medication[11-13].

> people with schizophrenia are 2.5 times more likely to have diabetes[7]

The Australian Survey of High Impact Psychosis (SHIP) provides detailed information about the prevalence of metabolic co-morbidities among Australians living with psychosis[14]. Similar to data from other countries, the rate of metabolic syndrome was found to be 61 per cent regardless of diagnostic group, while 66 per cent identified as smokers[14]. The percentage of those surveyed who met the threshold for individual items of metabolic syndrome included 84 per cent with abdominal obesity, 58 per cent with reduced HDL cholesterol, 56 per cent with high triglycerides, 54 per cent with elevated blood pressure and 35 per cent with elevated fasting blood glucose levels[14]. Physical activity levels were far lower in people with psychoses, and heavy alcohol use was more common compared with those in the general population[14].

Antipsychotic-induced weight gain

Antipsychotic-induced weight gain can affect more than 80 per cent of people treated with antipsychotic medication, and particularly younger patients and those with limited previous use of antipsychotic medication[15]. Varying patterns of weight gain are observed with different medications and there is growing evidence that rapid changes in key metabolic measures are observed in healthy volunteers after even short-term exposure to some antipsychotics[16,17]. Such evidence has seen the inclusion of revised treatment guidelines in the *Medical Management in Early Psychosis: A Guide for Medical Practitioners*[18]. This recommends that olanzapine, the second-generation antipsychotic linked to the greatest weight gain and metabolic abnormalities, should be used only as a second-line treatment for those experiencing a first-episode psychosis. A clinical algorithm pertaining to the

management and prevention of antipsychotic-induced weight gain has been endorsed by NSW Health and is available at http://www.heti.nsw.gov.au/cmalgorithm.

Principles regarding physical health monitoring and treatment

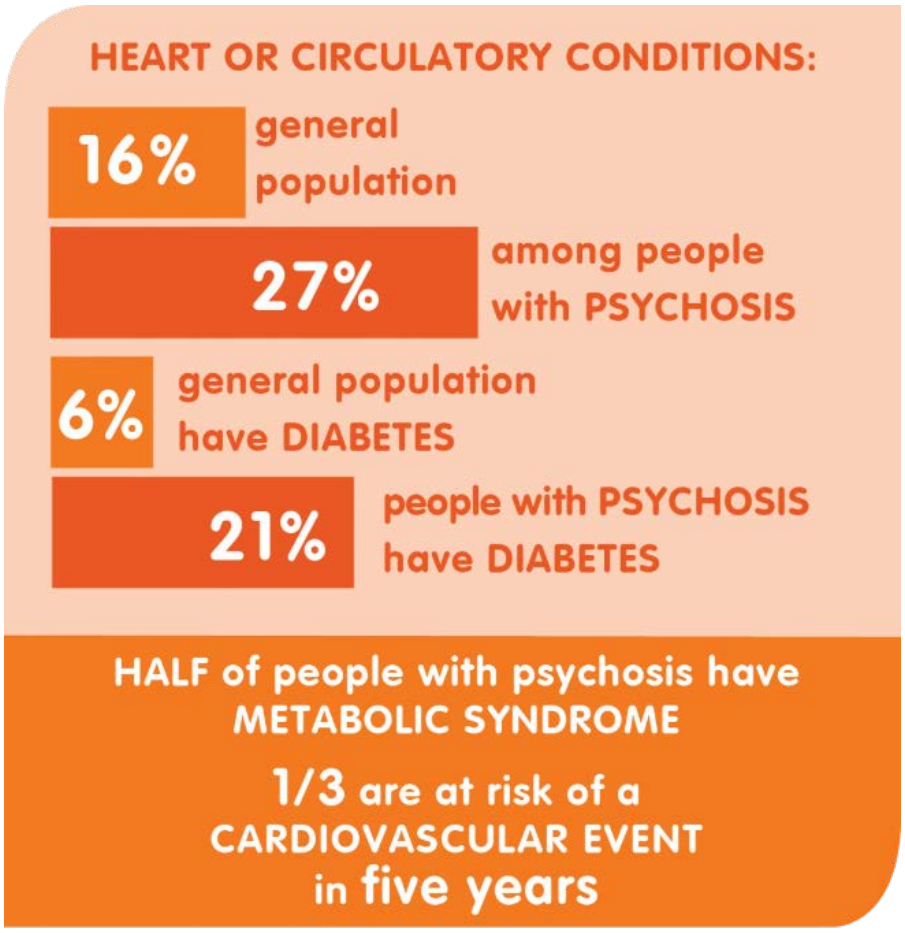
- I, my family and my supporters, are respected, informed and helped to take responsibility for treatment decisions affecting my physical health
- I expect both positive physical and mental health outcomes of my care to be equally valued and supported
- From the start of my treatment and as a fundamental component of my health care, I am helped to minimise my risks of developing obesity, cardiovascular disease and diabetes.

HeAL Declaration www.iphys.org.au[19]

The report in July 2015 by the Consumer Workforce – Partnership Dialogue Forum in Victoria acknowledged the contribution of medication-induced weight gain and poor physical health, and highlighted the need for organisation and sector incentives to deliver more treatment choices beyond medications[20]. It should be noted that in Australia, 70 per cent of antipsychotic medications are prescribed by general practitioners.[21].

Table 1. Prevalence and relative risk of modifiable cardiovascular disease risk factors in schizophrenia and bipolar disorder compared to the general population[22,23].

Modifiable risk factor	Schizophrenia	Bipolar disorder
Obesity	45-55%; 1.5-2 times increased risk	21-49%; 1-2 times increased risk
Smoking	50-80%; 2-3 times increased risk	54-68%; 2-3 times increased risk
Diabetes	10-15%; 2 times increased risk	8-17%; 1.5-2 times increased risk
Hypertension	19-58%; 2-3 times increased risk	35-61%; 2-3 times increased risk
Dyslipidemia	25-69%; 5 times increased risk	23-38%; 3 times increased risk
Metabolic syndrome	37-63%; 2-3 times increased risk	30-49%; 1.2-5 times increased risk



Source: Living Well: Putting people at the centre of mental health reform in NSW: A report

Health inequality

In 2013, the Royal College of Psychiatrists in the United Kingdom released a report titled *Whole-person care: from rhetoric to reality. Achieving parity between mental and physical health*[24]. It argued that the mental health treatment gap was embedded and amounted to an abuse of basic human rights. Australian data has also confirmed the apparent health disparities demonstrating that people with mental illness are a vulnerable, marginalised, stigmatised and, in many cases, discriminated-against population with extremely poor health outcomes, deserving of a greater level of physical health care[25].

It has also been shown that people with severe mental illness are less likely to receive high-quality medical care than those without severe mental illness[27] and to have higher mortality from cancer. This appears to be the case despite higher rates of primary care attendance for those with mental illness[28].

> "Medical staff treat… the physical illnesses of people with mental illness less thoroughly"[26].

The strategic context

Living Well: A Strategic Plan for Mental Health in NSW 2014-2024 sets the directions and priorities for mental health system reform in NSW[29] and is based on the principles of social equity, recovery-oriented practice and trauma-informed care across the lifespan. It frames the disparity in physical health status experienced by mental health consumers as a human rights issue. It reminds us that the United Nations Convention on the Rights of Persons with Disabilities states: Persons with disabilities have the right to the enjoyment of the highest attainable standard of health without discrimination on the basis of disability[30].

Living Well recognises that urgent reform is required to ensure the health system responds appropriately to the physical ill health of mental health consumers and that this translates into improved physical health and life expectancy[29].

To achieve positive physical health outcomes, the Plan recommends the following actions (6.2 Physical health and mental health):

6.2.1 Implement the *Healthy Active Lives (HeAL)* declaration in NSW local health districts to ensure physical health needs are prioritised from the first episode of psychosis

6.2.1 Ensure all access points for people experiencing severe mental illness assume responsibility for facilitating physical health assessments and monitoring of physical health status

6.2.3 Ensure that locally based mental health and wellbeing promotion activities developed under the *Building community resilience and wellbeing*, promote healthy and active lifestyles

6.2.4 Ensure that the local co-ordination structures established under *Strengthening local action* include partnerships with local government and facilities such as gyms and swimming centres to facilitate referral and access to such facilities by people who experience mental illness

6.2.5 Build connections with and learn from work in chronic disease prevention already under way in NSW and Australia

6.2.6 Ensure that population health activities appropriately target people with lived experience of mental illness, including interventions to address smoking, physical activity, nutrition and use of alcohol and other drugs

6.2.7 Encourage and support GPs in a holistic approach to treat people with both mental and physical illness, including improved collaboration across general practice and specialist mental health and acute services. These mechanisms will need to consider issues such as appropriate access to information to support collaborative approaches.

6.2.8 Advocate for continuing professional development training for GPs in mental health to assist with early diagnosis, continuing training in emerging therapies, and opportunities for placements in mental health services.

Healthy Active Lives (HeAL)[19]

A group of clinicians, service users, family members and researchers from more than 11 countries joined forces to develop an international consensus statement on improving the physical health of young people with psychosis. The statement, called Healthy Active Lives (HeAL), aims to reverse the trend of people with severe mental illness dying early by tackling risks for future physical illnesses. Compared with their peers who have not experienced psychosis, young people with psychosis face a number of preventable health inequalities including:

- a lifespan shortened by 15-20 years
- two to three times the likelihood of developing cardiovascular disease, making it the single most common cause of premature death (more than suicide)
- two to three times the likelihood of developing type 2 diabetes
- three to four times the likelihood of being a smoker.

The HeAL statement reflects international consensus on a set of key principles, processes and standards. It aims to combat the stigma, discrimination and prejudice that prevent young people experiencing psychosis from leading healthy active lives, and confront the perception that poor physical health is inevitable. The HeAL declaration sets out five-year targets aimed to reduce future cardiovascular risk in young people with psychosis.

HeAL can be downloaded at http://www.iphys.org.au/

Living Well: Putting people at the centre of mental health reform in NSW: A Report[31] recommends that the following elements are needed to produce improvements in the physical health of mental health consumers:

- changes in clinical practice
- delivery of evidence-based physical activity programs across the inpatient, community, private and community-managed sectors
- implementation of a recovery approach, including peer support services
- development of partnerships, in particular with consumers and their families/carers
- workforce development across sectors to build capacity.

In relation to the mental health workforce, the report identifies the need to inform and train specialist clinical mental health services and community-managed recovery-focussed organisations about the importance of nutrition, physical activity, smoking cessation, health literacy, motivational techniques and the side effects of antipsychotic medication[31]. The

importance of providing adequate training in responding to mental illness or mental disorders as a component of dietetic, exercise physiology and other allied health training has also been acknowledged[32].

The NSW Ministry of Health has begun the process of reform with the implementation of the Linking Physical and Mental Health program and the following policy directives and guidelines: *Physical Health Care within Mental Health Services PD2009_027* and *Physical Health Care of Mental Health Consumers GL2009_007*. NSW Health has produced two key strategic documents that prioritise integrated physical and mental health care in younger populations: *Healthy, Safe and Well: a strategic health plan for children, young people and families 2014-2024* and the *NSW Youth Health Policy: 2011-2016: Healthy bodies, healthy minds, vibrant futures[33,34].*

The themes evident in NSW Mental Health Commission strategic documents are echoed in the *Report of the National Review of Mental Health Programmes and Services[35]*. The review addresses the need for integrated physical and mental health care for mental health consumers under Recommendation 8. It recommends the adoption of the HeAL Declaration and the need for systemic change to deliver integrated primary physical and mental health care, "a system that responds to whole-of-life needs".

Keeping Body and Mind Together: Improving the physical health and life expectancy of people with serious mental illness[36], a report prepared by the Royal Australian and New Zealand College of Psychiatrists (2015), adds another voice to the call for broad cultural and structural reform. This report highlights the need for a high-level commitment to action from all levels of government, from within the health system, from mental health clinicians including psychiatrists, and from other health professionals. The report lists a numbers of recommendations including the incorporation of health promotion (for example, smoking cessation programs) as a core element of service delivery within both inpatient and community mental health settings, and the delivery of screening and lifestyle interventions to prevent the development of chronic conditions. It highlights the need to create integrated pathways to care for people with more chronic health conditions and for drug therapy complemented by talking therapies, peer support and non-pharmacological treatments[36].

A focus on improving the physical health and wellbeing of mental health consumers is also evident at an international level. In 2013, the World Health Organisation published the Mental Health Action Plan 2013-2020[5] in which the concept of integrated and co-ordinated prevention across all ages, health promotion, rehabilitation care and support to meet both mental and physical health care needs was incorporated in a road map for global mental health. The 2013 HeAL Declaration has been endorsed in many countries (including Australia, New Zealand, United Kingdom, Canada, Italy, Norway, Japan and Singapore), by several international associations including the International Early Psychosis Association, the European Psychiatric Association and the World Health Organisation Collaborating Centre

for Addiction and Mental Health, and many national bodies[19]. In 2013, Rethink Mental Illness, a national mental health charity in the United Kingdom, produced the *Lethal Discrimination* report[37]. This highlights the extent of problem in the United Kingdom and recommends actions for change within the National Health Service and at a governmental level. This report balances the challenges of reform with examples of innovation.

A scoping study by the Mental Health Co-ordinating Council in 2014 found that existing practices and physical health initiatives within the NSW community managed organisations (CMO) sector broadly mirrored those reported in the peer-reviewed literature, with a growing number of NSW CMOs facilitating programs aimed at improving the physical health outcomes[38].

Weighing up the evidence

The need for adequate physical health care monitoring to be routinely included in the care of people with severe mental illness has gained increasing support among consumers and carers, clinicians, academics and policymakers. For example, in 2004, a consensus panel recommended that mental health care providers perform physical health monitoring in the belief that additional monitoring would result in the earlier detection of physical health risk factors[39]. In 2014 guidance by the National Institute for Health and Care Excellence, in the United Kingdom on the treatment of psychosis and schizophrenia in adults recommended that weight and cardiovascular and metabolic indicators of morbidity in people with psychosis and schizophrenia should be monitored routinely[40]. In Australia, clinical algorithms and structured monitoring forms have been developed to assess cardiovascular risk factors in Victoria[41], NSW[42] and Western Australia[43]. The recently updated NSW Health policy, Physical Health Care within Mental Health Services (2015) – Responsibilities and Minimum Requirements, provides specific recommendations regarding the frequency and timing of physical assessment and monitoring, and outcomes to be assessed on a routine basis[44]. Despite these key policy documents recommending the routine assessment of the physical health of mental health consumers, evidence suggests that in many cases monitoring practices remain ad hoc[46,47]. Furthermore, a Cochrane Review in 2014 found no evidence from randomised controlled trials to support routine screening, with the authors calling for the rigorous evaluation of the short- and long-term impact of screening-based programs[48]. However, given the growing consensus among policymakers and key professional bodies that regular monitoring should be a part of routine care, it is unlikely that further randomised controlled trials would be found to be ethical, as this would involve denial of best-practice care to people living with mental illness. Importantly, a risk model has been developed and validated exclusively to predict cardiovascular events in people with severe mental illness and incorporating established cardiovascular risk factors[49].

> Additional monitoring would result in the earlier detection of physical health problems.[45]

Components of effective lifestyle interventions

Addressing lifestyle factors including physical activity, diet and smoking is the cornerstone of interventions aimed at preventing and treating obesity, cardiovascular and metabolic conditions within the general population. Despite considerable progress in reducing the burden of these conditions in the general Australian population, people experiencing severe mental illness are not benefiting from the same advances in treatment, and continue to face a substantial reduction in life expectancy. There is considerable economic and medical

marginalisation, in addition to the side effects of antipsychotic medication and the often ad hoc practices regarding physical health monitoring and intervention. As such, a tailored approach to promoting and delivering lifestyle interventions as part of a holistic strategy to address these modifiable risk factors among people experiencing severe mental illness is warranted and urgently required. An extensive body of evidence regarding the effectiveness of lifestyle interventions in the general population already exists[51,52]. The challenge facing mental health services is to adapt such programs for the unique needs of people living with mental illness. As with other paradigm shifts, the translation of evidence into practice can be a slow process, and requires a rethink on how mental health services provide treatment and care. What is clear, however, is that lifestyle interventions will improve consumer outcomes and contribute to closing the unacceptable gap in life expectancy.

> "The greatest current barrier to increasing the life expectancy of persons with serious mental illness is no longer a knowledge gap. It is an implementation gap."[50]

Features associated with successful lifestyle interventions

- Multiple components include a focus on diet, physical activity and behavioural therapy
- Personalised and tailored to each individual
- Longer duration with more frequent face-to-face contact (i.e. minimum four to six months with an initial intensive phase)
- Use of multidisciplinary teams (allied health practitioners).

Lessons for lifestyle interventions in severe mental illness:

In a recent comprehensive review of lifestyle interventions in the general population and the subsequent lessons for adaptation to mental illness, the effect on people with severe mental illness was consistently found to be inferior to results seen in the general population[53]. By adopting the lessons learnt from research in the general population, mental health services can optimise and tailor the effect of lifestyle interventions among those with severe mental illness and ensure outcomes are optimised. Factors for services to consider include:

Intervention design

- Multifaceted interventions incorporating diet, physical activity and behavioural modification components are more effective than single-component programs[53].

Group versus one-on-one sessions

- A combination of both group and individualised sessions has a greater effect compared with using only individual or group sessions[53,54]. Individual sessions alone have been shown to be more effective than group-based approaches alone[54].
    - Benefits of an individual approach may include one-on-one attention and individualised programming
    - Benefits of group-based sessions may include socialisation and peer support.

Duration of interventions and frequency of sessions

- Lifestyle interventions in severe mental illness are often of shorter duration than that recommended for the general population
- An intensive period of 16-20 weeks (4-6 months) is recommended as the minimum period for interventions targeting diabetes risk[55]
- Programs of longer duration (e.g. at least 4-6 months) tend to be more effective, especially in targeting obesity[53,56]
- Interventions targeting diabetes risk in the general population have demonstrated that for each additional lifestyle session attended, a 0.26% weight loss is achieved[53,57].

Barriers to effective lifestyle intervention

There are significant barriers to achieving optimal physical health outcomes in people experiencing severe mental illness which must be taken into account and addressed when providing lifestyle interventions. These include:

- Side effects of antipsychotic medications
- Reduced access to physical health services
- Reduced self-esteem and confidence in accessing physical health services
- Low socioeconomic status
- Homelessness or lack of stable housing
- Psychiatric symptoms
- Lack of transport
- Lack of support from health or support workers.

Smoking

In recent decades rates of smoking have dramatically declined across the general population while remaining unchanged among people with severe mental illness[58]. One in three cigarettes smoked per day is smoked by someone with a mental disorder[59]. People experiencing mental illness start smoking at an earlier age[60], smoke more and are more dependent compared with the general population[61,62]. A 2013 Cochrane Review of smoking cessation for people with schizophrenia found good evidence for the use of bupropion, with the benefits likely to remain six months after the completion of treatment[62].

Some limited evidence from a small number of trials also supported the use of varenicline but the risk of adverse psychiatric events could not be established. Surprisingly, there is a paucity of research on the benefits of nicotine replacement therapy (NRT) and psychosocial interventions. NRT has been shown in several studies to help people stop smoking even after treatment ends[63]. A landmark study conducted in the United Kingdom in 2015 demonstrated for the first time that a smoking cessation intervention designed specifically for people with severe mental illness, which incorporated psychosocial and NRT interventions and was delivered by mental health practitioners, was significantly more effective at stopping smoking compared with the usual community-based quit-smoking strategies[64].

> People experiencing mental illness start smoking at an earlier age, smoke more and are more dependent[60]

The results from this trial suggest that integrating smoking cessation interventions with routine mental health services would increase by about 50 per cent the proportion of smokers who stop long term, compared with patients using the usual community-based services[60,64]. The intervention was individually tailored, delivered by a mental health practitioner in conjunction with the participant and the participant's family doctor or mental health treatment team[64]. The intervention was based on the smoking cessation guidelines[65] issued by the National Institute for Health and Care Excellence and was modified to target those with severe mental illness. It included multiple assessments before setting a quit date, home visits, examining reasons for smoking related to the individual's mental illness, additional face-to-face support after an unsuccessful attempt to quit, and informing the participant's support network (GP and/or psychiatrist) of a successful quit attempt to ensure that the dosage of antipsychotic drugs was reviewed[64].

The trial built on previous work highlighting the utility of a nicotine replacement therapy plus motivational interviewing/cognitive behaviour therapy for individuals with a psychotic disorder[66]. In a recent *Lancet Psychiatry* review, it was shown that daily tobacco use is associated with an increased risk of psychosis, and an earlier age at onset of psychotic

illness[67]. The authors concluded that the possibility of a causal link between tobacco use and psychosis requires further examination.

Physical activity

People experiencing mental illness spend less time being physically active, and more time being sedentary, compared with the general population[12,68-70].

The ideal physical activity program for those with mental illness is the one they are prepared to do, consistent with the message of "move more and sit less''[71]. Motivating the general population to engage in regular physical activity presents considerable difficulties, all of which are compounded in mental illness, including poor motivation, access to exercise equipment, cost, knowledge and symptoms[72]. Increasing the physical activity levels of people experiencing mental illness is a realistic goal and should be a key target of any lifestyle intervention. Based on current evidence, recommendations for increasing physical activity include:

> The ideal physical activity program for people with mental illness is the one they are prepared to do[71]

- Referral to, or engagement with dedicated allied health clinicians with expertise in exercise prescription such as an accredited exercise physiologists (AEP)[73,74] or physiotherapists[75,76]. This ensures that programs meet the basic principles of exercise prescription and reflect the best-practice guidelines incorporating progressive overload, aerobic and resistance components, and individualised sessions using established motivational strategies[77]. Furthermore, the inclusion of dedicated exercise clinicians within the multidisciplinary mental health team allows for partnerships with the university sector and hence workforce development through clinical practicum opportunities.
- A combination of supervised and group-based structured exercise sessions and physical activity counselling is more effective than either strategy in isolation[54]. A combined approach also helps ensure adherence, improves motivation and provides consumers with individualised education through established principles of self-management[78]. Although this is resource-intensive, approaches that are not delivered face to face (i.e. via telephone[79] or online[80]) may not provide the same level of benefit.
- Providing access to basic exercise equipment serves several purposes. First, it allows for comprehensive testing to monitor progress and evaluate goals. Second, it allows supervised, face-to-face sessions to be conducted in a supportive environment, and provides another means of engagement with mental health services, which improves outcomes[81].

Diet

Growing evidence demonstrates that people experiencing mental illness have poorer diets than the general population, due in part to increased hunger, cravings and faster eating as side effects of antipsychotic medication[82-85]. Dietary intake is a key modifiable risk factor that can be addressed by evidence-based lifestyle interventions. The principles of achieving this in patients with severe mental illness overlap substantially with those targeting physical activity:

- Accredited practising dietitians (APDs) are the allied health clinicians best placed to provide the dietary aspects of lifestyle interventions to people experiencing severe mental illness[86]. The inclusion of dietitians in the multidisciplinary team also allows for partnerships with the university sector and the creation of clinical practicum opportunities for dietetic students and hence workforce development.
- Individualised consultations, group education sessions, supermarket tours, cooking groups and budgeting guidance are components of effective dietetic interventions [87-89].
- Dietetic consultations focus on nutritional adequacy and on energy balance to prevent weight gain[81,90]. Consultations may also cover food quality, portion control, mindful eating, understanding nutrition labels, writing shopping lists, organising a healthy kitchen and general cooking skills.

Behaviour therapy

Psychological strategies such as motivational interviewing, cognitive behavioural therapy and behavioural activation have been identified as fundamental to the success of physical health interventions[91,92]. Lifestyle intervention studies in participants with and without mental illness (e.g. diabetes[93]) repeatedly highlight the importance of using evidence-based motivational strategies[53].

Peer support

Peer support is an evolving component of physical health care for people experiencing severe mental illness. A service evaluation conducted in the United Kingdom in 2015 found peer support was an important component of self-management approaches within mental health services[94]. In another example from an ongoing study, researchers developed a peer-coaching manual to facilitate and clarify the role, and used peer coaching in association with an online intervention[95]. A 2014 review of peer-support interventions in severe mental illness called for the inclusion of more peer support programs within clinical trials to further evaluate the role such interventions may have[96]. Other examples are emerging in which peer support has been a successful component of multidisciplinary lifestyle interventions[81].

Best practice psychotropic prescribing

Adverse metabolic effects of antipsychotic medications have been reported in adults, children and adolescents and, in Australia, there has been an increase in prescribing of off-label psychotropic medications for children and adolescents, despite uncertain risk-benefit results. Recent Australian guidelines for managing early psychosis have recommended that olanzapine no longer be a first-line treatment for psychosis, which is consistent with international guidelines[18,97]. Evidenced-based prescribing Australian guidelines, which include routine screening for adverse side effects and reduction in polypharmacy, should be followed.

Oral health

The oral health of people with severe mental illness is often poor and untreated[98]. Oral disease is highly related to chronic diseases that contribute to premature mortality[99]. The greatest prevalence of oral disease is in disadvantaged and vulnerable populations such as those experiencing mental illness[99]. For example a review in 2015 found that people with mental illness were far more likely than the general community to have lost all their teeth[100]. Qualitative research has identified that lack of awareness of dental problems, poverty and access to dental care were key barriers to oral health care among adults with severe mental illness[101]. Research in Australia showed mental health nurses viewed dental and oral problems as among the most salient health issues facing people with serious mental illness and that access to dental services was severely inadequate[102]. The study highlighted the need to increase access to dental and oral health care[102]. A trial is currently under way in the United Kingdom aiming to investigate the effectiveness of a dental awareness training program for care co-ordinators designed to fit within standard care treatment models[103].

The greatest prevalence of oral disease is in disadvantaged and vulnerable populations such as those experiencing mental illness.[99]

Gaps in the evidence

The efficacy of lifestyle interventions as an essential component of treatment is established in the short term in Australia and in the longer term internationally. There is a lack of longer-term Australian studies on the benefits of targeted prevention programs. Further, the effectiveness of implementation of lifestyle programs within real-world settings (i.e. the effectiveness of interventions) and context-specific situations is less clear and should be the focus of future research[104]. For example, issues to be addressed include:

- **How can the results of trials be best translated into clinical practice?**

The successful implementation of lifestyle interventions within routine clinical practice is a key gap in the evidence. It is clear that time-limited, project-based interventions can be added to the standard care systems. How such interventions can be sustained, and how to ensure the longevity of positive short-term results remains to be determined.

- **What motivational strategies are most appropriate for maximising adherence to, and participation in, lifestyle interventions[105]?**

Motivation for continued participation in lifestyle changes is a key factor in long-term outcomes for the general population. Poor motivation can be a particular issue for many people living with mental illness, and specific strategies targeting this need to be developed and trialled. Such efforts should be informed by relevant frameworks, e.g. self-determination theory, with the goal of developing autonomous motivation.

- **How can the peer support workforce best facilitate physical health care as a core part of recovery?**

Peer support is an evolving dimension of mental health care and recovery. The inclusion of peer support programs as part of physical health promotion and recovery has had only preliminary investigation so far. Thorough evaluation of these programs may improve peer support programs and overall physical health care in mental health.

- **How can mental health services better engage with primary health care to ensure completely integrated and collaborative care?**

Many barriers limit the contribution of primary health care to physical health outcomes in people living with mental illness. There is a need to develop and trial systems of care in which more people with illness are seen regularly by GPs, and better communication exists between mental health services and primary care providers. The Commonwealth Government's plan to enhance the role of primary health networks in providing individualised care plans for mental health consumers highlights the increasing role of primary care providers and the importance of integrated care.

- **How can services be extended to rural and remote settings to ensure access? How can services be extended to ensure access for culturally and linguistically diverse patients regardless of geographical location?**

Workforce capacity and availability in rural and remote settings is a challenge throughout mental health services, which will affect the ability of new allied health professionals such as exercise physiologists and dietitians to provide lifestyle interventions in these settings. Can relevant skills be taught to mental health and primary care clinicians working in such locations? Is it feasible for exercise physiologists and dietitians to provide consultations via tele-psychiatry? Answering such questions will be essential to ensure that people with mental illness living outside major centres do not miss out on the benefits of improved physical health programs.

- **What are the most effective smoking cessation strategies for people with severe mental illness?**

Smoking cessation will be a key outcome to reduce the life expectancy gap. While it is clear that people with mental illness are highly motivated to quit smoking, more evidence is needed about specific strategies that are effective in this population. Scalability of effective interventions is another issue for which more evidence is required.

- **What are the cost benefits to the health system of targeted prevention of chronic illness or better co-ordinated care among people with severe mental illness?**

Improving physical health for people with severe mental illness has important benefits in preventing the development of chronic illnesses such as type 2 diabetes. The complications associated with such disorders result in very significant health costs. Identifying the cost savings achieved by preventing such complications is a key priority and will assist in making the case for redirecting funding for preventive approaches to physical health issues in people living with severe mental illness.

Ongoing research and evaluation will be important in building the evidence for improving the physical health of people experiencing mental illness and in ensuring that the treatment of mental disorders does not have a long-term adverse metabolic effect.

The case for change

Why a focus on physical health?

Evidence of a link between severe mental illness and cardiometabolic disease has reached a point where treatment providers can no longer neglect the provision of appropriate screening and targeted interventions[2,106-108]. Many of the factors underpinning the poor physical health of people with severe mental illness are modifiable and an optimistic view of our ability to reduce premature deaths is warranted.

Economic impacts

Little is known about the cost benefit or cost- effectiveness of lifestyle interventions for people experiencing severe mental illness. A 2014 study evaluated the cost-effectiveness of a program targeting physical activity and healthy eating in individuals with mental disorders, concluding that health promotion interventions are likely to be cost-effective over the long-term[109] However, given the lack of long-term data available, further economic evaluation is required.

Why NSW needs a whole-of-government and community approach to physical health promotion, prevention, early intervention and recovery

Mental illness touches all parts of life and cannot be seen in isolation. In the same way that mental and physical health cannot be separated, improving health outcomes requires the involvement of multiple stakeholders across sectors. A comprehensive whole-of-government and community approach is needed to create a common vision and to unify efforts. In a recent series in *The Lancet* on obesity, the significance of environmental factors was highlighted as paramount in its prevention in the general population[110]. These were the importance of government regulation versus food industry self-regulation, top-down versus bottom-up drivers for change, and treatment versus prevention priorities. These findings and the experience of the *Closing the Gap* initiative for Indigenous health equality could be used to inform a broad-based approach to change.

Way forward

There is clear evidence that urgent reform is needed to address the high rates of preventable physical illness and reduced life expectancy among people with serious mental illness.

Imagine a world where people with serious mental illness enjoy the same physical health and life expectancy as those without mental illness[19].

This would be a place where…

- health promotion, prevention and early intervention minimise the cardiometabolic effects of psychotropic medication
- mental and physical health care are integrated and co-ordinated so that people with serious mental illness can achieve optimal health and wellbeing
- people with serious mental illness have access to the specialist physical health care they need, when they need it
- people with severe mental illness have affordable access to community supports – such as gyms, swimming pools and sports groups – that enable them to live a healthy and active life
- people have affordable access to services such as dentists and optometrists
- people have more choice and evidence-based treatments other than psychotropic medication are available.

The challenge is significant and requires a commitment of energy and resources across all sectors and levels of government.

It is imperative that advocacy occurs at the highest levels so that people with serious mental illness are recognised as a priority by policymakers and that we build a vision of hope and recovery. A population health approach is needed to address stigmatisation and create a genuine expectation that people with serious mental illness can have the same physical health and life expectancy as the general population. This would build on the expertise of people with lived experience of mental illness who have achieved health and wellbeing through an integrated system of care and self-agency. This expertise should be embedded at all levels of service design, policymaking, research and advocacy.

A population health approach would also be used to target risk factors such as smoking, and other population-based initiatives. Improvements in the physical health of people with serious mental illness must also be addressed through mental health service reform and the implementation of an integrated model of care for mental and physical health. This would include structures and systems to support regular comprehensive physical health assessments for all people with serious mental illness; the routine monitoring of cardiometabolic indicators for people on psychotropic medications; care planning informed

by the evidence base, which could be supported by tools such as the Positive Cardiometabolic Algorithm (http://www.heti.nsw.gov.au/cmalgorithm/)[42]; access to individualised evidence-based lifestyle interventions (diet and exercise based) and smoking cessation initiatives/programs. Implementation of the HeAL Declaration would support early intervention aimed at maintaining physical health and minimising cardiometabolic complications.

Supporting reform through greater investment

Workforce

Reform aimed at improving the physical health of people with serious mental illness represents a dramatic shift in strategic direction, with significant implications for service managers and the clinical workforce. Foremost, there is a recognised need for investment in workforce development to support a new model of care. The new service direction potentially brings changes with the introduction of new allied health disciplines (exercise physiologists, dietitians, physiotherapists, diabetes educators and health promotion) and changes for the peer workforce or the development of partnerships with other service providers to access this expertise. An integrated model of care will bring new expectations of clinical knowledge and skill within the existing workforce. Perhaps the greatest challenge will be the need for significant cultural change in mental health services so that holistic care is seen as core business.

> Perhaps the greatest challenge lies in the need for significant culture change across mental health services so that the delivery of holistic care is seen as core business.

Visionary leadership is needed to support service reform and shape organisational culture so that integrated care is embraced as a new opportunity. A cohesive, co-ordinated and comprehensive approach to education and training (together with clinical mentorship and supervision) is needed to build the skills, knowledge and confidence of the existing workforce. This could involve the creation of a platform to host relevant education and training options and resources, and may involve partnerships with agencies such as the Health Education and Training Institute (HETI), the Agency for Clinical Innovation (ACI), the NSW Institute of Psychiatry and the South Eastern Sydney Recovery College.

Partnerships

An integrated model of care can be achieved only through the strategic development of partnerships within the health system, across sectors, with community partners and, most importantly, with consumers and their family and carers. Partnerships with consumers and family and carers bring the significance and diversity of lived experience to service design

and implementation, and help to ensure that services reflect the needs of the population they serve[111]. The World Psychiatric Association (WPA) recommends that legislation, policy and clinical practice regarding the treatment of mental illness be developed in collaboration with service users and carers. Therefore, ensuring adequate consultation with family and carer organisations about physical health issues is fundamental to improving health outcomes[111].

Other recommendations to improve physical health care include enhancing user and carer empowerment, for example through participation in service planning and management boards. Partnerships between mental health services and other health service providers promote timely access to specialist care for consumers with serious mental illness. Community partnerships extend the options to support a healthy lifestyle, including affordable gym membership, group activities, etc. Family and carer organisations have a key role in supporting and promoting healthy lifestyle activities and therefore should play a key role in the long-term planning of service provision.

Research and innovation

'Real-world' Australian studies conducted in partnership with consumer organisations are required to ensure community needs and barriers are addressed. Research using non-traditional methodologies such as Large Simple Trials, and studies that are recovery oriented and consumer led are likely to inform practice and contribute to the evidence base.

Local initiatives

While the challenge of service reform is significant, there is good reason for optimism. Some NSW services have begun to tackle this issue through local innovation and change including:

- New Moves/Schizophrenia Fellowship of NSW Inc.
- Keeping the Body In Mind program, South Eastern Sydney Local Health District

Schizophrenia Fellowship of NSW Inc: New Moves Program

New Moves offers fun physical activities and healthy eating in a supportive group environment.

New Moves is a healthy lifestyle program, designed to improve physical and mental wellbeing through education, physical activity and healthy eating. Social and peer support is provided in a group environment. The group and peer facilitators support and motivate participants to develop and achieve their personal goals. The program includes visits to community gyms, cafes and shopping centres and helps integrate participants into community life and community services and programs. New Moves runs for 16 weeks. **https://www.sfnsw.org.au/Physical-Health/New-Moves#.VYJfc2RCosk**

South Eastern Sydney Local Health District: Keeping the Body in Mind Bondi Early Psychosis Program

The Keeping the Body in Mind (KBIM) program held at Bondi is a lifestyle and life skills intervention for young people with first-episode psychosis. The team includes a clinical nurse consultant, a dietitian, an exercise physiologist and youth peer wellness coaches. They focus on three interrelated components, including health coaching, dietetic support and supervised exercise prescription, which are individualised and based on recommendations to maximise adherence. Psychiatrists and endocrinologists provide medication reviews and advice to prevent poor physical health. KBIM is being implemented across the SESLHD and extended to adult consumers[81].
https://www.healthroundtable.org/GetNews/tabid/1457/itemid/246/amid/5205/default.aspx

Strategies for change

It is clear that a comprehensive approach to service reform is needed to improve the physical health of mental health consumers. The critical elements of reform are:

1. **An integrated model of physical and mental health care implemented in all state mental health services and settings.** There is growing evidence that physical health co-morbidities associated with psychotropic medication can be mitigated through early intervention that introduces targeted lifestyle changes at the start of pharmacotherapy. There is also evidence that a holistic and individualised approach to physical health care promotes engagement, recovery and self-agency. Integrated lifestyle interventions incorporating exercise, diet, smoking cessation, health education and behavioural modification strategies should be considered an evidence-based practice. Creative partnerships with providers such as the Personal Helpers and Mentors service (PHaMs), the Housing and Accommodation Support Initiative (HASI) and other community-managed organisations could provide options to target physical health.
2. **Training for peer workers to develop an integrated model of care that will promote good physical health and encourage early intervention.**
3. **Health workforce training to include a focus on the physical health of people with mental illness**. A platform should be established to promote workforce development, and research and knowledge exchange in integrated physical and mental health care. The platform would serve several purposes. It would ensure that policymakers, service managers, clinicians and consumers had access to a robust evidence base to guide strategic priorities and service development. It would inform staff of available, high-quality, evidence-based training and education, including online options, and provide resources to support an integrated model of care. It would also give a voice to consumers. While there is a large range of information, resources and online training options available, they can be difficult to find. A dedicated platform, which would be updated regularly, would provide easy access to this information.
4. **A comprehensive population health campaign to address the stigma of mental illness** and create an understanding that people with serious mental illness should enjoy the same physical health and life expectancy as those without mental illness.
5. **The creation of care pathways through partnerships with primary health and other clinical streams** so that people with serious mental illness have the same access to specialist physical health care as the general population has.

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Attachment 1

Examples of effective lifestyle programs

		Intervention						
	Target group	Components	Length	Duration sessions	Frequency	Supervision	Group or individualised	Resources
STRIDE[112,113]	≥18 years old, taking antipsychotic medication for ≥30 days, and BMI ≥27	• Increasing awareness of health-related practices through self-monitoring • Increasing physical activity • Increasing fruit, vegetable and low-fat dairy consumption, reduced energy intake • Barrier identification • Workbooks and personalised plans • Planning for symptom exacerbation	6 months	2 hours	1 session /week	Mental health counsellor and nutritional interventionist	Small groups	http://www.kpchr.org/stridepublic/
ACHIEVE[114]	≥18 years, overweight or obese attending community psychiatric rehabilitation program	• Reducing calorific intake (e.g. avoiding sugar-sweetened beverages), five servings of fruit and vegetables daily • Participation in structured moderate-intensity aerobic exercise	Months 1-6 intensive Months 7-18 maintenance	Group: 45-50mins Individual: 15-20min	1-3 sessions /week	Community health educator	Group and individual weight management sessions and group exercise sessions	http://www.nejm.org/doi/suppl/10.1056/NEJMoa1214530/suppl_file/nejmoa1214530_appendix.pdf

		Intervention						
	Target group	Components	Length	Duration sessions	Frequency	Supervision	Group or individualised	Resources
CDC Diabetes Prevention Program[115]	Community mental health clients	• Weight loss through reducing calorie and fat intake • Increasing physical activity	16 weeks		1 session /week	Mental health clinicians / case managers, peer counsellors, nurses	Group	http://www.cdc.gov/diabetes/prevention/recognition/curriculum.htm
KBIM[81]	First episode psychosis (FEP)	• Increasing participation in structured exercise • Fruit and vegetable intake, energy intake, portion sizes, cooking skills	12 weeks	Group: 45-60mins Individual: 15-20min	1-5 sessions /week	Clinical Nurse Consultants Dietitian Exercise Physiologists	Group and individual sessions	http://onlinelibrary.wiley.com/doi/10.1111/eip.12230/abstract
In SHAPE	Serious mental illness and BMI >25 from community mental health services	• Membership to local fitness clubs • Weekly meetings with health promotion coach	12 months	45-60 mins	1/ week	Health promotion coach with basic certification as fitness trainers	Individual	http://www.kenjue.com/inshape/
Schizophrenia Fellowship of NSW Inc: New Moves	18-65 years, community based, people experiencing mental illness	• Improve physical and mental wellbeing through education, physical activity and healthy eating • Social and peer support • Integration with community programs	16 weeks	2-2.5 hours	1 /week	Group facilitator and peer facilitator	Group	https://www.sfnsw.org.au/Physical-Health/New-Moves#.VUlU5tpCq5w